Assessment @ Bond

Kinash, Shelley; Knight, Diana

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Shelley Kinash
Bond University, shelley.kinash@gmail.com

Diana Knight
Bond University, Diana_Knight@bond.edu.au

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BOND UNIVERSITY
OFFICE OF LEARNING AND TEACHING

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Assessment@Bond has been written specifically for Bond lecturers and tutors to use as a resource to inform their assessment and marking practices. It will provide a useful reference for Bond educators, presenting relevant research and literature on assessment in higher education. Throughout this resource, you will find practical tips and suggestions for enhancing and developing your assessment practices to promote the learning outcomes and aims of the subject.

About the book

Assessment is not one-size-fits-all. Rather, assessment is developed and shaped according to the characteristics of the educator, the specialised requirements of the subject and its contents, the students' approaches to learning, and the practicalities of the assigned tasks and feedback structure. Despite the variations of what assessment might look like, the most important principle of assessment is that it should enhance student learning.

This resource desribes 10 practical assessment characteristics and approaches to achieving enhanced student learning. This book will introduce you to the purposes of assessment, why assessment is important, the characteristics of good assessment, and various methods to help you think about how assessment can benefit you, your students or your subject.

How to use the book

Each chapter of the book is introduced by learning outcomes for the chapter and concludes with a task or reflection task to help you think about your own assessment practices and how you could improve. Tips for practice and exemplars are distributed throughout the book for your consideration. Many of them are drawn directly from your colleagues at Bond!

Start with any chapter. Each chapter introduces a different aspect of assessment practice and presents a strategy relevant to that topic. Use this book to help you review and revive your approaches to assessment to foster a more fertile learning environment and rewarding learning experiences.

Acknowledgements

This book is a 2013 production of the Office of Learning and Teaching at Bond University. The authors would like to acknowledge and thank our colleagues in the University for their hard work, shared experiences and contributions, which have enriched this resource. We also thank the University for its continued support. Finally we extend a sincere thanks to our colleagues in education who have generously supplied us with invaluable resources, which we have shared with the Bond community.

We welcome your feedback and suggestions for content in the next version.

Please send your feedback to:

Dr Shelley Kinash (skinash@bond.edu.au)

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Contents

INTRODUCTION

In my role as Director of the Office of Learning and Teaching at Bond University, I frequently find myself in conversations about topics such as, how people best learn and what kinds of assessment are true measures of learning. One of the questions I like being asked is what do I remember as the best learning experience of my undergraduate education. I am going to answer that question here, by way of introduction to Assessment at Bond.

The best learning experience I had in my undergraduate education was actually a piece of assessment. I was enrolled in a subject called Business Communications and it was midway through the semester. Our professor held a competition. We were to write a business tender to an oil company to be the selected communications consultants. This was the only element of the assignment that was simulated. We would not actually be employed by the oil company. However, the remainder of the assessment was authentic. It was a real tender and the assessors were actual oil company executives. Our professor informed us that she had made arrangements for the tenders to be considered by a panel of oil company executives. The panel would select the successful tender. The tender did not count toward our subject grade. We had to use everything we had learned in the subject so far in the semester. For example, we needed to apply what she had taught us about tone in business communications. We chose from among templates she had shown us. We used evidence-based practice to find the appropriate length for our tender so that adequate information was provided without irritating the panel with inappropriate detail. This assessment was a commendable learning experience.

Why does this single experience stand out among my many lectures, activities and assessments across a degree? Part of the explanation is unarguably the outcome, in that my tender was selected by the panel of

oil company executives. Perhaps my student colleagues have forgotten that particular experience, although I doubt it because there were many other factors to uphold as best practice in teaching. Even if it is only me who was substantially influenced by that assessment, the case of one in a class of twenty-five students is still significant. This confidence-boosting experience contributed to my journey toward successful completion of that undergraduate degree, then a master's degree and eventually a PhD and now working in a higher education learning and teaching leadership role.

I specifically remember the feedback from the panel. They said that among excellent tenders, what made mine stand out was the personal touch. Pretending that I was the President of the Communications Consulting Company, I listed the (fictitious) staff persons who I would assign to the oil company by name. I presented brief biographies and explained how I felt that they were the right fit for that particular oil company. I have taken that positive feedback on. To this day I use it in my business communications. I remember to note and use people's names and important details about their lives. I incorporate a personal approach into all of my work. Look no further, for example, than this booklet about assessment at Bond University. Rather than starting with an objective and distanced definition of terms, I am introducing you to the booklet with a personal story from my own experience. I learned this approach from receiving praise for this element in a single piece of unmarked assessment in my undergraduate education.

The fact that my tender won the competition is only one element that made the assessment a memorable learning experience. The tender assignment exemplifies seven features of good assessment. These seven features are listed here, described briefly below and then each is elaborated as a chapter in this booklet.

1. Assessment should be conceptualised as an element of learning, rather than solely as a measure of learning.
2. Assessment must be constructively aligned with the learning outcomes of the subject.
3. Assessment must be authentic in that the assigned task resembles the work that would be done by professionals in the discipline.
4. Assessment must be designed so that there is a balance between formative and summative elements, in that some

of the assessment is designed to help students self-assess their learning progress and other assessment is designed to determine a grade. (Notably, the balance between formative and summative assessment can be achieved by parts of a single assessment).

5. Assessment is accompanied by criteria and expectations which give students explicit guidelines for assessment preparation and gives markers criterion-referenced standards.
6. Students are provided timely and specific feedback on assessment tasks and this feedback is given in ample time to apply to subsequent assessment.
7. Students have confidence in the credibility of the marker, in that the students have reason to trust that feedback and/or scores authentically indicate their preparation to participate in disciplinary work.

SEVEN PROPOSITIONS OF ASSESSMENT

How do we ensure our assessments have a direct effect on learning? The following seven propositions were developed by Professor David Boud and the Australian Learning and Teaching Council (ALTC).

Professor Boud is Professor of Adult Education within the Faculty of Education at the University of Technology Sydney. He has been involved in research and teaching development in adult, higher and professional education for over 30 years and has contributed extensively to the literature on teaching innovation, learning from experience and student assessment. He is a 2007 Australian Learning and Teaching Council Senior Fellow and in 2010 completed the project, 'Student assessment for learning in and after courses'. For more information, visit the Assessment Futures website at: www.assessmentfutures.com

The ALTC, now the Australian Office for Learning and Teaching (OLT), promotes and supports enhancement of learning and teaching in higher education institutions.

Use these seven propositions as a guide to help refocus your teaching and assessment to produce the greatest impact on student learning.

Support for the original work was provided by the Australian Learning and Teaching Council Ltd, an initiative of the Australian Government Department of Education, Employment and Workplace Relations.

ASSESSMENT HAS MOST EFFECT WHEN...

1. assessment is used to engage students in learning that is productive.

   a. assessment is designed to focus students on learning.

      To improve student engagement in learning, and to support better quality learning outcomes, it is necessary that assessment tasks are designed to direct student attention to what needs to be learned and to the activities that best lead to this. Effective learning can be hampered by assessment tasks that focus student attention on grades and marks or reproductive thinking.

   b. assessment is recognised as a learning activity that requires engagement on appropriate tasks.

      Assessment tasks should be significant learning activities in themselves, and not only enable judgements to be made about what has been learned. The potency of student engagement in learning is enhanced when assessment tasks require substantial involvement over time, and when they are designed in an interlinked, constructive, organised and coherent sequence.

2. feedback is used to actively improve student learning.

   a. feedback is informative and supportive and facilitates a positive attitude to future learning.

      Students benefit from clear and helpful feedback on their learning. Everyday learning activities as well as special tasks and tests provide opportunities for the provisions of feedback. This places responsibility on staff to plan assessment in order to (a) develop their own skills in providing quality feedback, and (b) develop in students the skills they need to provide sound feedback to each other.

   b. students seek and use timely feedback to improve the quality of their learning and work.

      Students' own skills of judgement are developed by their utilisation of feedback, guidance provided by those already inducted into the culture and standards of the discipline, and opportunities to grow their own skills of critical appraisal. They

need to be able to seek and employ feedback from a variety of sources to develop a full range of outcomes from their studies.

c. students regularly receive specific information, not just marks and grades, about how to improve the quality of their work.

Marks and grades provide little information to students about specific qualities of their work and do not indicate how it might be improved. While marks and grades may provide a crude tracking measure of how well students are doing, they do not help students move beyond their present standard of performance. Specific and detailed information is needed to show students what has been done well, what has not, and how their work could be better.

3. students and teachers become responsible partners in learning and assessment.

a. students progressively take responsibility for assessment and feedback processes.

The overall aims of higher education include developing students' critical thinking abilities, which include self-critique, independent judgement, and other skills for continuing learning. Personal responsibility for assessing performance and providing and responding to feedback is a desired graduate outcome. It is necessary and appropriate for university programs to foster this development throughout the curriculum.

b. students develop and demonstrate the ability to judge the quality of their own work and the work of others against agreed standards.

Students need confidence and competence in making informed judgements about what they produce. They need to develop the ability to evaluate the quality, completeness and/or accuracy of work with respect to appropriate standards, and have the confidence to express their judgements with conviction. This requires deliberately managed assessment processes and practice that relates to judgements required in professional practice and mature community engagement.

c. dialogueandinteractionaboutassessmentprocessesandstandards are commonplace between and among staff and students.

Assessment activities and standards require disciplinary and contextual interpretation if they are to be understood, yet discussion of processes and reference points for determining standards is relatively rare. Assessment judgements are more consistent when those making them are able to reach consensus as to ways of establishing levels of performance. Student understanding of processes they can use to judge their own performance are similarly enhanced when they participate in dialogue about them with peers and teachers.

4. students are inducted into the assessment practices and cultures of higher education.

a. assessment practices are carefully structured in early stages of courses to ensure students make a successful transition to university study in their chosen field.

For students to become independent and self-managing learners, they need to be supported in the development and acquisition of the skills they need for learning, including those of assessment. Critical to this attainment is early engagement in manageable assessed tasks to build confidence, and the expectation that learning requires not only an investment of effort but also the taking of initiative. This contributes to alleviating anxiety around assessment information, instructions, guidance, and performance. Early assessment provides information to both students and teachers on progress and achievement, and allows for identification of students in need of additional support.

b. assessment practices respond to the diverse expectations and experiences of entering students.

Students come to higher education with great diversity in preparedness and understanding of what it involves. To ensure that all can engage equitably with assessment tasks, the implicit rules and expectations around what is required for success in any discipline need to be made accessible to students and opportunities provided for them to develop the academic skills they require to perform those tasks.

5. assessment for learning is placed at the centre of subject and program design.

   a. assessment design is recognised as an integral part of curriculum planning from the earliest stages of course development.

      Assessment is not an 'add-on' to the curriculum structure of a program. It needs to be considered from the outset of course design and intimately embedded and linked to considerations of student learning as part of the curriculum. Assessment tasks, types and means of deployment need to be fully aligned with all other aspects of the curriculum.

   b. assessment is organised holistically across subjects and programs with complementary integrated tasks.

      The development of a full range of graduate attributes requires a systematic approach to assessment that builds and enhances those attributes through tasks that are diverse, complementary to each other and embedded strategically throughout a program of study. Integrated whole-of-program curriculum design needs to incorporate assessment and feedback as well as learning outcomes and teaching and learning activities. If carried out in this way, an emphasis on feedback for learning can be the focus of teaching and learning engagement in the early curriculum, leading to capstone and integrated assessment in later years.

6. assessment for learning is focus for staff and institutional developments.

   a. professional and scholarly approaches to assessment by academic staff are developed, deployed recognised and rewarded by institutions.

      Academics need particular support in developing expertise required for subject and program assessment responsibilities. Such support could include mentoring, dialogue with peers in informal and formal moderation activities or formal courses. However, while enhanced assessment skills are essential, their acquisition is not sufficient to ensure good assessment practice. Institutions should have explicit requirements that professional and scholarly proficiency in assessment is necessary for satisfactory teaching performance. Further, leadership and

exemplary performance in assessment matters should be recognised for promotion, awards and grants.

b. assessment practices and the curriculum should be reviewed in the light of graduate and employer perceptions of the preparedness of graduates.

The impact of courses on student learning, and the role of assessment in them, can only be fully evaluated following graduation. Common post-graduation measures (eg. the Course Experience Questionnaire, the Graduate Destinations Survey) presently provide insufficiently detailed information for the improvement of programs. In particular, they do not enable assessment and feedback processes to be sufficiently monitored. Systematic study of the impact of such experiences on graduates (at, say, one and five years from graduation) and employers' perceptions of such preparation and standards are needed to ensure that courses are effective in the longer term.

c. assessment of student achievements is judged against consistent national and international standards that are subject to continuing dialogue, review and justification within disciplinary and professional communities.

The quality of awards in higher education will be increasingly scrutinised nationally and internationally. Assessment practice needs to provide convincing evidence of students' accomplishments that can be judged against external reference points. Disciplinary and professional communities (both within and beyond the academy) are the focus for ongoing collaboration and dialogue to determine, review and moderate academic achievement standards. Such collaboration and dialogue requires clarity of expectations and persuasive evidence of learning outcomes.

7. assessment provides inclusive and trustworthy representation of student achievement.

   a. interim assessment results used for feedback on learning and progress do not play a significant role in determining students' final grades.

      For purposes of certification, care must be taken to avoid the formal use of early grades that do not represent the outcomes reached by course or program completion. Entry-level knowledge, learning rates and final achievement levels differ. Although learning itself is cumulative, progressively adding marks throughout the learning period towards the final grade can distort representation of end-of-study achievement. What is important is using interim outcomes to improve learning.

   b. evidence of overall achievement to determine final grades is based on assessment of integrated learning.

      Many separate low-value pieces of assessment can fragment learning without providing evidence of how students' knowledge and skills from a unit of study are interrelated. This is often compounded across subjects, leading students to experience knowledge as disconnected elements. Strong evidence of achievement of the totality of outcomes can be provided by larger-scale tasks that require students to demonstrate coherent integrated learning, not isolated or atomistic performance.

   c. certification accurately and richly portrays graduates' and students' achievements to inform future careers and learning.

      An academic transcript that lists subject titles and grades provides limited information to students, employers or educational institutions. Increased scope and sophistication of the reporting of achievement is needed to communicate outcomes well. Two areas for improvement are: veracity, in grades that are fully and robustly aligned with learning outcomes and standards; and, richness, in the documentation of student accomplishments to convey information about what students can and cannot do.

CHAPTER 1: Assessed Learning Outcomes

Teaching is about learning. When we teach our students, we teach according to how students learn. Specifically, effective teaching encourages students to engage in the learning activities that achieve the desired learning outcomes (Biggs & Tang, 2007). What, then, is the role of assessment in teaching and student learning? Assessment tasks must match desired learning outcomes.

> "Teaching and learning are correlative or corresponding processes, as much so as selling and buying. One might as well say he has sold when no one has bought, as to say that he has taught when no one has learned."
>
> John Dewey, *How We Think* (1910), p. 29

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe the difference between a 'surface approach' and 'deep approach' to learning.
- Explain the purpose of a 'learning outcome'.
- Identify an appropriate learning outcome.
- Draft an appropriate learning outcome.

Biggs and Tang (2007) described learning as 'performative' rather than imposed. This means that learning is achieved by students' learning activities. Students engage with their learning activities using either a 'surface approach' or 'deep approach' to learning.

A surface approach describes rote learning, whereby the learner memorises knowledge and facts for the purpose of recall. A deep approach to learning, on the other hand, describes higher cognitive engagement whereby the student seeks to understand the content, applies it to new situations, critically analyses it, and builds upon it

(Biggs & Tang, 2007). It is important to note that the surface approach is not inferior, as it is a necessary foundation or step, e.g. memorising the periodic table of elements. A surface approach is incomplete and in isolation, does not promote and sustain higher levels of cognitive learning (see Bloom's Taxonomy of cognitive skills in Helpful Resources). Assessment of learning must measure learning outcomes that reflect an assurance of learning.

STRATEGY #1: WRITE APPROPRIATE LEARNING OUTCOMES

What are the key learning outcomes that should be assessed in this subject?

The first step in designing assessment is to consider what type and content of learning is intended. What are your intended learning outcomes for students who complete this subject? The aim is to communicate to your students what you expect them to achieve in your subject. Learning outcomes describe the skills, knowledge, attributes and attitudes that will be developed and/or achieved through engaging in the subject. In other words, the learning outcomes inform the students' responses to the following questions:

- What will I be able to do after I have completed this subject?
- What will I know that I did not know before?
- How will engagement in this subject develop my perceptions and values?

Learning outcomes describe what should be learned, the skills that must be demonstrated in relation to them, as well as the standards expected (Dunn, Morgan, O'Reilly, & Parry, 2004). This means your learning outcomes should clearly identify *what* and *how* students should achieve these expectations.

Further, Dunn, Morgan, O'Reilly, and Parry (2004) identified the following additional purposes of learning outcomes (p. 215):

- provide a limit to the content to be covered
- provide focus and direction in the learning process
- provide an intellectual framework for making meaning of the content
- indicate what intellectual and/or practical tasks students should be able to perform
- provide a guide to what will be assessed

Writing appropriate learning outcomes

An essential element of student success is knowing what will be expected of them. Your students should be able to clearly identify what knowledge they will have acquired and which skills they will have achieved upon completion of the subject. It is therefore important to write your learning outcomes in a way that is explicit, unambiguous and in plain language.

Writing learning outcomes is an iterative process and you will continue to enhance and refine your learning outcomes. However, begin by keeping these key points in mind.

Write your learning outcomes (LOs) so that they:

1. are student-oriented. Do not state what you want to achieve. Your LOs should refer to the knowledge, skills, attributes and attitudes your students will have upon completion of the subject.

X The aim of this subject is to acquaint students with research methodology employed by art historians.	√ Students will be able to recognise and articulate the foundational assumptions, ideas and potential limitations of research methods employed by art historians.

2. use plain verbs that describe the cognitive task. Identify the task that will demonstrate the intended level of cognitive thinking. Words like 'know' and 'understand' are vague. Refer to the sample words listed on page 22 to assist with drafting your LOs. It may also be useful to inform your students of the relevant tasks associated with each word.

3. are measurable. Learning outcomes are statements of what students will be able to do at the conclusion of the subject. They help students understand your expectations of them and align their learning and assessment activities. Describe learning outcomes using verbs you can measure, for example, 'define' and 'distinguish' rather than 'demonstrate knowledge'.

X Students will understand communication processes.	√ Students will be able to distinguish communication types and processes in various contexts.
Students will appreciate policy issues and initiatives.	Students will be able to analyse the underlying principles affecting decisions of policy and governance.

4. provide students with the 'big picture'. Describe the scope and context within which the cognitive task will be completed. For example, Explain the philosophical debates underpinning judicial law-making in constitutional cases in Australia.
5. use plain, direct and accessible language. Avoid complex or long LOs. Use short and succinct phrases that still convey the overall message.

X Explain the differences between public and private healthcare insurance provides with respect to political history, governmental roles, client eligibility, financing, benefits and cost-sharing.	√ Evaluate the social, economic and political impacts of public and private healthcare insurance.

6. are distinct. Create distinct learning outcomes; do not combine multiple learning outcomes in single statements. For example, avoid describe and critique, when they should be two separate and distinct learning outcomes.

X Students will analyse and interpret data and report findings.	√ Students will analyse data. Students will interpret the results. Students will report findings.

7. are cohesive. Review your LOs once drafted. Do they provide a coherent description of the core intellectual skills, verbal information, motor skills, cognitive strategies and attitudes your students should achieve upon completion?

The following is an example of learning outcomes from Digital Media and Society, a communications subject from the School of Humanities and Social Sciences. It illustrates learning outcomes that outline *what* students should learn and *how* they can demonstrate what they have learned.

Learning Outcomes of this Subject

Through active engagement in this subject, students will be able to:

1. Discuss key concepts and theories about emerging media.
2. Debate (in written and oral formats) the relationship between emerging media and societal health.
3. Create on-line publications, including a podcast and blogs.
4. Demonstrate professional skills relevant to the field of emerging media by creating work appropriate for public dissemination according to deadlines.

Some common action verbs and their cognitive tasks:

Account for	Explain, with reason, a series of events or transactions.
Analyse	Identify components and the relationships between them. Examine in parts, show how the parts contribute to the whole, and interpret the information to reach conclusions.
Apply	Use knowledge and understanding in response to a given situation or real circumstances.
Argue	Challenge or debate an issue or idea with the purpose of persuading or committing someone else to a particular stance or action.
Comment	Give a judgement based on a given statement or result of a calculation.
Construct	Develop information in a diagrammatic or logical form.
Define	Give the precise meaning of a word, phrase, concept or physical quantity.
Demonstrate	Prove or make clear by reasoning or evidence, illustrating with examples or practical application.
Describe	Give a detailed account or picture of a situation, event, pattern or process, without interpreting the information.

Determine	Inquire, examine and consider possibilities. Using this evidence, establish a point of view and/or optimal action plan.
Discuss	Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.
Evaluate	Assess and investigate implications and limitations; make judgements about the ideas, words, solutions or methods in relation to selected criteria.
Examine	Consider an argument or concept in a way that uncovers assumptions and interrelationships of the issue.
Identify	Provide an answer from a number of possibilities. Recognise and state briefly a distinguishing fact or feature.
Interpret	Use knowledge and understanding to recognise trends and draw conclusions from given information.
Justify	Give valid reasons or evidence to support an answer or conclusion.
Synthesise	Combine different ideas in order to create new understandings.

Adapted and reprinted with permission from Moro, C. (2012). Back to the board: Command terms. Gold Coast QLD, Australia: Faculty of Health Sciences and Medicine, Bond University.

Summary of Chapter 1

As a result of successfully engaging in your subject, students should know something they did not know before, have obtained strategies to apply this new knowledge within the discipline, and have an ability to express this knowledge to specialist and non-specialist audiences. Your learning outcomes should communicate to the students, what, how and why they are learning, as well as provide them with opportunities to demonstrate that learning.

Key terms

learning outcome
surface approach
cognitive task
deep approach
action verbs

Further reading

Kinash, S. (2010). Learning outcomes primer. Gold Coast QLD, Australia: Bond University, Office of Learning and Teaching.

Moro, C., & Kinash, S. (2013). Developing online worksheets that work. Educational Technology Solutions, 52, 52-55.

Use the space below to outline your intended learning outcomes for students who complete your subject. Identify the following for each outcome:

- the content or topic to be learned.
- the level of comprehension or performance to be achieved (outcome verb).
- any particular context in which the outcome verb is to be enacted.

Upon completion of my subject, I expect students to be able to:

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Biggs, J., & Tang, C. (2007). Teaching for quality learning at university. Berkshire, England: Open University.

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Moro, C. (2012). Back to the board: Command terms. Gold Coast QLD, Australia: Faculty of Health Sciences and Medicine, Bond University.

CHAPTER 2: Constructive Alignment

Constructive alignment was coined by John Biggs (2007) and arose out of a portfolio assessment designed to ask students to provide evidence of their learning, or how they achieved the learning outcomes of the subject. Students were required to discover and reflect on their professional experiences and discover what constituted evidence of learning. In doing so, they used the learning activity (creating a portfolio of evidence) to construct their own knowledge and achieve the desired learning outcomes. It is essentially outcomes-based learning and teaching.

> "Constructive alignment is common sense. Mothers... use it all the time. What is the intended outcome? That the child can tie her shoes. What is the [learning activity]? Tying her shoes. What is the assessment? How well she ties her shoes."
>
> Biggs, J., & Tang, C. (2007). Teaching for quality learning at university, p. 61.

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe in your own words, the constructive alignment model for learning.
- Explain in depth why the constructive alignment model is important to teaching.
- Reflect on your own subject design in the context of achieving consistency of learning throughout.
- Evaluate a subject's learning outcomes, assessment tasks and learning activities for the purpose of improving consistency and alignment.

What is constructive alignment?

Constructive alignment draws on two significant principles of learning and teaching - that the learner builds meaning, or constructs, his or her own knowledge through relevant teaching and learning activities; and that the teaching and learning activities are also linked, or aligned, with the learning outcomes and assessment tasks (Biggs, 2003; Biggs & Tang, 2007). Biggs (2003) emphasised, "the key is that all components in the teaching system - the curriculum and its intended outcomes, the teaching methods used, the assessment tasks - are aligned to each other" (p. 1). In other words, the 'constructive' aspect refers to the notion that information is not being transmitted from teacher to learner, but is created by the learner, with teaching as the catalyst for the learning. The other aspect of this learning model refers to the environment the teacher sets up to support this type of learning. Alignment of all the components in the process is designed to metaphorically 'trap' the student by giving the student little choice but to learn what he or she is intended to learn (Biggs, 2003).

STRATEGY #2: ALIGN YOUR TEACHING FOR CONSTRUCTIVE LEARNING

Is there a clear match between the learning outcomes as listed in the subject outline and the assigned assessment?

Traditionally, teaching and learning activities take place in the form of lectures and tutorials. Lectures allow educators to present and transmit the content, while tutorials are designed for clarification, extension and engagement with the content. However, at their optimal forms, lectures and tutorials permit students to pass through a semester with minimal opportunities for higher levels of thinking. Students can successfully complete the semester with passive listening and selective memorisation.

Constructive alignment provides a simple but effective framework so that students not only 'understand' a topic, whatever that may specifically mean, but have changed their behaviour, attitudes, or empowered their thinking with respect to some aspect of the discipline. Constructive alignment states at the very beginning, exactly what outcomes are intended, which should be aligned with open-ended assessment tasks that may result in other unanticipated, yet still desirable learning outcomes. In other words, constructive alignment is not a closed-loop system. It clearly defines the framework within which students may engage with the content consistently, but in their own way.

When all the components of the teaching process are not aligned with each other, students can easily stray from the objectives of the

subject and engage in inappropriate learning activities, such as mere memorisation for the purpose of recall, rather than analysis or reflection. For example, a multiple choice question exam and a lecture-style teaching format would be poorly aligned with learning outcomes focused on critical analysis or reflection and autonomy.

An example sourced from Biggs and Tang (2011) may assist with bridging the gap between the theoretical framework and practical application. Each learning outcome aligns with its correspondingly numbered teaching and learning activity and assessment task.

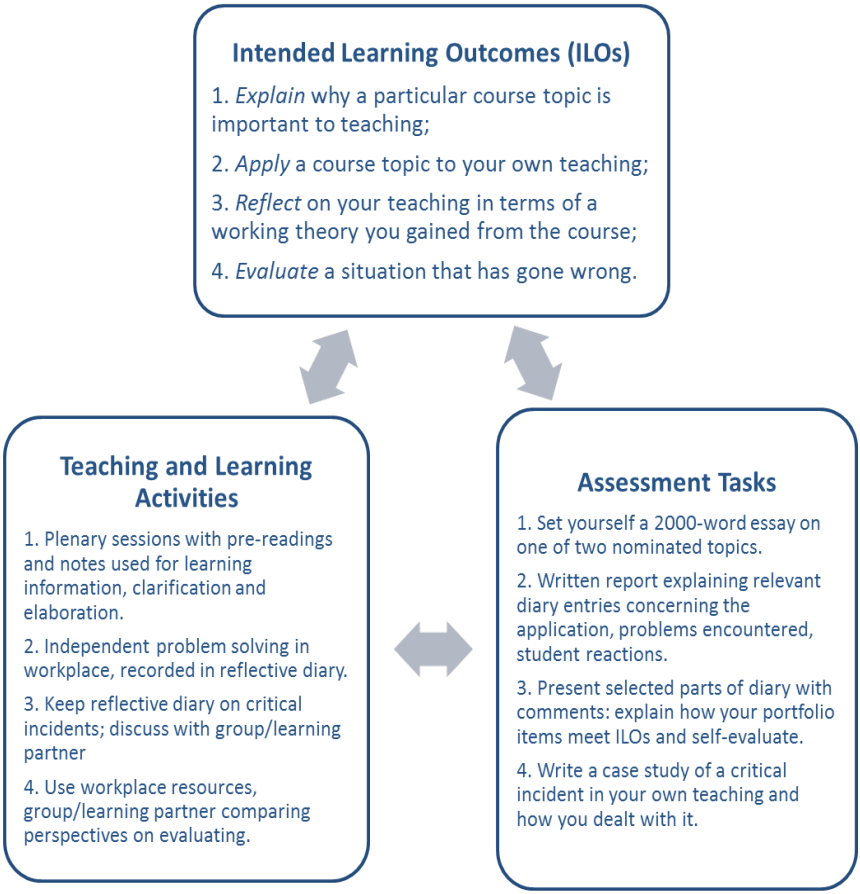

Figure: Diagram representation of a constructively aligned subject The Nature of Teaching and Learning (Source: Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.), pp. 100-103. Berkshire, England: Open University Press.)

Summary of Chapter 2

Constructive learning refers to the concept that learners learn by building knowledge with the support of an educator, through engaging with teaching and learning activities. Alignment describes the direct relationship of learning outcomes, teaching and learning activities and assessment tasks, and is essential to this teaching model. It provides us with a simple and effective framework to teach our students to ensure that what we intend the students to learn is aligned with what has been taught, and what students are doing with the content, within the broader context of the discipline. In other words, the action verbs used in writing the learning outcomes should be directly embedded in the teaching and learning activities designed to foster student enactment of the verbs, and student performance of those verbs are then measured by assessment tasks.

Key terms

constructivism	alignment	constructive alignment
teaching and learning activities	action verbs	assessment tasks

Further reading

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Try conducting an audit of your own subject to see how aligned your teaching and assessment are to the intended learning outcomes.

Intended Learning Outcomes (ILOs)

What are three of the things that you expect your students to be able to do at the end of the subject?

_____

_____

_____

Teaching and Learning Activities

How do you teach your students to do these things?

_____

_____

_____

_____

_____

Assessment Tasks

How do you assess your students on doing these three things?

_____

_____

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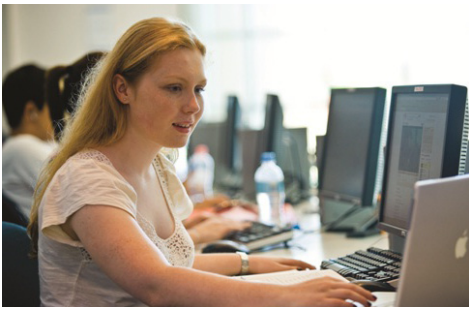


CHAPTER 3: Mode & Type

We have now linked assessment with what students should learn, i.e. aligning assessment tasks with intended learning outcomes, however, we must now consider how the intended knowledge, skills and behaviours are assessed. In other words, what is the medium and the method through which students should demonstrate achievement of intended learning outcomes?

> "Assessment defines what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates...If you want to change student learning then change the methods of assessment."
>
> Brown, C. (1997). Assessing student learning in higher education. London: Routledge., p. 7.

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Explain why the mode and type of assessment are important for student learning.
- Identify the advantages and disadvantages of relevant types of assessment.
- Reflect on your own subject's assessment mode and type in the context of suitability to the relevant learning activities and discipline.
- Design an assessment activity in which the mode and task achieve the relevant intended learning outcome.

Assessment and learning

There is no doubt about the importance of assessment. Assessment encourages learning, provides opportunities for feedback to both the student and the educator, documents competency and skill development, and validates the discipline for professional practice and benchmarked standards (Crisp, 2007). Although the educator's perspective may place the assessment task as a measurement tool positioned at the end of

the sequence of teaching, the student's perspective and subsequent approach to the learning activities are driven by what they will be tested on (Biggs & Tang, 2011). The frequently asked question, 'Will this be on the exam?' is the motivator behind many students' approaches to what and how they will learn. In one study, research confirmed this principle when students' note-taking behaviour, study habits and approaches to learning were all directed by what they were expecting for the exam. Students who expected multiple-choice question exams focused their notes on facts and details, while those who expected essay exams "concentrated on information of higher structural importance, such as main ideas and topic sentences" (Struyven, Dochy, & Jassens, 2005, p. 336). In summary, many of the leaders in the field of education believe that the assessment is of greater significance than the curriculum in determining what and how students learn.

STRATEGY #3: SELECT AN APPROPRIATE MODE AND TYPE

Does the mode and type of assessment suit the task and the assessed domains?

Have you considered alternative means of preparing and/or submitting assessment?

Modes of assessment

Assessment tasks are traditionally delivered face-to-face and take the form of multiple-choice, true/false, short answer, and essays. These forms of assessment have their advantages and disadvantages (addressed in the following pages). These delivery modes and assessment types may be chosen and utilised out of habit and tradition, rather than for any reason of suitability (Dikli, 2003). There are several ways to gather information about student learning.

To start, where will your students be completing the assessment task - in class, at home, or online? The majority of our subjects at Bond are taught face-to-face, which generally relies on face-to-face assessment. Tasks such as exams are completed in-class or in a similar environment (for example, the Sports Hall during Week 14). Conventional face-to-face exams are delivered within a timed and invigilated environment, where questions are normally not revealed to students prior to the exam, and students consequently race the clock to put down as much knowledge as they can to demonstrate they have learned. Students may adopt memorisation strategies with a view to fill up an examination booklet, rather than attempting to understand the subject as a component of

their programs. Applying the principle of alignment, a time-constrained assessment environment suggests that the target performance is itself time-constrained. Even then, the skill that is subject to time constraint might only be the ability to reveal content, or declarative knowledge, under pressurised time. Problem-based questions reduce this effect and require students to demonstrate understanding by solving problems, often in a professional context. This may be better accommodated by a performance assessment rather than an invigilated exam (Biggs & Tang, 2011). Despite the disadvantages, advantages to the conventional face-to-face exam format include effective minimisation of plagiarism, convenience, the 'equalising' of students in a controlled environment, and the ability to check the breadth and accuracy of students' knowledge (Biggs & Tang, 2011).

Face-to-face assessment is suitable for oral presentations, interviews, or simulated role-play. These assessments may be performance-based and require an element of personal engagement. However, with respect to aligning assessment tasks with the intended learning outcomes of the subject, you must consider whether a face-to-face format is the best assessment mode to achieve those learning outcomes. Remember, you should be assessing the learning outcome, not the task.

... the relevant assessment task should not demonstrate what the student knows about the topic, but should demonstrate what the student can do with the topic.

e-Assessment

Just as developments in technology have changed the nature of the workplace environment, they have also offered new formats for learning and teaching. Inevitably, assessment environments must adapt to be compatible with the wider community, work evironment and learning environment. Consider, for example, whether a paper-based, face-to-face exam would suitably provide students with opportunities to demonstrate the knowledge and skills developed through software-based learning activities. Similarly, if students were required to demonstrate a communication skill, would a paper-based research task on a communication topic adequately allow them to demonstrate that skill?

e-Assessment is not a new development in education literature, however, it is often raised in reference to distance education and online delivery. e-Assessment is often aligned with e-learning (Comeaux, 2005; Crisp, 2007). Instead, e-assessment should be employed to enhance the student experience by providing students with a variety of learning

Assessment Tip: Take Home Examinations

Try assigning take-home exams to:

- encourage deeper approaches to learning.
- reduce pre-exam anxiety.
- discourage memorisation.
- better represent the type of "tests" graduates may encounter in professional practice.

Take home exams can be designed using short answer or essay questions, and may require students to demonstrate their abilities to research, draft and revise, and use and apply resources.

Discourage academic dishonesty by accepting submissions via TurnItIn.

opportunities. The emphasis is on assessment as learning, rather than assessment of learning (see Chapter 5: Assessment as Learning Opportunities). Bond educators are encouraged to utilise e-assessment as an alternative assessment mode. In doing so, the authors are not advocating a reduction in face-to-face teaching and learning methods, nor are we proposing that e-assessment should replace other forms of traditional assessment modes. You are encouraged to enhancethe assessment environment through electronic and computer-mediated tools.

Types of assessment

Closely related to assessment modes are assessment types, which refer to the assessment method. For example, students may be assessed through short answer questions, written reports, group projects, portfolios and blogs, or oral presentations. Each type requires students to address different levels of learning and therefore, the intended level of learning would direct the assessment type employed to achieve the relevant intended learning outcomes. As an example, multiple-choice tests are ideal for assessing an ability to recall information and facilitate broad coverage of content. In contrast, portfolios require students to collect evidence of learning over time, encourage reflection and develop responsible and autonomous learners (Palomba & Banta, 1999). When designing and selecting your assessment types, it is important to refer to the rationale, potential advantages and disadvantages to determine suitability.

The following table of Bond University Assessment types outlines Bond's commonly used assessments across disciplines. Use the table to assist you with selecting a suitable assessment type for your subject. Become familiar with the various types and consider how you might adapt these to your subject.

Bond University Assessment Types

Broad Assessment Category	Description	Rationale for use	Advantages/disadvantages
Short form and multiple choice tests	Includes multiple choice questions (MCQ), extended match questions (EMQ), matching, true-false	Assess students' ability to either recall information or apply their knowledge to particular scenarios.	Enables broad coverage; requires time and skill to write quality items, particularly to assess higher order skills; allows benchmarking with inclusion of anchor items; most questions are biased towards recall; facilitates coverage of content; and usually time-limited and unseen.
Short answer test	Requires brief answer – phrase, sentence, short paragraph.	Assess students' ability to either recall information or apply/contextualise their knowledge.	Relatively wide sample of content; need for clear criteria; limited opportunity for argument and originality.
Test using any combination of short, long essay and multiple choice questions	May include MCQs, EMQs, matching, true-false, short answer, essay, or mathematical questions.	Assesses a combination of student abilities including basic recall of information, processes used to answer questions and complex application of knowledge and skills.	Allows multiple means of expression so that diverse students are able to demonstrate their competencies.
Spreadsheet exercises	Involves organisation and alignment of data in rows and columns. Usually involves insertion of formulas and analysis of relationships between data points.	Facilitates a variety of learning styles which can be characterised by the terms: open-ended, problem-oriented, constructivist, investigative, discovery oriented, active and student-centred.	Interactive; gives students a large measure of control and ownership over their learning.
Essay	May vary from single page to major assignment of ten pages.	Potential for measuring understanding, synthesis and evaluative skills; opportunity to explore a specific topic in depth; and retrieves information and ideas from resources.	Contributes to writing skill development and ability to select, organise and integrate material; can reveal errors in understanding and misconceptions; subjectivity in marking may influence consistency in marks; and may be time-limited.
Performance test	Includes laboratory techniques, assessment of laboratory based activities, clinical skills, and simulations.	Assesses mastery of a skill(s); may assess the ability to identify structures, topographical relationships; tests/evaluates spatial knowledge; simulates/replicates real world environment; engages students in "deep learning".	Confirms mastery of a skill(s); simulates/replicates real world environments; can incorporate a variety of tasks; and can be logistically challenging to run.
Written report	Presents information/ recommendations/ conclusions related to a specific purpose	Requires presentation of information in a style relevant to reporting in the discipline; and supports reflection and problem solving.	Replicates real world activity; allows for a range of topics; supports reflection and problem solving; reliability of marking can be challenging
Workplace based assessment	Opportunities for assessment in the workplace conducted by Bond staff or by workplace-based supervisors, and may be competency based.	Authentic assessment of students in authentic environments. Used sparingly early in programs and may be a substantial component of assessment in the later stages of programs particularly those with external accreditation requirements.	Assesses unique, real life and authentic experiences; confirms job-readiness; marker consistency is challenging and requires ongoing training.
Projects	Extended piece of work involving inquiry based activities; may be individual or group based with a range of outcomes.	Organise and apply/critique information for a specific purpose; sampling a range of practical, analytical and interpretative skills; retrieve and analyse information and ideas from resources; format dependent on disciplinary norms.	Promotes student engagement in and responsibility for learning; time required for staff development of topic/marking and students to complete the project needs to be managed
Presentations	May include oral presentations, posters and digital media/modes of presentation, individually or as groups.	Assesses communication skills; ability to adapt content to required presentation format; ability to retrieve and analyse information and ideas from resources; creative expression; and engagement with questions and discussion.	Can assess a range of outcomes including generic skills; can provide immediate/rapid feedback to students; time required in class meetings may be a limiting factor; balance between topic content and presentation quality needs to be clear.
Case studies	Includes accounts of a real experience including authentic details.	Used to illustrate and test application of theory to practice, and encourages authentic learning.	Encourages authentic learning; develops critical thinking skills; assesses a range of clearly articulated skills and outcomes; discourages plagiarism; and marking can be time consuming and subjective.
Portfolios, Journals and Blogs	A purposeful collection of student work written/compiled over a period of time and incorporates reflections or lab reports.	Compilations of evidence of students' achievements, including major pieces of their work, feedback/comments from tutors, and reflective analyses by the students themselves; promotes student engagement with learning over time, self-assessment and reflection.	Encourages responsibility for and engagement in learning; promotes self-assessment and reflection; assessment criteria challenging; requires establishment of a safe environment to encourage trust regarding intellectual property issues.

Broad Assessment Category	Description	Rationale for use	Advantages/disadvantages
Participation	Active participation in tutorial/class sessions that is monitored. Participation criteria will vary with different methods of delivery and should be detailed in the subject outline.	Encourages active participation and class readiness.	Students are better informed when they come to class and discussions are richer. Unless rubrics are used it can appear subjective and can be open to dispute.
Capstone Project	The student works on one project primarily, such as a research project, experiment or creative project.	Assessment of the student's cumulative abilities within the context of the course; students demonstrate how they can integrate the knowledge, abilities, and values that faculty have been teaching or demonstrating; and illustrates self-motivation and critical thinking skills, demonstrating not only knowledge, but understanding of the course elements.	Are cumulative and integrative; adaptable to demonstration of skills; benchmark with external standards evaluated; can be difficult to "capture" all students in their final semester; and can be labour-intensive.
Thesis	A dissertation or thesis is a document submitted in support of candidature for an academic degree or professional qualification presenting the author's research and findings.	The thesis demonstrates a culmination of student-driven work on a focussed topic.	Supports iterative work and formative feedback; encourages student-driven learning; develops skills in multiple academic and research areas; establishes collegial network; and requires extensive supervision.
Literature Review	A literature review discusses published information in a particular subject area, using skills of summary, synthesis and critique.. It might trace the intellectual progression of the field, including major debates	Literature reviews provide a solid background for a research paper's investigation. Comprehensive knowledge of the literature of the field is essential to most research papers.	Develop students' skills in summary, synthesis and critique; encourages students to support statements and use an evidence-based approach to declarative knowledge; provides exemplars of academic writing and research process; and requires clear differentiation between literature review and book reports.
Systematic review	A systematic review is a literature review focused on a research question that tries to identify, appraise, select and synthesise all high quality research evidence relevant to that question. Systematic reviews are quite common in sciences where data are collected, published.	A systematic review is necessary when students are going to embark upon a research project. It is necessary to analyse what has been researched and established prior to positioning study for a unique contribution.	Develops student skills in analysis and critical thinking; grounds knowledge in evidence; positions proposed research in the context of established knowledge; requires extensive supervision; and time-consuming project for students and supervisors.
Annotated Bibliography	Provides a brief account of the available research on a given topic. It is a list of research sources that includes concise descriptions and evaluations of each source. It usually contains a brief summary of content and a short analysis or evaluation.	Reviews the literature of a particular subject; demonstrates the quality and depth of reading that the student has done; exemplifies the scope of sources available, such as journals, books, web sites and magazine articles; highlights sources that may be of interest to other readers and researchers; and explores and organises sources for further research.	Grounds students in the published literature; encourages skills of search, summary and organisation; models sequential dot-point analysis which can confuse students regarding alternate requirements; and supports discrete rather than relational analysis.

Types of e-assessment

e-Assessment is not limited to e-learning or online learning. Potentially, any of the assessment types listed above may be converted into a digital format. For example, multiple-choice question style quizzes with appropriate feedback can be utilised as an effective learning opportunity for students to self-assess. Presentations may be presented in digital media. Even performance-based tasks, such as client interviews and negotiations, may be conducted through a web-based platform. Arguably, such an assessment design would reflect professional practice and communication in the 'real world' more accurately. Learning activities can be assessed through discussion threads, facilitate conferences and

chats, e-portfolios, and collaborative wikis and blogs. Of particular value is the flexibility and convenience with which new diagnostic and formative e-assessment tasks may be designed, delivered to students, and returned for feedback and reflection (see Chapter 6 for formative and summative assessment). Many of these tools are available through Bond's learning management system, iLearn. Additionally, higher education literature highlights the use of virtual reality environments to facilitate role-play and simulations to create learning activities and assessment tasks (Crisp, 2007, 2011; Jarmon, Traphagan, Mayrath, & Trivedi, 2009; Warburton, 2009). These provide innovative opportunities to immerse students in simulations that draw on authentic environments.

A GUIDE TO E-ASSESSMENT

How do we ensure our e-assessment tasks are designed to maximise their potential to provide students with effective learning opportunities? The following guide for teachers was developed by Professor Geoffrey Crisp and the Australian Learning and Teaching Council to provide a practical and informative overview of e-assessment.

Professor Geoffrey Crisp is Dean, Learning and Teaching at RMIT University. Professor Crisp has been involved in innovative research and teaching development, and his areas of expertise are: enhancing academic practice; computer-aided learning and assessment; education and computers; and multimedia in teaching. He is a 2008 Australian Learning and Teaching Council Associate Fellow and in 2011, completed the project 'Raising the profile of diagnostic, formative and summative e-assessments'. Professor Crisp continues to develop informative and valuable contributions to enhancing assessment practices and design. For more information about Professor Crisp's work, practical e-assessment tips and exemplars, or to participate in e-assessment webinars, visit the Transforming Assessment website at: www.transformingassessment.com

Transforming Assessment

A Practical Overview of E-Assessment for Teachers

WHAT IS E-ASSESSMENT?

E-assessment is the use of digital devices to assist in the assessment of student learning.

WHERE CAN IT BE USED?

Digital devices can be used to design, deliver and administer assessment types across four areas:

Diagnostic

Introductory low stakes tasks which enable:

- students to determine their preparedness for their current learning activities
- teachers to adjust their introductory learning activities.

Formative

Low stakes tasks designed primarily to improve learning by providing students with prompt feedback in order to:

- have a greater understanding of their progress
- be better prepared to undertake future learning or a future summative assessment task.

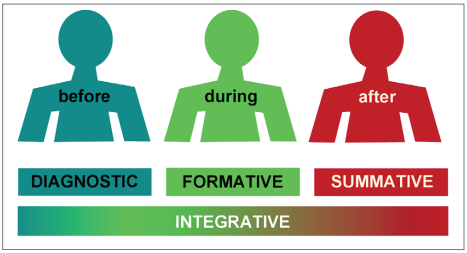
Summative

High stakes tasks used primarily for progression and certification purposes.

Integrative

Low or high stakes tasks which provide students with the opportunity to:

- make judgements about the quality of their own learning or performance by reviewing their approach to the task
- understand discipline standards and teacher expectations
- identify good quality responses
- track and analyse their approaches to responding to a problem, issue, situation or performance
- integrate prior or current feedback into their response
- engage with a meaningful task that has inherent worth beyond just an assessment activity.



Forms of assessment and their place in the learning process

WHY MIGHT E-ASSESSMENT BE USEFUL TO ME?

E-assessment offers a range of potential benefits for assessors, candidates, regulators, industry and professional bodies. These benefits include:

1. Efficiency
2. Effectiveness
3. Authenticity
4. Engagement.

Efficiency

Timeliness – students can undertake the assessment outside normal tertiary institutional operating hours

Flexible delivery – the assessment can be undertaken from any location

Automatic processing – self-correcting quizzes enable teachers to spend less time performing the highly repetitious tasks associated with managing assessments, especially for large classes

Reliability – students in large groups experience the same conditions of assessment regardless of location, teacher or invigilator

Effective storage and distribution of grades – online systems enable student work and grades to be automatically archived for quality assurance purposes.

Effectiveness

Immediate feedback – online quizzes enable students to receive feedback immediately after completing the assessment

Analysis of question validity – student/group performance for each question can be quickly accessed in order to facilitate validation of the assessment

New question types – Likert scale, embedded answer and drag and drop.

Authenticity

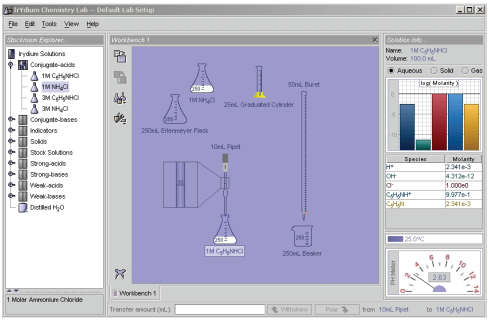
Access to people and resources – students can remotely access subject experts and online resources during an assessment

Simulate real world – students can use virtual worlds and online simulators in order to practice tasks that are normally prohibitively expensive or risky

Teachers can set complex tasks – individual student contributions can be tracked in complex tasks such as online collaborative role-plays or scenarios.

Engagement

Multimodal formats – students can access high quality online interactive content using 3D games, virtual worlds and online quizzes featuring embedded video and 3D/2D animations



Able to use virtual worlds and role-plays – students can work safely to collaboratively solve problems in a virtual world modeled on a real life environment

Able to use self and peer review – blogs, wikis and e-portfolios can be used by students to conduct self and peer review activities.

WHAT COULD I DO WITH E-ASSESSMENT?

Listed below are a range of both common and evolving e-assessment approaches.

Selected response questions

The most commonly used approach, whereby students complete a series of questions that have a pre-determined expected response. This approach enables students to receive instant feedback and so reduces the amount of time spent by teachers correcting and responding to individual students.

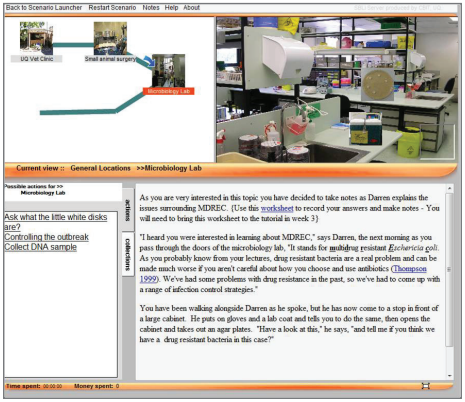
The questions are generally authored within a learning management system or through an authoring tool (eg *Articulate*). Question types may include:

- Multiple choice
- True-False
- Ordering, matching or sequencing
- Cloze exercise (fill-in-the-blanks)
- Hot spot
- Likert scale.

Collaborative assignments

students work remotely as a small group in order to complete a task which generally encompasses a problem solving and/or real life dimension. Students often have the option of working in real time (synchronous) or at different times (asynchronous) and most online applications enable each student's participation to be individually assessed.

Screenshot from chemistry virtual laboratory activity. http://www.chemcollective.org/applets/vlab.php



Screenshot from SBLi scenario based learning activity. http://www.sblinteractive.org

Online role-plays

Students use a persona to interact with other students in order to collaborate, negotiate or debate an issue (eg http://www.uow.edu.au/cedir/enrole). They are used when students are required to understand different stakeholder perspectives in a complex situation where the student responses are not predetermined.

Scenario-based activities

Students respond as themselves to a prescribed set of questions where each response determines the subsequent information or questions presented (eg http://www.sblinteractive.org). These tasks usually have a designated end point(s). Students are assessed on the quality of their decision-making and/or on the path that they have chosen to solve a problem.

Virtual laboratory activities and field trips

Students work in a virtual or remote environment to complement/replace expensive laboratory sessions (eg http://www.online-journals.org/i-joe). In a remote setting, students can download data to their local computer from a remote sensor for use in the task. In virtual activities students collect and analyse authentic data.

E-portfolios

Students collate a range of their work using an online application (eg *PebblePad*, *Mahara*) in order to demonstrate the progression of their learning and/or showcase their skills and knowledge. They are often used to facilitate reflective practice and to evidence vocational outcomes.

Serious games

Students work toward achieving clearly articulated goals, outcomes and rewards in a game environment rich in interactivity and high quality 3D graphics. The game provides students with constant feedback in response to their actions and they are rewarded at regular intervals to maintain motivation to complete the task.

Screenshot from Second Life *in teacher education. http://www.virtualprex.com*

Virtual Worlds Using Avatars

Students work in a simulated multiuser 3D virtual world where they are represented as a character (avatar). A physical environment is often re-created as a 3D simulation for students to explore, build their own objects and complete specific tasks. Reasons for their use include simulating a restricted, expensive or dangerous environment and enabling students to explore complex interpersonal tasks not readily facilitated in a physical setting (eg http://www.activeworlds.com).

Support for this Fellowship activity was provided by the Australian Learning and Teaching Council Limited, an initiative of the Australian Government Department of Education, Employment and Workplace Relations. The views expressed in this guide do not necessarily reflect the views of the Australian Learning and Teaching Council or the Australian Government.

WHAT TECHNOLOGY CAN I USE?

Whilst e-assessment is commonly incorporated into the institutional learning management system (eg *Blackboard* or *Moodle*), other delivery platforms may include:

Specialist e-assessment software – accessed through web browsers and/or local computers, eg *Questionmark Perception*, *TestPilot*

Local area networks – accessed from local computers, often created and/or managed by Faculty teaching and/or professional staff

Locally hosted websites – accessed through web browsers, often created and/or managed by faculty teaching and/or professional staff

Web 2.0 and Cloud computing – accessed through web browsers, eg *YouTube*, *PBWorks*, *Wordpress*, *Slideshare*, *Google Docs*

Virtual Worlds – eg *Second Life*, *OpenSim.*

Screenshot from a wiki with embedded video.

HOW DO I KNOW IF I AM USING THE TECHNOLOGY EFFECTIVELY?

Online education can provide more widespread access to content and learning, but it is the curriculum design that surrounds the content and the scaffolding provided by you as the teacher that provides the quality experience for students.

Numerous guidelines have been written about how to use technology effectively in education; however, the issue is not a shortage of advice, but rather to apply the advice within the resources and time available to a practicing discipline teacher.

Don't try and do everything yourself; seek the help of other teachers and the support mechanisms in your institution. Reuse effective designs and the work of other teachers.

The best way to know if you are using the technology effectively is to ask your students. They will quickly let you know if this is assisting them in their learning.

MORE INFORMATION

Visit **www.transformingassessment.com** for access to:

- sample e-assessment approaches
- e-assessment case studies
- Teacher's Handbook on e-Assessment
- literature references on e-assessment
- reports on e-assessment use

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Choosing and designing the appropriate assessment mode and type

1. What is the objective of assessing the students?

Consider here whether you are establishing what students are able to do already (diagnostic), improving learning with feedback (formative), or measuring overall learning (summative).

2. Identify one content area and the intended learning outcome that you expect your students to achieve with that content area.

Content area:

ILO:

3. Design a 'stem' to provide adequate information for the students to answer a range of questions. The stem could be in the form of written information, a diagram, a chart or any other form of presentation.

4. Design an activity or question for students to complete or answer based on that stem. Have you considered whether an electronic format would be more suitable for this activity?

5. Check the alignment of the assessment activity or question with your responses to Questions 1 and 2 above.

6. Decide how you will score the assessment. Refer to Chapter 4 for grading guidelines and rubrics.

Summary of Chapter 3

In designing appropriate assessment, determining what the student should be able to do with the relevant content and aligning it with learning and teaching outcomes is only the beginning. You must also consider the mode in which you will deliver and assign the task, as well as the type of assessment task you will employ to best suit you and your students in helping them achieve those learning outcomes. How important is this aspect of assessment? Very. The instructional design methodology of your assessment may have unintended, and sometimes negative, effects and outcomes. Because assessment tasks are what motivate students in their learning, the format and most important, the message you are relaying with the format, directly affects how students will approach their learning. Use the resources provided in this chapter to assist you with selecting and designing appropriate assessment tasks. Consider the rationale, advantages and disadvantages of various assessment types, and whether they suit the intended outcomes. Finally, consider whether face-to-face, online or take-home formats provide you and your students with an assessment mode that best suits the assssed domains.

Key terms

mode	type	e-assessment
face-to-face	virtual reality	

Further reading

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CHAPTER 4: Grading Guidelines & Rubrics

> Rubrics... [are] one of the handiest aids to educators since the invention of the blackboard.
>
> Stevens, D, & Levi, A. (2005). Introduction to rubrics, p.vii

Just as assessment defines what and how students learn, grading guidelines, marking schemes and rubrics define assessment. When a student receives a mark of 70 on the assessment task, on what justification or criteria can the mark be based? Has it been communicated to the student why he or she has received a 70 rather than a 65 or 73? Are you able to articulate and provide a detailed description of what constitutes acceptable or unacceptable levels of performance for each of the assessment's component parts? These challenges to a marker's decision-making and thought process can be difficult to answer. However, if the educator has constructed a rubric, it not only provides a reliable framework for marking and accountability, but it can also be used to provide timely, meaningful feedback and encourage students to be self-motivated, independent learners.

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe what a rubric is.
- Explain the purpose and rationale for using a rubric.
- Reflect on your own subject's scoring methods in the context of whether they are designed to effectively show how the products and processes of student performance in assessment tasks are measured.
- Construct a rubric that suitably aligns with intended learning outcomes and the assessment task to provide a reliable marking framework.

STRATEGY #4: CONSTRUCT A RUBRIC

Have you been explicit about assessment expectations?

Can students access transparent information about how to achieve a high distinction in the assessment task?

What is a rubric?

In the previous chapter, we referred to the concept that assessment drives student motivation, and therefore, student learning (Biggs & Tang, 2011). The rubric, also known as a grading guideline or marking scheme, is a document that provides a detailed explanation of how student work will be assessed (Dunn, Morgan, O'Reilly, & Parry, 2004). In other words, it explains how the educator judged the student's level of performance in demonstrating achievement of relevant intended learning outcomes.

Rubrics may be simple and straightforward, especially if they relate to multiple-choice questions or true/false questions, where student responses are objectively correct or incorrect (Dunn, Morgan, O'Reilly, & Parry, 2004). In this format, a rubric might consist of information relating to the structure of the exam, the types of questions to be asked, the point value of each question, and number of correct responses a student would need for a performance range (e.g. Distinction).

"Hunting, gathering.... It's so hard to *prioritize!*"

On the other hand, marking open-ended tasks can sometimes invite reliance on criteria based on overall 'satisfaction' of student performance, the 'gut', or a general sentiment of 'she's got it' rather than 'she's got no clue'. When the assessment task is open-ended, such as for an oral presentation, problem-solving questions, or critical analysis in essay writing, the criteria upon which a judgement is made can be difficult to articulate with any certainty. As a result, the rubric may become quite complex. However, these instances of performance-based assessment are exactly the circumstances that require rubrics. Rubrics make the marking criteria explicit and in doing so, create a structured and reliable framework for marking, feedback and accountability. Rubrics also overcome any 'guessing games' students might employ to unravel the mystery of how the assessor judged student performance.

Why use rubrics?

Rubrics assist the educator with making marking criteria explicit and transparent. When rubrics are effectively communicated to students, there are no 'guessing games' about how students can achieve a high distinction on the assessment task or in the overall subject. Stevens and Levi (2005, pp. 17-28) identified six key reasons rubrics should be used. The four reasons most relevant to the Bond context are addressed below.

1. Rubrics provide timely feedback

Assessment marking is time-consuming, often tedious and not always simple. Feedback is most meaningful and effective when it is given as soon as possible after completion of the assessed task, or during learning. Drawing on relevant literature, Stevens and Levi identifiedthat the value of feedback declines as time between it and the assessed task increases. Timely feedback facilitates learning. In light of this, how does one balance the pressure to provide timely feedback, against the pressure to mark each assignment thoroughly, fairly, and provide feedback that is comprehensive, constructive and useful to the learner?

By identifying and articulating a theme of common errors students make, rubrics provide an opportunity for educators to simply refer to the error and significantly reduce the time required to repetitively comment on the general, but similar theme of the feedback. For example, where an assessment task might require analysis and inquiry, most students will show an analytical structure and a central thesis, but may just fall short of a fully developed analysis or link to the thesis. In this circumstance, the student may receive a credit mark for the analysis component of an overall assessment item. The educator would reference that statement in the rubric for each student who demonstrated the same struggle. Of course, this does not exclude opportunities for further and more detailed feedback relevant to the student, but it may reduce the time required to repeat the general theme of the feedback you provide.

2. Rubrics prepare students to use detailed feedback.

Students seek feedback for two primary reasons: to know what they are doing well so that they can continuing doing it; and to know where they are performing poorly so that they can focus their efforts on improvement. A Bond student focus group echoed these sentiments in ranking 'regular, constructive and timely feedback' fifth on their top ten practices and behaviours they would like from their tutors. Particularly, one Bond student remarked, "Having that feedback halfway through the semester was really helpful because it either affirms that you're

doing what you should be doing, or lets you know exactly how you can improve" (Kinash & Knight, 2011, p. 50).

Rubrics allow students to receive constructive and detailed feedback, but it is also proposed that they prepare students to use that detailed feedback. When you use a detailed rubric, students are provided with a description or representation of higher levels of achievement, in conjunction with their individualised feedback that evaluates their own levels of achievement. In other words, rubrics provide a goal students can work toward to achieve the highest levels of performance, while utilising the detailed feedback they receive as guidance on where they failed to meet those highest levels.

3. Rubrics encourages self-reflective learners.

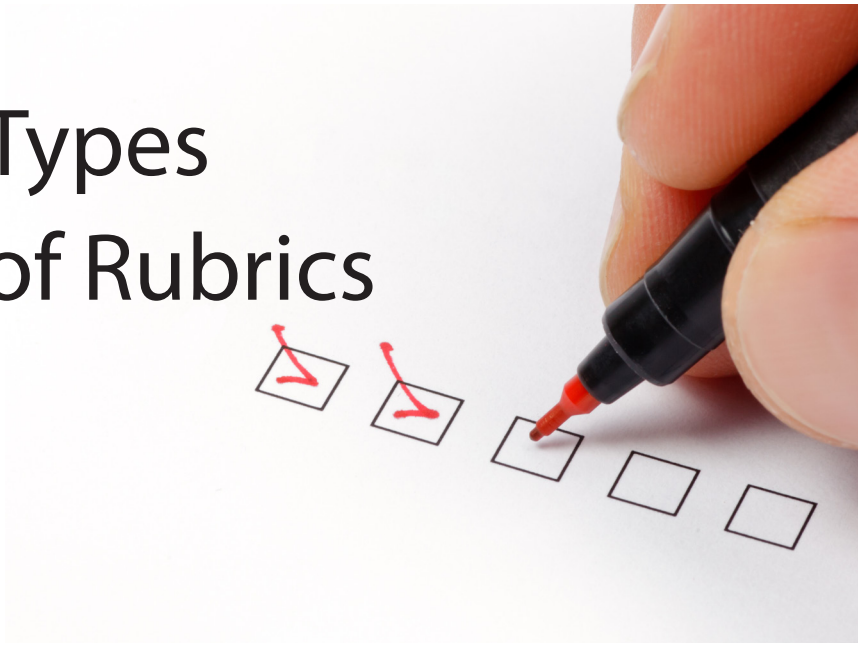
Stevens and Levi referred to this as 'critical thinking'. The application of critical thinking to which these authors refer is inwardly rather than outwardly directed. Rubrics help students to think critically about their own learning process. Rubrics allow students to view at a glance, which skills or knowledge areas arise as recurring problems. As a result, students are encouraged to reflect upon their learning and study habits, which may lead them to develop greater responsibility and autonomy in their learning. Such traits are difficult to develop, but are considered ideal and essential, especially in producing graduates who are life-long learners.

4. Rubrics facilitate communication with others.

Each Bond subject has one subject coordinator, but there is typically at least one other educator for the subject - the tutor. Whether we think about it or not, we teach in collaboration with others. Subject coordinators must collaborate with tutors, and tutors must collaborate with each other. Other collaborative partners may include colleagues within the faculty or across faculties, industry colleagues, and student learning support advisers. Communication is a key factor in all of these relationships.

Primarily, rubrics are a useful tool to facilitate communication and collaboration between the subject coordinator and his or her tutors. Rubrics inform the tutors about what is expected from students in a direct and clear way. Tutors would not need to engage in their own 'guessing game' when judging levels of student performance. It also ensures that the coordinator and the tutors are all consistent across tutorial groups when assessing tutorial performance, written assignments or presentations. Similarly, students experience consistency across tutors, so that any perception of a 'harsh' tutor in relation to the others might be reduced.

Types of Rubrics



Holistic Rubric

Rubrics may be designed to be 'holistic' or 'analytic'. A holistic rubric determines a student's total level of performance, rather assessing students regarding discrete components. Holistic marking is based on standards-based assessment (which is discussed in greater detail in Chapter 7). This approach comprises both subjective and objective elements in its application. It draws upon the objective elements of explicit, 'performable' learning outcomes (Dunn, Morgan, O'Reilly, & Parry, 2004), weighted against a subjective judgement of a student's achievement of the learning outcome based on concepts of acceptable performance ranges.

See the opposite page for an example from the Law faculty of standards-based assessment rubrics for tutorial performance.

Analytic Rubric

The second type of rubric is analytic. An analytic rubric allocates marks or percentages to each component part of an assessment task. Analytic rubrics give predetermined weight to specific component parts, such as 5 marks for creative use of visual graphics, 5 marks for effective oral communication, and so forth. A difficulty with analytic rubrics is

Rubric Example 1: Holistic

Grade	Description	Mark (out of 20)*	Mark (out of 15)*
Fail (less than 35%)	Unacceptable level of absence from tutorials. Participation virtually non-existent or unhelpful. Little, if any, preparation apparent. Unable to answer questions or to clarify vague and ambiguous answers. Apparent lack of commitment to study in the course.	less than 7	less than 5½
Fail (35% to 49%)	Irregular attendance without explanation or excuse, or regular attendance but without demonstrating a reasonable level of preparation. Misses obvious issues; answers are unclear, disjointed, illogical. No apparent attempt to relate issues together.	7 to 9½	5½ to 7
Pass (50% to 64%)	Regular attendance, with reasonable level of preparation demonstrated. Successful in answering questions, but in a patchy way, eg principles and concepts may not be fully grasped or explained; some good and some poor answers. When prompted, can usually explain the point with greater clarity.	10 to 12½	7½ to 9½
Credit (65% to 74%)	Regular attendance and preparation demonstrated. Either a lot of participation of variable quality, or less participation but of good quality. Demonstrates a reasonable comprehension of the issues. Able to clarify responses if requested.	13 to 14½	10 to 11
Distinction (75% to 84%)	Very good attendance. High quality participation based on good preparation. Usually displays good analytical skills and a clear understanding of the issues. Evidence of capacity to cross relate issues and develop innovative answers.	15 to 16½	11½ to 12½
High distinction (85% and above)	Excellent attendance. Consistent highly-engaged participation based on thorough preparation. Always displays excellent analytical skills and a clear understanding of the issues. Able to cross relate issues and develop innovative answers.	17 and above	13 and above

that of weighting, where one aspect of an assessment task is more valuable than other components, simply by the fact that it has more weight in numerical value. By the same token however, an analytic rubric effectively and clearly conveys the message that one aspect of an assessment task is more important than the others, and therefore, students would allocate more time and effort toward performing well in that particular aspect (Dunn, Morgan, O'Reilly, & Parry, 2004). The following pages contain an example of an analytic rubric used by one of our Teaching Fellows to assess literature reviews in a Psychology subject.

Marking Criteria for Literature Review

Name_____

Student ID_____

Introducing the idea:			
Topic identification **/1 marks**	**Poor/Fair** Neither implicit nor explicit reference is made to the topic that is to be examined.	**Good** Readers are given the overall problem, challenge, or topic that is to be examined.	**Excellent** The topic is introduced, and readers are shown why this topic is significant for researchers in the discipline.
Claim (This section can be placed either in the introduction or in the conclusion) **/2 marks**	**Poor/Fair** The review does not include a specific claim about the research topic.	**Good** The review includes a specific claim about the research topic, but the claim does not argue for a specific research direction, method, or question.	**Excellent** The review includes a specific claim about where research in this area should go--a new question, a specific method, or a particular direction.
Body:			
Organization of the report **/4 marks**	**Poor/Fair** The report appears to have no organization, with subtopics reflecting sources rather than sub-topics.	**Good** There is a basic organization reflecting research questions, methods, or directions, but separate sources are not well integrated into the paragraphs.	**Excellent** The review is organized according to research questions, methods, or sub-topics, with sources well integrated to demonstrate trends in current research.
Depth of content and analysis **/4 marks**	**Poor/Fair** The content is superficial, lacking specific research findings, data, analysis, or terms.	**Good** The content is generally sufficient, with some specific research findings, data, analysis, or terms, but is sometimes lacking in specificity.	**Excellent** The content is well developed, providing the reader with specific research findings, analysis, data, or terms, with thorough examples and explanations.

Academic Style:			
Clarity of writing and writing technique **/5 marks**	**Poor/Fair** It is hard to know what the writer is trying to express. Writing is convoluted. Misspelled words, incorrect grammar, and improper punctuation are evident.	**Good** Writing is generally clear, but meaning is sometimes hidden. Paragraph or sentence structure is too repetitive.	**Excellent** Writing is crisp, clear, and succinct. Sentence structure is varied when appropriate. Style is appropriate for a scientific audience.
Conclusion:			
Synthesis **A synthesis of ideas and hypothesis or research question** **/2 marks**	**Poor/Fair** There is no indication the author tried to synthesize the information or make a conclusion based on the literature under review. No recommendations for future research are made.	**Good** The author provides concluding remarks that show an analysis and synthesis of ideas occurred. Some of the recommendations, however, were not supported in the body of the report.	**Excellent** The author was able to make succinct and precise suggestions for future research based on the review. Conclusions or summarizing claims are strongly supported in the report.
Referencing:			
APA 6th format **/2 marks**	Poor/Fair Citations for statements included in the report were not present, or references which were included were not found in the text.	Good Citations within the body of the report and a corresponding reference list were presented. Some formatting problems exist, or components were missing.	Excellent All needed citations were included in the report. References matched the citations, and all were encoded in APA 6th format
Total **/20**			

Constructing a rubric

In its simplest form, a rubric is composed of four basic parts (Stevens & Levi, 2005, p. 6):

1. a task description (a description of the assignment);
2. a scale (to rank levels of achievement);
3. the dimensions of the assignment (a breakdown of the skills and knowledge involved in the assignment); and
4. descriptions of what constitutes each level of performance (specific feedback).

Task description

As demonstrated in Rubric Example 2, this may be a simple description of what the assessed product will be, such as a poster, literature review, presentation, or essay. The task description could also be cut and pasted from the subject outline. Place the task description at the top, where it is prominently visible to clearly link the marking criteria with the relevant assignment.

Scale

A scale ranks the levels of achievement. In Rubric Example 2, this was demonstrated simply by 'Poor/Fair', 'Good' and 'Excellent'. These words use simple language and clearly communicate three distinct levels along the scale of achievement levels for the assessment task. You may increase the levels of achievement from three to five to refine the descriptions of each level and provide more detailed feedback at 'border-line' levels. For example, where you may start with Fair, Good and Excellent, you might consider adding Competent between Fair and Good, and Advanced between Good and Excellent to reflect achievement levels that sit somewhere in between. In holistic rubrics, as reflected in Rubric Example 1, only one level of achievement is described for each performance range, identifying the level of performance at the higher end of each range. These may be accompanied by additional comments to provide explanation and specific feedback.

Dimensions

Dimensions identify the assessment task's component parts that make up the whole. Referring back to Rubric Example 2, you will see that the assessment task is comprised of distinct and identifiable skills and/or knowledge. Each dimension is accompanied by its weighted value, communicating to students which components are most important. The dimensions represent the combination of skills and knowledge that a

student must successfully demonstrate to produce high quality scholarly work.

Descriptions of performance levels

This is the time-consuming and complex aspect of constructing a rubric. Descriptions need to be flexible and have a bit of a personal touch, but must also explain in writing where the student failed to meet expectations. The descriptions of performance levels are essentially the general feedback that you would have predicted from marking assessments in previous experiences. For example, students at the Poor/Fair level would typically demonstrate a failure to meet a particular aspect of the relevant skill to constitute low levels of performance. How would you describe these gaps in the student's knowledge or capabilties? That description is what you might write on a student's general feedback sheet. Use those words in the description of that performance level.

Refer to the 'Depth of content and analysis' dimension in Rubric Example 2 as an example of performance descriptions. At low levels, the content is superficial and lacks research and analysis. At the Good level, the content and research is there, but may lack specificity. Finally at the Excellent level, the content is well-developed, the research is well-supported, and analysis is rooted in the use of examples. Such feedback is generally true for students at these levels and serves as ideal launching pads for further individualised feedback, if required.

Consider the following questions when constructing your own rubric:

1. Why did you create the assignment? Reflect on the purpose of the assessment, the teaching and learning activities related to the assessment, and its alignment with the subject's intended learning outcomes.

2. What specific learning outcomes will students achieve upon completion of the assessment task? List them and vary them according students' abilities at different levels. These will feed into your descriptions of performance levels.

3. Do you have similar performance expectations? Group the learning outcomes into categories. These will help you construct the dimensions of the assessment task.

4. Which of the dimensions would you consider most valuable? Prioritise the dimensions to help you determine weighting.

ResourcesforConstructingRubrics

Online Rubric Resources	
Rubistar	Rubistar: Free online rubrics repository with thousands of existing rubrics. http://rubistar.4teachers.org/
University of Newcastle (Excel based rubrics)	Six macro-enabled Excel spreadsheet rubrics. http://www.newcastle.edu.au/unit/centre-for-teaching-and-learning/about-the-centre/educational-resources/rubrics.html
Guides to Rubric Development	Source: http://tltgroup.org/resources/Rubrics.htm#RubricRubric
Rubric Basics	http://www.inov8.psu.edu/toolbox/RubricBasics.pdf - Definitions, types, purposes, learner involvement, learning enhancement and rubric use (Schreyer Institute for Innovation in Learning)
Rubric Reference Page	http://www.tltgroup.org/resources/Rubrics.htm
Flashlight Resources	**Flashlight Resources** - TLT Group assessment, evaluation and survey tools. Flashlight Rubric Samples - http://www.tltgroup.org/resources/flashlight/rubrics.htm Flashlight Online 2.0 - http://www.tltgroup.org/Flashlight/flashlightonline.htm - An online survey tool that supports rubric construction and assessment
Waypoint	http://www.subjectivemetrics.com/index.cfm - online, interactive rubrics that let you create tailored narrative feedback for students based on your rubric and, on a larger scale (multiple classes, programs, institution-wide) collect and analyze longitudinal data on student performance.
Rubric Builder	https://www.e-education.psu.edu/facdev/id/assessment/rubrics/rubric_builder.html - An interactive web page rubric that can score and give item specific feedback
Roobrix	http://roobrix.com/ - Converts your rubric scores into percentages.
Scoring Rubrics -	http://ericae.net/faqs/rubrics/scoring_rubrics.htm Definitions & Construction
Sample Rubrics	
The Rubric Bank	Some examples of rubrics in key disciplines (mostly K-12, many at state levels). http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Rubric_Bank/rubric_bank.html
Merlot	http://www.merlot.org/merlot/index.htm - Online repository of learning objects and materials for higher education (particularly online teaching, but contains face-to-face and hybrid options)
POD	The POD Network Custom Search Engine - http://www.podnetwork.org/search.htm#faculty – allows you to search Centers for Teaching and Learning within Higher Education for sample rubrics. Eg: Carnegie Mellon, Eberly Center for Teaching Excellence, Examples of Rubrics - http://www.cmu.edu/teaching//designteach/teach/rubrics.html - higher education rubrics developed by faculty in different disciplines

Summary of Chapter 4

Rubrics define assessment. They are tools used to interpret and mark student work against criteria and expected performance standards. Rubrics help educators provide timely feedback, prepare students to use detailed feedback, encourage self-reflective learners, and facilitate communication with and between coordinators, tutors, colleagues, and of course, with students. They may be used for any level of learners, and for any discipline. They can be designed to be holistic or analytic, depending on your intended outcomes for the assessment task. Constructing a rubric can be a rewarding task, especially once you have created your first one and experienced the benefits of using rubrics in assessment and even as a normal part of classroom teaching.

Key terms

rubric	holistic	analytic
scales	dimensions	levels of performance

Additional resources

Orrell, J. (2003). A generic learning rubric. Adelaide, SA: Flinders University. Retrieved from http://teaching.unsw.edu.au/sites/default/files/upload-files/GenericAssessmentRubric.pdf

RCampus. (2012). iRubric: Home of the free rubric tools. Retrieved from http://www.rcampus.com/indexrubric.cfm

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CHAPTER 5: Assessment as LearningOpportunities

Assessment is an integral part of the entire learning and teaching process. We have considered assessment methods for monitoring and evaluating student performance (Chapter 3 - Mode & Type). This chapter focusses on developing assessment as learning opportunities.

> "Assessment is there to establishwhat[students]think theyneedtoknowthemselves, where they can identify the gaps in their learning, and...fill them up."
>
> Flood, A. (2012). Assessment as learning [video clip]. UNSW.

Assessment drives students' learning. As a consequence, students exercise strategy and may only put energy and time into tasks that will contribute to their overall final marks. With this in mind, the objective of designing assessment as learning is to develop approaches and use methods that support and enhance thinking, and engage students in active and productive activity (Bryan & Clegg, 2006). The key question is whether the assessment tasks are robustly designed so that they themselves are learning opportunities for the students.

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe the concept of designing assessment as learning.
- Identify learning theories that support assessment as learning.
- Reflect on an assessment task in your own teaching in the context of enhancing learning through meaningful, memorable and engaging activities.
- Develop an example of assessment further for active engagement of students to create their own understanding.

What is Assessment as Learning?

Assessment as learning centres on the idea that learning is not about transferring knowledge from one person to another, nor is it about filling one's head with information for the purpose of regurgitating it during the test. Students are the conduits between assessment and learning. For learning to be achieved, students must be "actively engaged in creating their own understanding, they must learn to be critical assessors who make sense of information, relate it to prior knowledge, and use it for new learning" (Manitoba Education, Citizenship and Youth, 2006, p. 41). Rather than conceptualising assessment as an evaluation after learning, this approach positions assessment as a key component of the learning process.

Assessment of, for, and as Learning

Throughout education literature, key concepts related to assessment may be identified as assessment of learning, assessment for learning and assessment as learning. Although these concepts are distinguished by mere prepositions, they relate to learning and assessment in different ways. Assessment of learning refers to the summative tradition of judging students' knowledge and skills after a formal learning activity, to measure whether and how much was learned. Assessment for learning refers to the use of formative assessment tasks beginning early in the semester, and continuing throughout for the purpose of providing students with feedback and opportunities for practice and rehearsal (Davies, Pantzopoulos, & Gray, 2011). Refer to Chapter 6 for more information on formative and summative assessment.

Assessment as learning is rooted in the concept that learning is characterised by student reflection for the purpose of developing a sense of self-awareness (Davies, Pantzopoulos, & Gray, 2011). The intended consequence is that the student monitors his or her own learning and engages in learning habits beyond formal learning. As further elaborated by Manitoba Education, Citizenship and Youth (2006):

> The ultimate goal in assessment as learning is for students to acquire the skills and the habits of mind to be metacognitively aware with increasing independence. Assessment as learning focusses on the explicit fostering of students' capacity over time to be their own best assessors... (p. 42)

In other words, assessment as learning designs an environment that assesses one's thinking about one's own learning, the strategies used to support or challenge that learning, and how one makes adjustments to achieve deeper understanding.

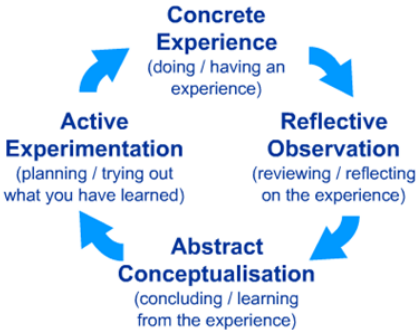
Why Assessment as Learning?

Assessment as learning is based on research about how people learn, namely, metacognition. (Bransford, Brown, & Cocking, 2000; Manitoba Education, Citizenship and Youth, 2006). Metacognition includes two aspects: knowledge and regulation. Knowledge consists of insight into one's own learning, strategies, including when and why to use them, and of the demands of the learning task at hand (Bransford, Brown, & Cocking, 2000). Regulation, or rather, self-regulation, is "the ability to orchestrate one's learning: to plan, monitor success, and correct errors when appropriate" (Bransford, Brown, & Cocking, 2000, p. 97). Regulation involves setting goals and drawing on prior knowledge, self-testing, and evaluating one's own learning processes and progression (Manitoba Education, Citizenship and Youth, 2006). The relationship between knowledge and regulation of metacognition is one of acquiring and reflecting on information while putting that insight into appropriate action.

Being aware of one's own capabilities and capacities as learners, as well as being able to evaluate and regulate one's own learning process and progress, improves the ability to transfer what has been learned in one context to new contexts. In other words, metacognition also improves transfer of learning. Bransford, Brown, and Cocking (2000) referred to several examples of metacognitive approaches to teaching to increase the degree to which students will transfer learning to new contexts without explicit prompting. The authors concluded that "the teaching of metacognitive activities must be incorporated into the subject matter that students are learning" (p. 19). Facilitated metacognition can enhance student achievement and develop students' abilities to learn independently.

Metacognition plays an important role in adult learning theory and can be observed in various 'types' of learning in higher education, such as experiential, autonomous, constructive, inquiry-based and lifelong learning (Fry, Ketteridge, & Marshall, 2003).

Experiential learning is based on the idea that learning is a continuous process to which new experiences contribute, to form and re-form ideas. New experiences at various stages of learning lead students to adjust, adapt and extend their ideas to take ownership of them. Experiential learning theory is commonly represented as a process cycle comprising four stages (Kolb, 1984).



Source: Davies, C., & Lowe, T. (n.d.) Kolb learning cycle tutorial - static version. Retrieved 30 January 2013 from http://www.ldu.leeds.ac.uk/ldu/sddu_multimedia/kolb/static_version.php

The first stage involves students being taught the theory and introduced to the experience or skill. The second stage allows the students to practise the skill. In doing so, students must have the time and space to consider different perspectives and reflect on their experiences from these perspectives. The third stage is when students conceptualise and construct a theory based on what they have observed. The forming and re-forming of ideas occurs at this stage. The fourth stage is where students achieve enhanced understanding by being provided with opportunities to test their constructed theories and observations, and ultimately use problem-solving and decision-making skills in new situations (Kolb, 1984). A key element of the Kolb cycle is to have the time and space to examine and analyse the experience. Reflection turns experience to learning (Fry, Ketteridge, & Marshall, 2003).

Autonomous learning refers to the idea that students learn more when they rely less on the teacher, and take more responsibility for their own learning. When self-monitoring, learners might ask, how am I doing? Am I making mistakes? Is there a pattern in my errors, and if so, how can I avoid them in the future? Is there a more effective way to learn this? (Biggs & Tang, 2011, p. 61) An autonomous learner would then face novel situations with questions that ask, what do I know that might be relevant? Have I encountered a similar problem before and what did I do then? Where would I find out more information to help me solve the problem? (Biggs & Tang, 2011)

The constructivist theory of learning is based on the notion that learning occurs by taking new information and adding it to our knowledge and understanding by way of extending, supplanting and building upon exsiting knowledge (Biggs & Tang, 2011). Learners construct knowledge with activities and interpretations that build on what they already understand. Constructive learning principles include seeking and valuing students' points of view, challenging students' suppositions, posing problems of emerging relevance and building the content around primary concepts and 'big' ideas (Brooks & Brooks, 1993). In other words, teaching is not a matter of trasmitting information or filling a 'blank slate' with information (Fry, Ketteridge, & Marshall, 2003). Teaching is about engaging students to challenge, adapt and build upon existing knowledge and understanding.

> "While it is not the business of education to prove every statement made, any more than to teach every possible item of information, it is its business to cultivate deep-seated and effective habits of discriminating tested beliefs from mere assertions, guesses, and opinions; to develop a lively, sincere, and open-minded preference for conclusions that are properly grounded, and to ingrain into the individual's working habits methods of inquiry and reasoning appropriate to the various problems that present themselves"
>
> John Dewey, *How We Think* (1910), p. 29

An inquiry-based pedagogy begins in wonder. Students are invited to contemplate the questions and issues appropriate to the discipline. The questions are rich and meaningful and they compel investigation. There are no set or correct answers, but possibilities and creativity. The educators' roles are to help the students articulate the questions, teach them appropriate methods of investigation, supervise the research journey and give students feedback on iterative presentations of their

findings (Jardine, Clifford, & Friesen, 2002). As disciplinary experts, the educators equip students with the knowledge and skills they require for authentic investigation. In other words, the methods and approaches students take to their inquiry are tools of the trade. For example, a psychology student might wonder about the common practice of using university students as research subjects. What are the advantages and disadvantages of using this sample of the larger population and what are the effects on the research results? The student is encouraged to pursue this question. The educator supports the student to use the methodologies appropriate to the psychology discipline. An inquiry-based approach motivates students to learn as they pursue their own wonderings and extend their own applied understandings. Using the methods of the discipline equips students to transition into their careers.

Biggs and Tang (2011) identified lifelong learning as the ultimate aim of university teaching. The objective is that as graduates of university, students will be able to handle new and unseen problems in their respective disciplines and industries (Biggs & Tang, 2011). Lifelong learning means that education does not conclude upon graduation. Lifelong learners embrace an attitude of discovery, seeking opportunities for reflection and continued professional development. Lifelong learning seeks to develop graduates that can 'hit the ground running' in the context of being able to problem-solve and gain a competitive advantage in the economy. Although universities teach information literacy, they cannot teach students everything they will need to know and all the skills they will require as professionals. Students must also learn to act independently and responsibility, particularly in seeking new information, utilising it, evaluating its importance, and solving problems by looking beyond prescribed textbooks. These skills require reflective skills and self-directed learning (Biggs & Tang, 2011).

Experiential, autonomous, constructive, inquiry-based and lifelong learning are key educational theories in higher education. Whether one theory is favoured over another in efficacy, design or practice, the common linking thread throughout these learning theories is the notion of reflection through self-awareness, self-regulation, and self-evaluation. Moreover, research has shown that the greatest single effect on student learning is self-assessment (Biggs & Tang, 2011).

View learning through your students' eyes.

How would you design an assessment to help students take control of their learning?

STRATEGY #5: ASSESSMENT SHOULD BE DESIGNED AS A LEARNING OPPORTUNITY

Are the assessment tasks robustly designed so that they themselves are learning opportunities for the students?

Are the assessment tasks meaningful, memorable and engaging?

Are the assessment tasks authentic?

Designing assessment as learning

Assessment as learning requires students to be more active and to perceive responsibility for their own learning. However, this does not mean that the educator's role is consequently minimised. Assessment as learning extends the role of the educator to design assessment instruction and activities that allow all students to think about and monitor their own learning (Manitoba Education, Citizenship and Youth, 2006). Students learn best when required to self-assess, but they must be taught how to become metacognitively aware. Students require instruction in the strategies they might employ to effectively monitor and evaluate the quality of their own work. Students without any experience of reflection and self-evaluation need scaffolding to help them understand what reflection is and how it will improve their learning.

Manitoba Education, Citizenship and Youth (2006) identified the following teacher's roles in promoting the development of independent learners through assessment as learning (p. 43):

- model and teach the skills of self-assessment
- guide students in setting goals, and monitoring their progress toward them
- provide exemplars and models of good practice and quality work that reflect curriculum outcomes
- work with students to develop clear criteria of good practice
- guide students in developing internal feedback or self-monitoring mechanisms to validate and question their own thinking, and to become comfortable with the ambiguity and uncertainty that is inevitable in learning anything new
- provide regular and challenging opportunities to practise, so that students can become confident, competent self-assessors

- monitor students' metacognitive processes as well as their learning, and provide descriptive feedback
- create an environment where it is safe for students to take chances and where support is readily available

Strategies for designing assessment as learning

Design a learning environment where students are able to focus on the learning process, rather than presenting a correct answer. For example, assign a task that achieves a certain outcome, but gives students the choice of medium, topic, and presentation. Students may choose a topic of personal interest, communicate it via the traditional essay, a scripted dialogue to be performed, a lego animation clip, or a podcast. With assessment as learning, the idea is that the students choose to do something and consequently change their attitudes towards assessment and their learning. Self-regulated learning has face validity. If you have ownership of something, it makes it more meaningful to you. If your task is something you wanted to try, you are more likely to engage and be motivated to extend greater effort. If you tried and succeeded, self-satisfaction increases the chances that you will carry that experience with you to new situations.

1. Plan and prepare.

   Reorientation of assessment requires thorough planning, preparation, reflection and self-evaluation. Think about the learning opportunities your current assessment tasks might provide. Identify aspects that might need changing. And ask others (e.g. academic and non-academic colleagues, students, graduates, etc.) for their perceptions.

2. Give students a map.

   Part of assessment as learning is encouraging students to be self-directed learners. Give students a map, along with the skill introduction to navigate the map. Engage students to work out how to get there. The objective is to reorient students' attitudes toward learning. Rather than micromanaging by assigning students with specific tasks, provide them with the opportunity to work out which tasks need to be completed and by whom.

3. Seek evidence of the learning outcomes.

Identify the qualities, attitudes and skills you want to assess. The assessment tasks will be designed to seek evidence of those intended learning outcomes. For example, Associate Professor Buckland from the University of New South Wales informed students he would be assessing their portfolios to see how well they are able to demonstrate team work and collaboration, time management, project management and skepticism. The assigned task was to provide evidence of these qualities and skills. In endeavouring to note, gather and present evidence, students had to consider what effective project management would look like, and what would demonstrate effective team work and collaboration (Buckland, 2012). Identifying, collecting and presenting evidence led students through metacognitive processes.

4. Use portfolios for reflective learning.

Portfolios, whether paper-based or electronic, have great potential to provide opportunities for reflection and improvement of learning. Portfolios document achievements over an extended period of time and learning may be demonstrated from an accumulated collection of work. To demonstrate achievement, students are required to think critically about their learning, to understand the standards of performance to be evaluated, and to critique their own work in relation to these standards (Klenowski, 2002).

Assessment Tip

An ePortfolio can be used as a means of student assessment. Robust ePortfolios have the following characteristics.

1. Authentic so that students are able to use ePortfolios beyond the educational institution.
2. Creative and multi-media.
3. Across subject platforms to demonstrate learning across whole of degree.
4. Context-specific.
5. Professional and polished.
6. Accessible for peer-review
7. A tool for formative assessment

5. Use authentic assessment.

Assessments should align with the types of documents, performances and artefacts that graduates will be producing in the workplace. For example, students are not taught law to demonstrate they can summarise and communicate the legalities back in their own words. Students study law to practise law. In other words, authentic assessment tasks require active demonstration of what is learned.

Bringing the 'real world' into the assessment also provides students a real context within which they can apply and practise the knowledge and theory acquired.

6. Design assessment that demonstrates student learning.

Design assessment tasks so that upon completion students are able to publish them, use them in a blog or portfolio, or make a contribution to the field or discipline. As future professionals, students can use their authentically designed assessment items to demonstrate their achievements to prospective employers.

Authentic Learning

> To help students make the leap from studying to effectively contributing in [professional] roles, it is important for them to have knowledge of typical workplace problems and practice in solving problems using Communication theory and research.... In my classes, students get practice with authentic learning activities and assessment, and can ask questions about how real organisations solved real problems. They get an insider perspective. Authentic examples, practice, and assessments motivate students to learn.
>
> Assistant Professor Marilyn Mitchell, PhD
> Strategic and Cultural Communication, HSS

The assessment exemplar on the following page is from our colleagues in the faculty of Humanities and Social Sciences, and demonstrates effective implementation of the above strategies for designing assessment as learning. It is extracted from:

> Brand, J. E., Jervis, J., & Thwaites, S. (2010). Capstone project readies multimedia and game students for client focused success. Innovations in teaching & learning: Approaches to professional develoment from across the disciplines (pp. 192-203). ACT: Halstead Press.

Good Assessment Practice

Example from Interactive Media Project and Presentation
Professor Jeffrey Brand, Jan Jervis and Sandra Thwaites
Faculty of Humanities and Social Sciences

Context

Interactive Media Project and Presentation is a final year capstone subject in the Bachelor of Multimedia Design and the Bachelor of Computer Games degrees. Over the 14 weeks in which students participate in the subject, they apply creative, technical and management skills using knowledge acquired in multimedia design subjects. The capstone project allows them to test their understanding and skill in a real world applied project that features a client from outside the university.

Assessment method

The subject coordinator builds a client list over time based on consultation and outreach to local organisations, word-of-mouth, and approaches for assistance from charities and not-for-profit agencies. The client list includes not only client information but also the proximal needs of each client. From this list, candidate clients and projects are matched to student groups of appropriate size prior to the start of the semester. Where possible, skill strengths of individual students are matched to the needs of the client and project. In this way, 'jobs' come to the teams based on a 'managerial' and hypothetically commercial, decision. Over the course of 14 weeks, students in the project class are expected to undertake a number of management and performance tasks to begin, progress and complete the project.

Aspects and components of the assessment

- Initial client consultation: Students meet with the client in a professional manner and establish the full scope of the required project. Most students have not worked for a client prior to the class and instead have worked only on individual assessments for the written requirements of a single assignment. For most students the first hour ends with an often cathartic suprise: the focus is and should be on the client's satisfaction.
- Project manager: Regardless of numbers assigned to the project, one student typically emerges quickly as the most vocal and confident of the group. This position is rewarded with an extra 10 (out of 100 marks) for the expected workload.

- Weight client expectations: Once a project leader is established and consultation with the client has been completed, students are required to determine whether client expectations are realistic within the time frame of the semester.
- Establish a skills set: The student team is required to determine whether the skills available within the group are relevant and suitable to the planned project. Students are confronted with scale and overtly discuss the relationship between the project complexity, the team size and abilities or limitations in establishing specialised versus generaliesd team roles.
- Engage in project management: Students begin the process of project management by creating a timeline in Gant chart form to outline key steps necessary to complete the project. The Project Manager establishes not only the timeline, but also arranges and directs extra meeting times and documents these with attendance and minutes to ensure the team is on track to complete the project on time.
- Create documentation: Students are required to build a design document in consultation with the client. It outlines all the elements of the project and provide clarity and direction for team members and a feedback loop for the client. As the semester matures, the design document forms a critical element of a full contract that

  must be established and signed by all parties to demonstrate the binding nature of the relationship with the client.
- Monitor client relations: The project teams are required to communicate regularly. Students learn to determine client needs in progressive detail and to facilitate a relationship between their creative output as designers and programmers and the client's vision and expectations as the user for that output.
- Launch the presentation: To conclude the project, students are required to prepare and deliver a public presentation (worth 20 per cent of their marks) for the client and members of the university community at the end of the semester.
- Create a post-project reflective journal: Upon completion of the project, students are required to complete a comprehensive analysis of the project experience for the coordinator's use in finalising assessment.

The Whys and Why Nots of ePortfolios

Kinash, S., Wood, K., & McLean, M. (2012). The whys and why nots of ePortfolios. Education Technology Solutions, 52, 44-46.

|Shelley Kinash, Kayleen Wood and Matthew McLean|

In a teaching environment where there is always a new tool proclaimed as a necessary part of the educator's repertoire because it promises to enhance student learning, ePortfolios are a relatively recent entrant. What is an ePortfolio? As the name suggests, it is a portfolio that is by and large electronic. The term portfolio is common vernacular in the context of visual art, as students applying to an institute will prepare a folder of their best works to demonstrate their talents and mediums.

In education, a portfolio extends across subjects. It is a collection of in-progress or completed student assignments, exams, publications, projects and certificates that frequently represent process and accomplishments from an entire level of schooling (such as secondary school) or degree. Portfolios may be applied to formative or summative tasks. For example, because they are not bound by the structures of single subjects, the portfolio might be used as an assessment tool across themes or units. They might also be used to assemble and orchestrate capstone culminations from an entire program of study. The portfolio might also include transcripts, a resume and letters of reference. Students often include reflective comments, annotations or interpretive notes. Within the portfolio, there are folders or some other type of organisational structure. If students are using portfolios as evidence of achieved competencies or experiential equivalence, they will map their performance against admission, certification or accreditation standards. Portfolios are usually non-linear and include multi-media elements. Portfolios can be creative and often reveal the personality of the author. Portfolios are frequently used in application for jobs, promotions, school and university admissions and for grants, awards and scholarships.

There are numerous benefits of electronic as compared to print-based portfolios. The online portfolio can be situated in a network of prospective employers. Readers can like, link, endorse or testify elements or entire portfolios. Others can contribute, add, mark-up, comment or co-author. The collection is securely stored and can be cloud-based so that it is available anywhere and anytime. Online content is amenable to multimedia, so that creators can embed video, images and animations. Online content is easier to alter, change and extend than printed collections. The ePortfolio need not be linear, meaning that authors can link and embed various elements.

Rather than just accept that this new resource will aid in your teaching and deliver elevated results, we must ask, 'Where's the teaching and learning?' Without

this foundation, today's new tool quickly ends up on the scrap-heap with yesterday's discarded fads. Education research to date has concentrated on ePortfolios as an assessment tool used by educators and school/university officials who are attempting to solve mobility, multi-disciplinary, transparency and accountability issues. There has been minimal research regarding the student perspective on portfolios. To establish where and how the teaching and learning occurs in ePortfolios, we should look to the small body of emerging literature addressing ownership and sharing through and with ePortfolios.

Studies have identified ePortfolios as an important learning and assessment tool because they encourage students to create individualised understandings, rather than demonstrate knowledge through teacher-defined exams, essay, and research projects. A few studies have further identified that students enjoyed creating the portfolios and were encouraged to think about what they had learned, as well as the professional knowledge, skills, and abilities they acquired. Evaluation of rubrics for portfolio assessment showed that students scored either on-target or acceptable on all assessed criteria.

As with any new technology, ePortfolios have their critics. Given the significance of each student's education, it is wise to approach new educational technology with a healthy degree of scepticism. There are inherent challenges to incorporating ePortfolios in an education context. The primary barrier is common in diffusion of innovation. Until there is large-scale uptake, students, educators and employers are unwilling to take the risk of this non-traditional approach, and until enough people take this risk, this threshold roll-out will not occur. Students are not going to carry-out the extra work of creating a portfolio until there are teachers and employers calling for them. Likewise, teachers and employers are not going to reconceptualise and restructure assessment and job application until there are sufficient portfolio exemplars and evidence that they are worth the effort. There are also questions about whose responsibility it is to create rubrics and map standards, certifications and attributes. There are worries about privacy, freedom of information, copyright and intellectual property.

These wider and more general barriers to the introduction of ePortfolios are married with local and domestic challenges as well. Commitment to ePortfolios is blocked by a stalemate between the interests of employers and education and structure and suspicions regarding the motivation for ePortfolio collection and dissemination. Are ePortfolios primarily created, controlled and distributed by and for the students/graduates or their schools and universities? When teachers and professors

want to work together in order for their students to create multi-disciplinary projects, traditional constraints of semesters, courses and grade allocation come into play. Investment in the software that makes ePortfolios a reality is restrained by a lack of unequivocal evidence that these platforms provide value for money, a lack of student-demand for the initiative and a financial model that permeates schools and higher education rarely supportive of full service beyond graduation.

At Bond University, we carried out a needs assessment and inquiry into how both students and lecturers are using and perceiving ePortfolios. We looked at students' voiced concerns and needs for learning and their description of ePortfolio experience. Our focus was on what the students were doing and then how the lecturers were interacting with them, via ePortfolio. Our goal was to recommend a site license and supports for a single ePortfolio system. We expected one system to stand-out because there would be examples of student use of ePortfolios where they asserted their own intellectual property, and used the ePortfolios for collaborative purposes. We hypothesised that learning would emerge as a theme in the discourse of participating students.

To best assess the feasibility of the ePortfolio platform as a learning tool, three volunteer educator/ student groups representative of diverse departments and faculties across campus participated. We observed process, considered learning artefacts and discussed perceptions. Their implementation of ePortfolios ranged from not doing much at all and feeling overwhelmed, through muddling with some sort of peer and lecturer feedback for iterative formative assessment items, to creating ongoing portfolios in which to accumulate a body of work and give personality and philosophy to the learning experience. The groups were surveyed at the start of the semester and again at the end, to allow us a window into their thinking, feeling, use and engagement.

One lecturer has developed a plan for her students to accumulate three exemplary items of their work over the year, for feedback, comment, and then inclusion in their portfolios of learning for future professional use. Current conversations with other participating lecturers are revealing other instances where renewed focus on assessment for learning and interactive process has occurred. Creativity and critical thinking has happened, not just as a graduate attribute for students, but in continuing professional development for the teachers.

What we found was diversity of implementation, purpose and system. At this point in our research journey, have we backed ourselves into a corner and do we

find ourselves unable to make a recommendation of a definitive ePortfolio platform? The answer is no. Open conversations with the lecturers to determine their dynamic goals for their students and how they think these can be best achieved will reveal how ePortfolios need to be woven into our existing systems. Our inquiry revealed that purchasing a single off-the-shelf solution will not meet the diverse needs of our disciplines, students, academics, accrediting bodies and employers.

From the micro of our pilot program to the macro of our literature review, we can take-away a number of lessons:

1. When deciding whether to use an ePortfolio in your teaching, start by assessing student needs and concerns. This needs assessment will help you to identify the variance between the existing situation and the desired learning environment. Then decide how, or if, an ePortfolio will fulfil that need.

2. An ePortfolio is most often used by schools and universities as a means of student assessment. In order to satisfy this role, the ePortfolio must be: authentic, creative and enable multimedia, across subject platforms, context-specific, professional and polished, accessible for peer-review, and a tool for formative assessment.

3. There are numerous ePortfolio choices available in the market place. As an educator, you are looking for a platform as a means to enhance student learning and engagement. This is coupled with the capacity for timely and iterative feedback on assessment and collaborative group work with internal and external partners and educators, templates for reflective practice, and ongoing access for alumni. A further overarching 'selling point' may be the ability to launch seamlessly from your learning management system.

In summary, the decision to use ePortfolios pivots on their capacity to enhance learning, their relating operation as perceptual and formative tools, and the stakeholders' engagement in the organic process. In asking, where's the teaching and learning?, we have no doubt that pedagogy can be found in and through ePortfolios, yet as many things in life, we learn just as much on the journey as we do when we reach our destination.

How well are your students prepared for lifelong learning?

1. In the context of your own discipline, what are the skills, qualities and attributes that are relevant to lifelong learning?

2. What are your current intended learning outcomes (ILOs)? Which of these would develop lifelong learning skills?

Current ILOs	Lifelong learning?
	X / √

3. Reflect on your current assessment tasks in your subject. Identify those that would facilitate students achieving the ILOs identified to develop lifelong learning skills from Question 2.

4. Do your assessment tasks align with, and provide opportunities for, developing tools and capacities for independent learning? If not, what changes would you make?

Summary of Chapter 5

Assessment as learning is rooted in the concept that assessment should guide and provide opportunities for students to develop the tools to monitor and critically reflect on their own learning. By doing so, the student will be able to evaluate personal learning processes and progress, as well as develop the tools for lifelong learning. Designing assessment as learning opportunities requires educators to scaffold the skills learners require to reflect and undertake critical analysis of their own approaches to learning. Students must change their attitudes toward assessment as an opportunity for learning that is chosen and driven by them. Studen regulated learning centres on the educator's own thinking about pedagogy, strategies employed to support or challenge engagement, and mechanisms used to adjust and adapt to advance learning.

Strategies to design assessment as learning opportunities include

1. undertaking your own critical reflection as educator;
2. promoting self-directed learning;
3. seeking evidence of learning outcomes;
4. using portoflios for reflective learning;
5. designing assessment within an authentic context; and
6. designing assessment that evidences students' learning over time.

How well are your students prepared for lifelong learning?

Key terms

assessment as learning	authentic assessment	metacognition
experiential learning	autonomous learning	lifelong learning
inquiry-based learning	constructivist learning	

Additional resources

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CHAPTER 6: Formative and Summative

Consider the reasons for assessment - engaging students in learning, keeping students on track, collecting data on achievement, and presenting results for accountability and accreditation standards. A mark on completed assessment and a subject grade matter to students. They require transcripts to apply for careers and higher degree studies. In addition, educators are required to show that their students have learned. A result of the emphasis on measuring learning to ensure value for money is that assessment tasks are typically designed to give the educators a summative number grade representing how well the group of students have learned in the relevant subject. Although this is an important aspect of assessment practice and assessment design, assessment is more than an accumulated measure of performances. Assessment is also about guiding student learning by providing them with information about how they are progressing, how they can bridge learning gaps, and providing them with further opportunities to do so. These two objectives for assessment have been identified as summative assessment and formative assessment.

> "Assessment plays a key role in both fostering learning and the certification of students. However, unless it first satisfies the educational purpose of ensuring students can identify high quality work and can relate this knowledge to their own work, the likelihood that they will reach high standards themselves is much reduced."
>
> Boud, D. (2010). Assessment 2020

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe the purpose, advantages and disadvantages of formative and summative assessment.

- Reflect upon the assessment structure of your own subject in the context of developing a balance between formative and summative assessment.
- Develop assessment structures in your subject that will motivate students to learn and improve their learning.

STRATEGY #6: BALANCE BETWEEN FORMATIVE AND SUMMATIVE ASSESSMENT TASKS

Do the students have opportunities to practise their skills and receive feedback to enhance their performance and guide their inquiry?

Formative assessment

Formative assessment is designed to create opportunities for feedback during learning. It allows both the student and the teacher to observe and improve the student's learning progress. The purpose and objective of formative assessment is to provide students with learning opportunities to make mistakes, practise, and improve on their understanding and performance of relevant learning outcomes without the pressure of having the activities count toward the final marks. The purpose of formative assessment is to provide feedback during the learning process (Refer to Chapter 7 for additional information on providing quality feedback).

This does not mean that teachers will need to double their workloads marking assessments throughout the semester. Not only should assessments be doable from the assessor's perspective, but formative assessment opportunities may sometimes take the form of active learning during teaching. Biggs and Tang (2001) noted, "so important is formative feedback that the effectiveness of any particular teaching/learning activity can be judged by how well it allows students to provide feedback to teachers and from teachers to students as they learn" (p. 64). Formative assessment opportunities are built into the design of graduate programs for higher degree research students. They

have the opportunity to write, review and revise chapters iteratively. Undergraduate students seldom have this opportunity.

As an example of a formative assessment approach that did not increase the educator's marking load, a Law lecturer utilised one hour of a weekly two-hour lecture as an opportunity for students to practise legal drafting and writing. The lecturer walked around, observed, and answered any questions students had during the learning activity. This approach allowed immediate application of the lesson to a learning task. The students experienced active learning approaches for deeper understanding of the content. The lecturer shared that when she received the students' final exams, she perceived a notable improvement in their overall legal drafting and writing skills. A similar teaching approach was adopted for a Business Negotiation subject in the Faculty of Business.

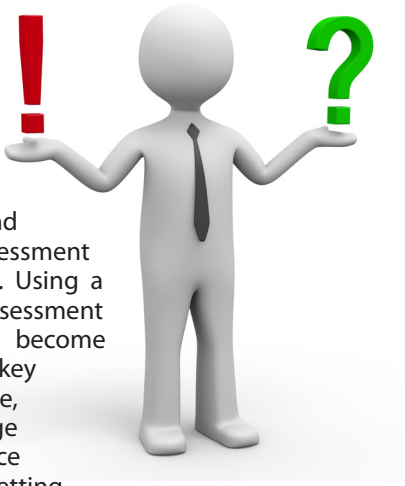
Every week, every student in this subject participates in a 60 minute role-play negotiation...To facilitate a high level of learning, for each negotiation simulation students create pre-negotiation journals that are used in our class reflection sessions. For each simulation, students have the opportunity to receive written and verbal formative feedback. Verbal feedback is based on me walking around, watching, taking notes and giving them feedback on the actual interpersonal interactions taking place during the simulations.

Professor Amy Kenworthy, PhD
Faculty of Business

Summative assessment

Summative assessment is typically designed to produce a final mark, resulting in an average overall grade to accredit students toward completion of their degree. Summative assessment occurs at the end of the learning and teaching period, to assess how much students have learned and how well they can demonstrate that learning. It is generally not intended to offer students further opportunity for improvement. Errors in performance on a piece of summative assessment result in penalty, rather than areas for constructive feedback. However, summative assessment is also important to quantify knowledge, understanding and attributes. Summative assessment also provides feedback to students about overall achievement.

Learning outcomes may be quantified via summative assessment measures as scores along a continuum so that individual students may be compared or contrasted against each other (Biggs & Tang, 2011). Typical forms of summative assessment include final exams, one-off skills performance activities (e.g. presentations, negotiations), or final essay and research papers. Summative assessment is the 'one that counts' and is therefore more likely to encourage student motivation to participate, but learning is achieved formatively. It is therefore important to balance your teaching and learning with both formative and summative assessment tasks. In other words, students need formative assessment but are often motivated by summative assessment.



Finding a balance

Balancing formative and summative assessment refers to designing teaching and learning activities for developmental and iterative feedback, combined with an assessment that measures how well students have learned. Using a combination of formative and summative assessment provides students with opportunities to become familiar with a task, ensure they understand key concepts, and know where they need to improve, and finally to demonstrate skill and knowledge acquisition. How do you find the right balance between improving student motivation and getting results?

Progressive weighting

Progressive weighting is one strategy of achieving both formative and summative assessment, whereby formative assessments contribute a small percentage towards the final mark, such as tutorial participation. This will encourage students to focus their efforts on learning throughout the semester. As an example, we draw upon the experiences shared by Krystina Benson for the subject Crisis Communications. She utilised lecture time to include role-playing activities while theoretical lessons are fresh in students' minds. An organisational crisis scenario is provided to students for which they have 20 minutes to prepare a 3-minute address in a press conference. These are recorded on mobile devices and students are instructed to reflect on their own and each others' performances. Students' self and peer feedback are marked as participation and contribute towards their final marks. These practices are used in combination with summative assessment (Benson, 2012).

Krystina's structured assessment design worked well because it was based on principles of authenticity, experiential learning, and most relevant for this chapter, it balanced both formative and summative assessment to motivate students and improve their learning process.

Scaffolding

Another strategy is to design the curriculum based on the concept of scaffolding (Dunn, Morgan, O'Reilly, & Parry, 2004). Scaffolding refers to the concept that learning is best achieved with a progression of tapered support from the teacher. It is based on the notion that at the beginning of the learning process, students' knowledge and skill may be limited. At this stage, students require more support and guidance from the educator to reach an expected level of competence. As the learner progresses and is able to understand and perform more, the tasks may get more complex and teacher support is gradually tapered to promote the ability to think and act independently (Fry, Ketteridge, & Marshall, 2003).

Formative assessment tasks provide the basis of the teaching and learning activities, whereby teacher support is greater to encourage and inform the learning process. As the semester progresses, the activities may increase in complexity, or the support may lessen to promote achievement of the same levels of student performance independently. To demonstrate this concept, we refer to the practice of problem-based learning in the Faculty of Health Sciences and Medicine and the Faculty of Law. Students are regularly provided with a set of symptoms or facts in a case scenario and must provide a tentative diagnosis of the hypothetical patient or a tentative conclusion on the hypothetical client's circumstances. These may be formatively assessed by a pass/fail indication, or as a contribution to the overall participation marks. Scaffolding these formative activities promotes the interweaving throughout the curriculum, so that students have ample opportunities to track their progression and to know how they might improve. The summative task is the final determination of performance.

Emphasising critical reflection

The concepts of formative assessment and self-regulated learning go together. Robinson and Udall (2006) presented a learning and teaching approach that focused on encouraging "learners' ability to identify, structure and articulate questions about their own growing understanding" (p. 93). The key to this approach was the use of formative assessment. This approach focused on increasing the quality and quantity of formative assessment opportunities, but within a manageable workload for both students and teachers. Robinson and

Udall structured a series of learning activities, each with an intended learning outcome clearly defined in the description of the learning activity given to the student. The activities ranged across multiple learning contexts from lectures to small group discussions. The intended learning outcomes provide students with the map. Each student must engage in preparation for each learning activity and produce some output as a result of engaging in the activity. The outputs are retained as a record of their progress of achievements for each activitiy. These may be reviewed as a part of summative assessment. In this way, recording, self-assessment and reflection become a routine part of the learning experience from early on.

Choose one of your subject's intended learning outcomes.

Describe a teaching and learning activity that will introduce the students to the content or skill.

How will students engage in self or peer assessment activities after receiving formative feedback on the activity?

Design a further activity that will require students to replicate the activity, so that they have another opportunity to try again. It may require application of deeper understanding or more complex thinking.

Summary of Chapter 6

One of the first questions to ask before you design an assessment task is, what is the reason you are assessing? Formative assessment informs you and your students on what they can do, and what they can do to improve. Summative assessment, on the other hand, provides a measure of what they can do at the end of the learning process.

Formative assessment is important to provide your students with ample opportunities to practise the activity before assessing their capabilities to complete the activity independently. Formative tasks are not usually graded or have a minimal contribution to the final marks, and as a result are ideal opportunities for students to make mistakes. However, summative assessment is what 'counts' from the student perspective because at the end of their programs of study, the final quantitative measures of their learning will determine whether they receive an accredited degree in their discipline. Summative assessment motivates many students to learn. Formative assessment is how they learn.

The key is to structure your assessment throughout the subject to balance formative and summative tasks. Strategies to strike that balance include progressive weighting, scaffolding and emphasising critical reflection.

Do your students have sufficient opportunities to practise their skills and their articulation prior to final submission?

Key terms

formative assessment	summative assessment	progressive weighting
balance	scaffolding	critical reflection

Additional resources

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CHAPTER 7: Feedback

Feedback may be the most powerful catalyst of learning. Appropriate and constructive feedback allow learners to identify strengths, weaknesses, and opportunities for improvement. Students make adjustments according to the feedback received, engage in critical reflection on how to adjust their mechanisms for learning, and accordingly progress their goals by reacting and adjusting to the feedback. Opportunities for feedback should occur continuously, during learning. This type of feedback is typically referred to as formative feedback.

> "It is impossible to overstate the role of effective comments on students' progress in any discussion of effective teaching and assessment....I believe that [not providing feedback] is defrauding students."
>
> Ramsden, P. (2003). Learning to teach in higher education (2nd ed.).

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe the importance of feedback in supporting student learning.
- Identify types of feedback.
- Reflect on your own teaching practice in the context of principles of good feedback.
- Develop a feedback plan that is doable and supports learning and teaching.

What is feedback

Effective feedback informs students about their own performances. Specifically, students should have an understanding of where they are and where they are supposed to be heading (Biggs & Tang, 2011). Feedback should support that gap between existing performance levels and desired performance levels. It lets students know what they did and did not do, and how to improve to reach desired outcomes (Palomba & Banta, 1999). Feedback also reinforces commendable contributions

and increases the chances that students will continue 'doing the right thing'. Feedback may be provided by the educator, students' peers, other discipline and industry professionals, or by the individual student.

STRATEGY #7: GIVE FEEDBACK TO SUPPORT LEARNING

Do you give regular and specific feedback to your students?

Is the timing of the assessment scheduled so that students have ample time between receiving feedback and commencing their next piece?

Are the assessment tasks doable from your position as the lecturer/tutor in terms of time for marking and useful feedback?

Why feedback matters

Learning is a continous process that requires reflection, experiences, processing of ideas, ownership of new ideas and furthering understanding. Feedback plays a signficant role in the learning process. Investigations into student success showed that " an important contributory cause of student failure was an almost complete absence of feedback on progress during the first term of their studies" (Ramsden, 2003, p. 186). If students only realise at the end of the term, after receiving marks for final exams, that they are in danger of failing, there is no further opportunity for students to improve their understanding or performance. Students may feel demoralised and may be overwhelmed with the sense that seeking help at that point would be futile (Ramsden, 2003).

"Feedback to students on the work they have done, if provided appropriately, helps them improve, gives them an idea of how they are progressing, aids motivation and empowers them as learners. Badly done, feedback to students can be confusing, misleading, demotivating and disempowering."

Harvey, L. (2011), The nexus of feedback and improvement, p. 20

Formative vs summative feedback

Formative feedback differs from summative feedback in that its purpose is to inform students about how well they are doing and what might need improving during their learning activities (Biggs & Tang, 2011). The objective is to start providing students with feedback on their performance early on in the semester to affirm positive directions, and so that they are able to identify areas for improvement, implement

suggestions and adapt their learning approach to achieve deeper understanding. In contrast, summative feedback occurs after learning. Summative feedback provides an overall indication of the quality of the completed assessment.

Effective feedback is a two-way process. It facilitates communication between the teacher and the student, not only to identify student strengths and weaknesses, but also to identify whether the teaching is effectively supporting student learning. Summative feedback may typically take the form of brief written comments on an essay assignment or marking criteria sheet at the conclusion of the assessment task. As a result, students are not likely to regard the feedback with any motivation to reflect on their own performances or make adjustments to improve in the future. Feedback provided after the assessment task is no longer relevant to improving learning or marks. Students are likely to have long forgotten the assessment task, with their concentration and emphasis on the next assessment items for another topic or subject (Fry, Ketteridge, & Marshall, 2003). Consequently, the teacher's comments are left unread. Similarly, the teacher has not benefitted from any opportunity to monitor student progress in completing the assigned task, and may be surprised to find a lower standard of performance than expected. For both stakeholders in the feedback process, it is simply too late to make any positive effect on student learning or teaching practice.

I have implemented a feedback method to assist students in their exam writing techniques. I call this feedback method 'Try Before You Cry'. Each week, and in every class, I remind students that they may send me drafts of their tutorial answers to receive individual written and oral feedback. I make it clear that my feedback is not used for tutorial assessment - the idea is that each student is able to get an idea of how they would go on the exam without any negative consequences.

Leisha Browning
Senior Teaching Fellow, Law

To assist lecturers and tutors with providing effective feedback, we draw upon Nicol and Milligan's (2006) seven principles of good feedback for technology-supported assessment practices and present our interpretation of them in a more generalised way. Readers are encouraged to think through the principles and how they might be applied to assessment items in your own subject or discipline.

GOOD ASSESSMENT FEEDBACK...

1. Helps clarify what good performance is (goals, criteria, expected standards).

Students must understand the goals, standards and criteria for the assessment. The task goals in the mind of the student should overlap with the goals of the teacher. This will be particularly helpful for students who are achievement oriented and will perform whatever tasks are required to achieve the best possible marks. If students do not understand the desired outcomes of the assessment, then the feedback they receive might not assist with improvement of learning.

2. Facilitates the development of self-assessment (reflection) in learning.

Provide students with opportunities to regulate their own learning. By monitoring their own learning, students engage with the assessment tasks meaningfully and purposefully. However, in order to employ self-assessment mechanisms, students must be guided to develop the capacity to be self-aware and monitor their own learning. Create more structured opportunities for students to record their learning and for evaluating their own progression.

3. Promotes peer and educator dialogue around learning.

Feedback is only useful if students understand the comments. For example, if the comment on student work is that it needs to be more analytical, the student may not understand what would make it 'more analytical'. Feedback should loop back to the action verbs used in designing the assessment's instruction (refer to Chapter 1). This principle also overlaps with Principle 1 above. Feedback should be conceptualised as a dialogue more than a transfer of comments and criticisms.

4. Provides opportunities to close the gap between current and desired performance.

The focus of assessment and subsequent feedback should be on students' understanding, rather than performance goals (Boud, 2000). In other words, both teachers and students need to look at learning how to solve

problems, rather than the goal of solving the problem. Boud (2000) further noted, "the only way to tell if learning results from feedback is for students to make some kind of response to complete the feedback loop" (p. 158). Students must be given an opportunity to use the feedback to produce improved work. Feedback is intended to make positive changes to student behaviour and performance, but providing feedback without an opportunity to internalise the suggestions, corrections and comments will not close any gaps in the learning process.

5. Delivers high-quality information to students about their learning.

Feedback to students should facilitate the scaffolding of student development of learner self-regulation (Nicol & Milligan, 2006). What this means is that the feedback should help students be more aware of their strengths and weaknesses, thereby leading them to make relevant adjustments in their learning mechanisms to achieve deeper understanding. High-quality information is descriptive rather than evaluative. For example, inform the student of the reader's perception or take-away message, rather than stating that it demonstrate poor analysis. Link the feedback to the assessment's intended learning outcomes.

6. Encourages positive motivational beliefs and self-esteem.

Students' motivation and self-esteem are closely linked with the feedback you provide. Provide feedback that acknowledges the strengths as much as the weaknesses. Work with the student receiving the feedback on formulating and setting up next steps in improving learning. A Bond tutor once shared during an academic development workshop, that learning is a process and a journey, and the teacher's role is to support that journey by working with the student toward a better performance by agreeing on short-term goals. Once the student knows that you are on the journey with her, she feels motivated to push harder to meet those goals.

7. Provides information to teachers that may be used to help shape the teaching.

Do not forget that feedback is a two-way process. Good feedback practice is also about providing high quality information back to the teacher. Feedback requires good data about how students are progressing. Regular and continuous opportunities for feedback allow the assessors to better understand where students struggle and where they are more confident. Teaching practices may be adapted in light of this information, during learning, rather than at the end of semester.

Is It Doable?

Are the assessment tasks doable from your position as the lecturer/tutor in terms of time for marking and useful feedback?

While we can espouse the virtues of designing authentic, formative, universally accessible assessment tasks in our curriculum to ensure assessment as learning, not just of learning, we must be mindful of our capacities in knowledge and time to 'do' the marking and provide useful feedback.

An example comes from one of our Bond College lecturers who currently has assessment items in one subject that include: tutorial participation, individual written essay, group project report and presentation, plus final exam. Her concerns were - Am I trying to do too much? Am I assessing the same learning outcomes more than once?

Our conversation and a review of the subject outline and timetable revealed that the student groups were formed in Week 3 and projects were worked on until Week 10, when presentations began. With an average class size of 40 students and groups of 3 or 4 this meant 10 to 12, 20-minute presentations plus ideally 10 minutes discussion and feedback. This all had to fit into 3, 1-hour tutorials at the end of semester, leading up to revision time. The group reports were also completed and due after the presentations and incorporated feedback and suggestions. Further, the individual written essays on a separate research issue/ question were due in Week 8.

As the discussion progressed, the lecturer also raised points about other subject workloads and timetables. She is fortunate to work in an open plan space where communication is facilitated and occurs between lecturers who teach into the same programs.

Apart from the timing for the students, the review also considered realistic workload expectations to provide student feedback on 40 individual papers, attend and assess 10-12 group presentations, mark 10-12 group presentations, and set and mark 40 final exams, all within the last 6 weeks of the semester.

What was the solution? The number of assessment items in the subject was reduced. The individual paper was removed and the group project report was changed to reflect individual components of the total. Group presentations began in Week 3 with a maximum of 2 per week on a ballot system roster. Self, peer, and teacher assessment were embedded into the process. In the first tutorial, criteria for the group assessments (presentations and reports) were designed and agreed by the students and the tutor. At each presentation, self and peer assessment occurred. In this way, any concern for Week 3 presenters becoming disengaged or absent was alleviated. Tutorial participation marks were dependent on peer assessment completion. Also, although the quality of presentations from Week 3 to Week 12 might naturally be expected to improve, the involvement of all students in all weeks via peer-assessment ensured that collective learning occurred.

Benefits for the lecturer were apparent. Apart from the obvious workload and time factor, the contribution to the assessment exercise by self and peer evaluations informed and fed into her overall assessment. The additional benefits were increased student engagement and satisfaction with both the learning and workload.

Self and peer assessment

Are the assessment tasks doable from your perspective? For many educators, assessment and feedback typically involve a dialogue between assessor and student. However, have you considered extending assessment feedback to include dialogue between student peers, or design opportunities for students to self-assess?

Being able to assess one's own strengths and weaknesses is an essential life skill that facilitates personal development, as well as professional growth (Miller, 2002). Boud, Cohen, and Sampson (1999) emphasised self-assessment informed by peers. In this way, the valuable input from students' peers may be used by individuals to make their own assessments. Students also benefit from the opportunity to observe their peers throughout the learning process, which encourages peer learning. Peer learning strategies allow students "to learn with and from each other without the immediate intervention of a teacher" (Boud, Cohen, & Sampson, 1999, p. 414).

I try to ensure that feedback for written work properly addresses weaknesses and lets the students see what changes they must make in order to improve their grades. I also encourage students to reflect on their own work by asking them to submit a post-mortem outlining what they would do differently if they could do it again.

Kevin Tang, PhD
Institute of Sustainable Development and Architecture

Miller (2002) further identified the following rationale for peer assessment (p. 11):

- It encourages student ownership of their personal learning.
- It motivates and encourages active participation in learning.
- It makes assessment a shared activity, by challenging the proposition that the lecturer is the best person to assess the student's inputs and outputs.
- It promotes a genuine interaction of ideas.
- It stimulates more directed and effective learning, whilst encouraging a more autonomous approach.
- It develops transferable personal skills.

Have you observed that the rationale for peer assessment closely align with the objectives for assessment as learning?

How to give quality feedback

Student criteria for good feedback as indicated through empirical education research, are: comments that identified areas for improvement; feedback that included exemplars; and explanations of how or why the sample responses were desirable (Brown & Glover, 2006). Students highly value individualised feedback in written form. The hypothesised rationale is that students are able to take away the feedback to refer to later and reflect upon it. Quality feedback plays a significant role in aiding student learning.

An important part of quality feedback is using errors constructively (Biggs & Tang, 2011). Errors are opportunities for learning. It is therefore important to provide an environment in which students feel they are free to make mistakes and work things out through trial and error. Feedback that does not identify how a student should improve is not effective for student learning.

Brown and Glover (2006) identified three ascending levels of feedback, each reflecting the depth at which input guides students' learning and sheds light on the performance-feedback-reflection-performance loop (pp. 83-85):

> Level 1 - Acknowledges a weakness: for example, identifying a performance gap or providing basic praise and encouragement without any additional detail (e.g. 'well done', or 'keep up the good work').

Level 2 - Provides correction: for example, giving the student information needed to close the gap.

Level 3 - Explains why the student's response is inappropriate/why the correction is a preferred response: Make connections between the feedback and the student's work to close the gap.

Levels 1 and 2 do not provide students with information to interpret the feedback or what they could do with it. In other words, level 1 and 2 feedback lack opportunities for students to do something with it and engage with it to improve their future work and learning. Level 3 feedback provides students with an incentive to engage with it, encourages further learning, reflects and aligns back to the assessment criteria, and closes the gap between current and desired performance (Brown & Glover, 2006).

Reflect on your own feedback on past assessment items.

How would you rank the majority of your comments? Do they provide students with sufficient information so that they are able to act upon it?

Have you considered using electronic tools, such as rubrics, to facilitate the feedback process and loop?

Assessment Tips for Quality Feedback

- Permit students to receive formative-only feedback on their work before submitting it for a final mark. This eliminates the focus on marks and encourages the students to engage with the feedback to improve their work and learning.
- Provide exemplars for students with explanatory notes that stress skills development and the relevance to future work.
- Highlight aspects of the student's strengths and weaknesses that have relevance for future work.
- Generate assessment tasks in which the feedback from one assignment is relevant to subsequent tasks

Source: Brown, E., & Glover, C. (2006). In C. Bryan, & K. Clegg (Eds.). Innovative assessment in higher education (p. 89)

Summary of Chapter 7

This chapter presented the goals and principles of good feedback. Feedback is one of the most critical components of assessment in the learning process. When good-quality feedback is given, it guides student learning by identifying a student's current level of performance and the desired level of performance. In other words, it makes learning happen. Good feedback clarifies student understanding of the criteria, facilitates reflection through self-assessment, promotes student motivation by providing opportunities to bridge the gaps, and facilitates a dialogue of learning between the teacher and the student. Moreover, regular opportunities for formative feedback provide you, the lecturer or tutor, with data about your students and your own teaching, allowing you to adapt teaching practices with your students' strengths and weaknesses in mind.

Feedback is a critical component of the learning process, but ultimately, you must consider whether the assessment tasks and feedback process is doable from your perspective. Consider using peer and self-assessment strategies and opportunities to help reduce the workload on the assessors. Using educational technology tools can also reduce marking time, increase efficiency, and facilitate collaboration and communication between multiple assessors.

Key terms

formative feedback	summative feedback	peer assessment
self-assessment	doable	

Additional resources

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CHAPTER 8: Criterion vs. Norm-Referenced

There are two foundational models of assessment underlying education: one based on criteria, and the other based on norms. These practices are typically termed Criterion Referenced assessment and Norm-Referenced assessment. They may also be referred to as Absolute Standards and Relevant Standards, respectively. These terms refer to two models of grading student work and performance. What justification exists for the final grades students receive on a piece of summative assessement or in their academic transcripts? Students may believe that assesors arrive at their marks using a reliable and accurate calculation of student work throughout the semester. In some disciplines, quantitative calculation is possible. In others, positivist approaches are neither possible or desirable. Grading is a process requiring judgement of individual student performance. How do you, as educators, justify measures and indications of student performance?

> "Best practice in grading in higher education involves striking a balance between criterion-referencing and norm-referencing. This balance should be strongly oriented towards criterion-referencing as the primary and dominant principle."
>
> Centre for the study of higher education. (2002) .

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Distinguish between criterion-referenced and norm-referenced assessment.
- Identify disadvantages associated with using norm-referenced assessment.
- Reflect on your own subject in the context of a strong orientation toward criterion-referenced assessment.
- Plan an assessment design that measures student achievement reliably against clearly defined intended learning outcomes.

STRATEGY #8: MEASURE STUDENT WORK WITH CRITERION-REFERENCED ASSESSMENT

Are you grading using pre-established specifications?

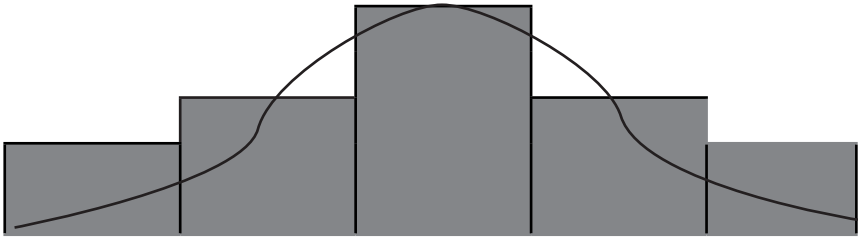
Does your feedback make it clear to students how their work is measured against these specifications?

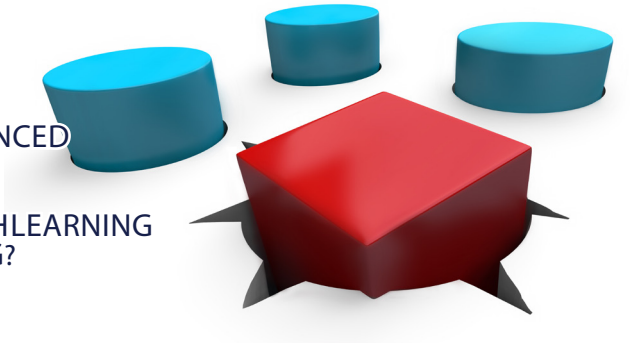
Are you using criterion referenced assessment when possible and appropriate?

Norm-referenced assessment model

Norm-referenced assessment is commonly understood as marking to a 'bell curve' or 'grading on a curve'. The concept is based on the work of Sir Francis Galton, a psychologist who found that overall, characteristics such as height, weight and mental performance levels were distributed in a predictable and regular form. He was referring to a curve which represented a 'normal' distribution of people's attributes (Biggs & Tang, 2011). These assumptions subsequently influenced the measure of educational outcomes to try to decipher and sort out the brighter pupils from the average and the poor. In other words, the practice of grading on a curve assumes that given a large group of undergraduate students, a 'normal' distribution of performance levels will reflect, for example, 10% awarded High Distinction, 15% Distinction, 45% Credit, 15% Pass, and 15% Fail. After marking final exams, if students' marks deviate significantly from the curve, the examiner's subject, exam and overall assessment design may undergo review by academic colleagues to investigate why a particular cohort has not fallen within the normal distribution of performance levels. Assessors finalise student grades based on their ranking within that particular cohort.

The norm-referenced assessment model is typically represented by the bell curve shape:





NORM-REFERENCED ASSESSMENT:

A POOR FIT WITH LEARNING AND TEACHING?

The literature in education has identified a number of cautions related to using norm-referenced assessment. We present a few of them below.

1. Educational tests are designed to clearly separate the high and low scorers.

Biggs and Tang (2011) argued that the notion that a good exam is one that will result in a bell curve distribution is unsustainable. This notion presumes that students have been randomly selected to gain admission into university, as 'normal' distributions are predicted based on a selection of random individuals. This logic also disregards teaching and learning as critical factors in determining student achievement of intended learning outcomes. If teachers are rewarded for achieving a norm-referenced performance curve, then good teaching aims to produce average learners. If the normal distribution argument holds, then students will maintain their rank-and-file order of achievement despite the factors of well-planned curriculum and skilled educators. Empirical education research demonstrates that pedagogy can change performance. In other words, when an educator makes an outstanding contribution to student learning, achievement increases, and students in a class with a commendable educator will skew the distribution because more students will achieve higher grades. Moving bands is particularly relevant to struggling students, in that good teaching can move the students from the left side of the curve to the right.

2. What might appear to be a scientific and precise scale invites assessors to make minute distinctions based on subjective judgements.

Along a continuous scale, the difference between a 71 and 72 must be the same difference as between a 74 and 75. The distinction between 74 and 75 is the difference between a Distinction and a High Distinction. Biggs and Tang (2011) argued that examiners boards and assessors faced with

borderline cases may be invited to give the student the 'benefit of the doubt' to make it to High Distinction, while the student who received a 71 may not receive the same reconsideration. The scale becomes "elastic, distinctly more rubbery at some points along the scale than at others" (p. 201). Biggs and Tang further provided the following hypothetical rationale behind distributing marks to demonstrate a typical instance of subjective judgement (p. 201):

> I am marking out of ten; this is the best so it should get ten but I'll give it nine because no answer can be perfect. This answer is average so that makes it five marks.
>
> As a result, criteria that justify why a student's response is the 'best' or 'average' is not identifiable.

3. Grading on a curve may be driven by administrative pressure to appear 'just right'.

By presenting a normal distribution of marks, it conveys the impression that the standards are not too slack and not too stringent. The normal distribution posits that most students are in the middle, with a few who do very well and a few who perform poorly. Are average learners the segment of the population who enrol in university? A normal distribution year after year conveys the message that the subject's curriculum is consistently striking the right balance with each new cohort of students. Marking systems driven by these pressures do not reflect commendable learning and teaching practices. Norm-referenced assessment contradicts alignment of teaching with learning outcomes.

4. Maximising marks becomes the primary concern for students, rather than understanding the overall structure of what should be learned.

An example of this emphasis can be seen in the strategy students adopt to attempt all questions in a timed essay or problem-based question exam. Rather than finishing any critical thinking process, the strategy is to accumulate the most marks in the first half of each question. The students perceive that the time spent at the beginning of the essay in correctly or acceptably identifying points and issues is worth more than the time spent in the second half of the questions. By adopting this strategy, students are receiving the message that it is more important to write down as many relevant points and issues as possible, to ensure at least a passing grade (or half the points allocated to the question). Since norm-referenced marking compares student performance against one another, students are ultimately in a competition against each other to note down as much information as possible in the allocated time, rather than working to demonstrate their learning. This reinforces a surface approach to learning and exam writing.

Burton and Cuffe (2005) also identified that students who adopt this competitive approach may resist working collaboratively with peers to create and share deeper understanding. The more one knows, the more likely it will be that the student's marks will increase in comparison to his or her peers. Learning is about a cooperative and collaborative process that requires a community of inquiry, rather than a 'survival of the fittest' mindset.

5. Improvements in teaching are unlikely to be made.

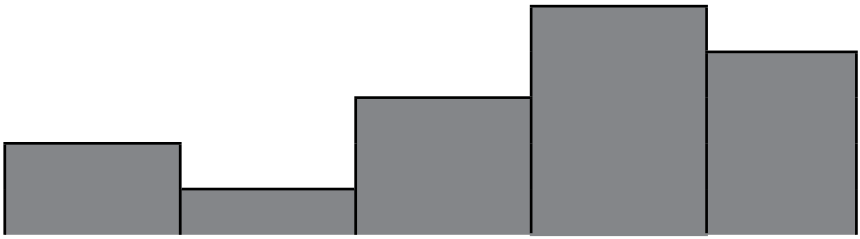
If the normal curve logic is applied, the successes and failures of teaching practices cannot be measured by student achievement of learning outcomes (Burton & Cuffe, 2005). Put another way, if student performance levels are consistently on a normal distribution scale, you would not be able to tell whether one's teaching is effective. Moreover, this approach fails to recognise that the abilities and skills in one cohort may be different from those of a previous cohort.

> [N]ot only were the criteria communicated to students, they were also given the opportunity to participate in creating the grading rubric on which they would be assessed. This collaborative document was then distributed to the students to help them tailor their work to the assessment criteria.
>
> Caroline Graham
> Faculty of Humanities and Social Sciences

Criterion-referenced assessment model

Criterion-referenced assessment, on the other hand, is designed to assess detailed and clear criteria for the purpose of enabling educators to state whether, and how well, students achieved the intended outcomes. Assessment is informed by clear and detailed rubrics and grading schemes. Achievement of these criteria demonstrates that the student has learned. Criterion-referenced assessment reports how well the student has achieved the clearly-stated criteria for the intended learning outcomes. The result of this approach is that the assessor's perspective changes to one which evaluates student performance according to criteria, rather than seeking to identify how many marks a particular student work is 'worth'.

Unlike the norm-referenced assessment model, an individual student's performance is not measured in relation to his or her peers. Theoretically, all students in one cohort may be awarded High Distinctions (or Fails), on the basis that each student is measured independently and objectively against the criteria. In practice, this type of situation is unlikely. Whereas norm-referenced assessment seeks to achieve a particular distribution of performance levels, distribution of marks using a criterion-referenced assessment model may appear similar to the following:



The majority of students have performed at Distinction and High Distinction levels – shouldn't our teaching seek to achieve student performance at these levels, rather than at Pass or Credit levels? When a cohort's distribution hits the high marks, shouldn't we congratulate the teacher for successfully developing learners, trusting the academic rigour of the assessment? Implementation of criterion-referenced assessment models ensures rigorous academic standards, and in so doing, assures student learning.

It may be argued that the norm-referenced assessment model does have its purpose. The model allows students to measure comparatively, assessing where they fit along the range of performance levels. Banded outcomes may act as a check system, so that if a cohort has a 70% fail rate, the subject, assessment task or coordinator may be reviewed to ascertain the reason behind such a high failure rate. Grading to the curve may be used in these contexts, however, the dominant assessment model should not seek to ensure distribution of grades along a spectrum perceived as 'normal'. The ultimate objective of assessment is to enable educators to state how well students have achieved the learning outcomes.

The resource on the following pages was developed for Bond colleagues by a sub-committee of the University Teaching and Learning Committee (UTLC), chaired by Assistant Professor Anna Salinas as a member of the UTLC. Use it to guide your use and implementation of criterion-referenced assessment.

Steps in Achieving Quality Criterion-Referenced Assessment (CRA)

Criterion-referenced assessment (CRA) is the most educationally defensible assessment model for higher education. The goal of CRA is to report student achievement against objective criteria of standards independent of the cohort (1). Theoretically all students could receive very high (or very low) grades depending solely on the individual's performance against an established set of criteria or standards. For this reason, there is a secondary role for norm-referenced assessment (NRA) in monitoring the spread of grades to check for clustering due to either mismatched assessment level or assessor interpretation. In some disciplines it may be difficult to implement CRA in its pure form. It may also be difficult to comprehensively articulate criteria for learning outcomes. (1)

1. Start by developing a set of expected learning outcomes for the assessment and levels of achievement.
    - Grades derived should be aligned to these learning outcomes and pedagogically defensible.
2. Communicate these statements to the students.
    - Criteria statements should be in such a form as makes sense to the student.
    - The implementation of RUBRIKS is a useful tool for this purpose (see link…)
    - Criteria should be comprehensively expressed while still permitting assessors the capacity to make judgements based on their expertise and professional opinion.
3. Measure student achievement as objectively as possible against the criteria
    - This process will embed transparency and consistency into the process
4. Finally, monitor the spread of grades to identify possible outliers/clustering which may indicate problems with assessment tasks or assessor interpretations. For example,
    - Clustering of grades on the lower end of the grade scale could indicate that either the assessor interpretation or degree of difficulty of the task was too high or low.

Maintaining Consistency with Multiple Markers

In the case where more than one assessor is employed to grade student assessment, it is recommended that assessors meet to discuss the criteria set out for the assessment to ensure a shared understanding of criteria and provide clarification on expected responses to maximise a consistent standard of marking..

It is expected that the subject convenor facilitate this process by distributing the criteria sheet (based on the expected learning outcomes) for the assessment to all assessors, discuss and clarify any issues raised to ensure a common understanding or student performance.

1. James R, McInnes C & Devlin M 2002, Assessing Learning in Australian Universities, Centre for Study for Higher Education, University of Melbourne, <http://www.cshe.unimelb.edu.au/assessinglearning>

A Comparison of Norm-Referenced Assessment (NRA) Vs. Criterion-Referenced Assessment (CRA)

	NRA	CRA
Description	Individuals are graded using predetermined bands of achievement (often a normal distribution); involves fitting a rank list of raw scores to a normal distribution.	Individuals are graded against a set of predetermined explicit criteria (learning objectives or standards of achievement).
Emphasis	Sorts/ranks students within a cohort. Compares individuals with others in the same cohort.	Measures competency of an individual. Independent of cohort.
Use/s	Externally: for a large group, can be used for standardised, high stakes testing (requires statistical moderation), professional placements). Items in assessment must discriminate. Internally: results inform on achievements e.g. for administering awards etc.	Externally: Ensures level of competency (e.g. accreditation etc.). Internally: results inform on instruction; ensure graduate outcomes (performance skills, competency); level of achievement required to continue course.
Advantages	• Discriminatory. • May create a competitive environment (*this may also be a disadvantage).	• Educationally defensible. • Accountable. • Transparent process for the student. • Fairer.
Disadvantages	• Assumes minimal difference between cohorts. • Little/no information known about learning objectives. • Calculation of grade is invisible to student.	• Criteria may be subject to interpretation depending on the assessor. • Difficulty in deciding/agreeing on content of criteria. • Results need to be monitored to ensure tests are not too easy or difficult. • Complex (difficulty in clearly articulating standards). • Requires a shared understanding between markers (stakeholders) of criteria (no ambiguity). • Focuses on outcomes rather than process.

REFLECTION

Consider the following questions to critically reflect upon your own grading practices.

1. Have I determined in advance of the task what the standards of performance – and therefore conceptions of quality – are in relation to this task?

2. How can I be sure that performance standards will be the same no matter who marks the assessment ask or whether it is marked first or last?

3. How do the various markers of this task know what the performance standards are? How do the students know?

4. How clear to students are the standards of performance expected of them? How do they know this? When are they made aware of the criteria? At the time in which the assessment is assigned?

5. Is my cohort likely to fall into a fairly normal distribution? Why?

6. Is subjective judgement used in my assessment?

7. Is there complete alignment between the criteria communicated to students and those used to grade the assignment and provide feedback to students?

In other words, what changes would you make to your assessment practice to ensure it is consistent, reliable and communicated to all assessors and students?

Resource: Dunn, L., Morgan, C., O'Reilly, M., & Parry, S. (2004). The student assessment handbook: New directions in traditional & online assessment (p. 28). Abingdon, Oxon: RoutledgeFalmer.

Summary of Chapter 8

The norm-referenced assessment model is based on the concept that given a random sampling of people, performance levels would reflect an expected distribution along a spectrum, perceived as 'normal'. However, education literature has identified several disadvantages and problems with this grading system and conclude that application of norm-referenced assessment practices are ill-fitted to learning and teaching objectives. Criterion-referenced assessment practices clearly define pre-set forms of knowledge, skills and attributes, which enable the assessors to determine at what level, or how well, students' performances match those intended learning outcomes. Criterion-referenced assessment promotes consistency of judgement across assessors, as well as across diverse learners.

Key terms

criterion referenced	norm referenced	relevant standards
absolute standards	reliable	consistent

Additional resources

Kim, S., Myung-Jin, L., Chung, Y., & Bong, M. (2010). Comparison of brain activation during norm-referenced versus criterion-referenced feedback: The role of perceived competence and performance-approach goals. Contemporary Educational Psychology, 35, 141-152. doi: 10.1016/j.cedpsych.2010.04.002

Notar, C. E., Herring, D. F., & Restauri, S. L. (2008). A web-based teaching aid for presenting the concepts of norm referenced and criterion referenced testing. Education, 129(1), 119-124.

Centre for the study of higher education. (2002). A comparison of norm-referencing and criterion-referencing methods for determining student grades in higher education. Retrieved from http://www.cshe.unimelb.edu.au/assessinglearning/06/normvcrit6.html

References

Biggs, J., & Tang, C. (2011). Teaching for quality learning at university: What the student does (4th ed.). Berkshire, England: Open University Press.

Burton, K., & Cuffe, N. (2005). The design and implementation of criterion-referenced assessment in a first year undergraduate core law unit. Legal Education Review, 15(1/2), 159-175.

Dunn, L., Morgan, C., O'Reilly, M., & Parry, S. (2004). The student assessment handbook: New directions in traditional & online assessment. Abingdon, Oxon: RoutledgeFalmer.

Salinas, A. (2012). UTLC Sub-committee: Norm vs criterion-referenced assessment. Final report for the Bond University Teaching and Learning Committee.

CHAPTER 9: Universal Design for Learning

Who are your learners? Each student has individual needs. Have you considered the diversity of your students? Consider the perspectives and extra challenges of students from non-English speaking backgrounds and other international students, students from various socio-economic contexts, and mature-aged students. Further, consider the challenges university learning might present for blind or deaf students, or students with learning disabilities. Finally, each individual in the classroom brings with him or her, a wide and complex range of experiences upon which the student may construct new knowledge. Think about your own path, experiences, identity and attributes that you bring to your own teaching. How might these characteristics influence the way you interact with students and guide them through the learning process? This chapter is about how you might enhance your assessment practice with Universal Design for Learning (UDL).

> "[T]here can be no simple assumptions about prior learning, access to resources, students' ability to support themselves, academic capabilities and so forth....Depending on one's point of view, learning either happens despite the difficulties that diversity presents or it happens precisely because of the richness of interactions that these opportunities offer."
>
> Dunn, L., Morgan, C., O'Reilly, M., & Parry, S. (2004). The student assessment handbook (p. 47).

OBJECTIVES

Upon completion of this chapter, you should be able to:

- Describe the principles underpinning Universal Design for Learning.
- Identify opportunities for enhanced UDL in your own assessment design.
- Plan and strategise practical ways to allow multiple means of representation, engagement and expression in your subject's assessment design.

STRATEGY #9: ALLOW MULTIPLE MEANS OF REPRESENTATION, ENGAGEMENT AND EXPRESSION

Is the assessment accessible to a diversity of students?

Are there ample opportunities for the students to use their own creativity and discretion?

Universal Design for Learning

The concept of Universal Design for Learning (UDL) proposes that teaching, learning and therefore, assessment, should be accessible to all learning styles, backgrounds and abilities in the classroom. The objective of UDL is to design a learning environment in which all learners have equal and ample opportunties to be represented, and to be able to engage and express themselves as well as any other student (Crisp, 2007). The driving ideal behind UDL is that our teaching and assessment practices should not focus on accommodating students with disabilities, students whose dominant language is not English, or students who face the challenges of juggling work, family and other commitments on top of university studies. The focus is on acknowledging that all students learn and express themselves in different and individual, but equally valid ways (Crisp, 2007).

UDL and technology

For many educators, teaching to accomodate student diversity may be a daunting and challenging task. However, with educational technology advancements and increasing implementation of technology in blended learning contexts, UDL can be achieved more easily. When information is digitised, accessibility increases. When information is represented in different multimedia formats, e.g. video captions, and visual representations, you are able to increase student engagement from various learning styles. However, digital technologies must be evaluated for their role in learning. Simply using technology in your assessment design is not automatic implementation of UDL. UDL is an approach to designing your assessment so that it is accessible and usable by students with the widest possible range of learning styles, backgrounds and lifestyles. e-Assessment promotes UDL by enabling teachers to be flexible in assessment modes, methods and platforms (Refer to Chapter 3).

"Poorly designed technological insertion can be distraction rather than pedagogy."

Kinash, S. (2012). Teaching for diversity.

To view suggested software and technology tools for UDL:
Free UDL Technology Toolkit (http://udltechtoolkit.wikispaces.com/)

THREE PRINCIPLES OF UNIVERSAL DESIGN FOR LEARNING

The key resource for UDL is:

Center for Applied Special Technology (CAST). (2012). National Center on Universal Design for Learning: UDL Guidelines 2.0. http://www.udlcenter.org/ aboutudl/udlguidelines

Here is our interpretation.

PRINCIPLE 1: Provide multiple means of representation

(a) Provide options for perception.

Learning cannot occur if it requires extraordinary effort or assistance. Assessment should be designed to communicate necessary information effectively to the student. Reduce barriers to learning by communicating the same information through different modes (e.g. visual, verbal, auditory and tactile), and by providing information that is flexible for the user (e.g. text that can be enlarged, visuals can be changed to greyscale from colour, or sounds that can be amplified).

(b) Provide options for language, mathematical expressions and symbols

Non-English speaking background students are not the only ones who may struggle with vocabulary, syntax or idiomatic expressions. Consider whether the language you have used in your assessment descriptions might use specialised terminology, cultural-specific language, or perhaps generation-specific language. Present information that links to a glossary of terms, a graph that illustrates what you have described in words, or a comparative table that summarises the main points of the content. Comprehension is increased by viewing content in different forms. What might puzzle one student might become abundantly clear in a different representation of that information.

(c) Provide options for comprehension

Empowering learners to create their own understanding requires direction, autonomy and support. They will require instruction on the task, independence to work through the task, and support when aspects of the task may be too challenging. Students vary in the levels of direction, autonomy and support they require to transfer prior learning to new situations. Scaffold learning by providing students with tools to assist comprehension, such as, checklists, mnemonic devices, opportunities for review, or half-completed concept maps.

PRINCIPLE 2: Provide multiple means of action and expression

(a) Provide options for physical action

Students differ in the ways they can navigate a learning environment. As a result, if a task is only accessible in a single prescribed format, it may limit learners. For example, consider students who are more comfortable with the traditional pen-and-paper method in contrast to students who prefer using a keyboard.

(b) Provide options for exression and communication

Similarly, students differ in the way they express what they have learned. While no single medium is suited for all learners, students have at their disposal, a variety of formats through which they may demonstrate their learning. For example, a learner may struggle with oral story-telling, but excel at story-telling through creating a visual representation of the story, e.g. video clip or graphic illustrations. Allow students to express and communicate their learning with flexibility.

(c) Provide options for executive functions

Executive functions refer to the ability to strategise and set long-term learning goals. Developing student autonomy is a key component of supporting diverse learners (Sambell, McDowell, & Sambell, 2006). Design assessment that promotes metacognition and reflective learning (Refer to Chapter 5). Provide tools that support goal-setting and design cognitive 'speed bumps' to encourage students to slow down, think and reflect at important points in the curriculum. As a suggestion, regular self-assessment opportunities at the end of each week's learning would enable students to check their comprehension of each section of content. Mastery of the content is achieved at an individual pace.

PRINCIPLE 3: Provide multiple means of engagement

(a) Provide options for recruiting interest

Another key component of UDL is designing assessment that is user-centred. To engage learners, effective teaching ensures that academic activities are meaningful and worthwhile (Biggs & Tang, 2011). This can be achieved by making the task or subject relevant to professional practice or a student's personal experiences. Another way to motivate students is to engage their interest. Although students have little say in the learning objective of a task, they can decide how to achieve that learning objective. Offer alternatives and options to students to choose topics of interest, methods of communication, or what the end-product might look like. Optimise opportunities for the individual.

(b) Provide options for sustaining effort and persistance

Hooking students' interests starts the learning process in an engaging way, but learners may be easily distracted and lose sight of the learning objective. Support student learning by reminding them of the initial goal, and creating opportunities for developing and maintaining a consistent vision. Integrate peer-assessment and collaborative activities so that students are required to restate their assessment objectives to others. Refer back to learning principles of aligning your assessment tasks to the intended learning outcomes and making sure the criteria are explicitly stated (Chapters 2 and 4).

(c) Provide options for self-regulation

Self-regulation is an integral part of the learning process. It allows an individual to observe, reflect, strategise and adapt, according to what needs to be changed to accomplish a specific objective. It also allows one to modulate and manage emotions, anxiety levels and reactions to their own frustrations. Diversity in a classroom also refers to one's self-regulatory skills. However, these skills are often left out of the classroom, and students learn them individually through trial and error. Promote reflection through self-assessment and provide various options through which a student may engage in critical analysis of one's own performance. A colleague in the Law faculty shared a strategy in which students were asked to physically slam the desk any time they felt frustrated. The expression of frustration was then directed outward into a physical release, rather than inward on the student. Facilitation of coping skills encouraged development of self-regulation skills.

Shelley Kinash, PhD

Teaching For Diversity: Universal Design For Learning

While university is challenging for every student, some learners find the difficulties nearly insurmountable. International students from non-English speaking backgrounds have difficulty understanding what their teachers are saying. Mature-aged students struggle to maintain energy levels while balancing study, family, and work. Students with learning disabilities are confused by lengthy and complex readings. Students with sensory impairments such as blindness and deafness find many online resources inaccessible. There are as many more examples as there are students of diversity.

There are at least two ways of looking at the overall approach to teaching diverse students. One way is to try to fix the students, by providing remedial instruction and intensive supports (individual approach). The other way is to design the content and teaching approaches to attempt to meet the needs of as many students as possible (environmental approach). The environmental approach has come to be known as universal design for learning (UDL), and education technology is a key component.

The definition of UDL is the proactive design of teaching and curriculum "to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" http://www.ncsu.edu/dso/general/universal-design.html. The analogy most commonly linked to UDL is that of the electronic curb-cut. Curb-cuts are the portion of the footpath that are cut away and/or sloping so that footpaths are level with the road. Curb-cuts were designed for people in wheelchairs to enable access from the road to the footpath and vice versa. There are not a lot of people in wheelchairs regularly using each and every curb-cut; each curb-cut, however, is regularly used. Curb-cuts outside supermarkets are regularly used by shoppers pushing trolleys. Other curb-cuts come in handy for people pushing prams, for skateboarders, and cyclists. The curb-cut is an example of a design that was put into place for someone with a disabling condition, and found to have benefits for many.

Technology adds the element of electronic to the metaphoric curb-cut. Digital technologies are flexible and can therefore be manipulated to meet many needs. The textbook, for example, is made of atoms, which are fixed in time and space. The reader has to be able to see in order to read the print book. Neon highlights are there for the life of the book. Books lend themselves most readily to being read from cover to cover. Enhanced e-texts, on the other hand, can be altered and restored. Students can insert bookmarks and jump to them. Clicking on a difficult term takes the reader to a glossary definition. Digital highlights can be removed for the next reader. Students with visual impairments, learning disabilities, or tired eyes can listen to an electronic voice reading the book and/or enlarge and change the font. Just by assigning an electronic book rather than a print edition, teachers are already implementing UDL.

There are three main principles of UDL. They are multiple means of representation, engagement, and expression. This table explains each principle and provides a practical example of how progressive educators from preparatory to higher education are using education technology to teach through UDL.

1. Universal design in education is fundamentally different from universal design in the built environment.

Universal design for learning (UDL) was an application of the architectural concept of universal design (UD). An example of UD is

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the bench-top that can be moved up and down by a lever so that users in wheelchairs and tall cooks can all use it. This proposition means that the complexity of constructing understanding is different from building houses following a blueprint, and that we should not over-simplify.

2. UDL is fundamentally about proactively valuing diversity.

Similar to the point above, this means that there are no quick fixes when teaching to a group of diverse learners. Edyburn wrote, "UDL is more than simply integrating the latest technology tools into the curriculum" (2010: 36). While emerging technologies enable capacity for multiple means of representation, engagement and demonstration, inclusion of multimedia does not guarantee learning. Poorly designed technological insertion can be distraction rather than pedagogy.

3. UDL is ultimately about design.

It is important that educators do not confuse design with technology. Design basically means problem solving. Sometimes problems can be solved by introducing technologies into the plan. The key is that design comes before a project. Solutions are proactive rather than retro-fitted.

At this point in the presentation of Edyburn's propositions, the reader might be thinking that perhaps UDL is just a catch-phrase for good teaching. Edyburn disagrees, and his fourth proposition is in fact that:

4 Universal design for learning is not just good teaching.

Educators might have experienced success with typical students through applying pedagogical principles of giving immediate and specific feedback and periodically confirming understanding. However, mature learners with families and careers, students with emotional and behavioural disorders, and people with sensory impairments need more from the educator and the education in order to learn.

Principle	Practical Strategy
1. Multiple means of representation. This means that educators use text, voice, images, metaphors, demonstrations and other ways of getting their message across to students.	Many educators use mobile devices such as iPads, smartphones and laptops in their teaching. The educators pose challenging questions, and the students search for information to inform their responses. As part of the lesson, the students listen to podcasts and watch video demonstrations.
2. Multiple means of engagement. In other words, educators motivate their students through reinforcement, feedback, intellectual stimulation, and other ways of helping students take responsibility for their learning.	Some educators are finding that their students are more likely to engage when they are given the option to participate online. Introverted personalities, peer pressure, and pronunciation challenges can make students reluctant to participate on-the-spot in class. Posting online gives them time to research and revise and adds an element of anonymity.
3. Multiple means of expression. Whereas representation stands for what the teacher does, expression includes assignments, assessment, and other ways that students have of demonstrating their learning.	Students are sometimes prevented from demonstrating their learning because they perform poorly in the assessment set by the educator. An example is test anxiety. Many educators now define the learning objectives through a rubric, and allow the students to decide whether they will create a podcast, slideshow, video, website, or other means of demonstrating their understanding.

5. Universal design for learning does not occur naturally.
UDL must be intentional, researched, and rigorous. Educators will find that they get better through time and practice at designing with a UDL lens.

6. Technology is essential for implementing UDL.
Inclusion of technology is necessary because the capacities of electronic media enable accessibility and flexibility. However, technology alone is not sufficient, in that the technology must be carefully infused in the context of rigorous pedagogical principles and understanding of diversity.

7. UDL is not assistive technology.
This article started by explaining that there are two approaches to supporting diverse students with particular learning challenges – the individual and the environmental approach. Assistive technology (AT) means tools and software that are brought into the education for students with disabilities, on a case-by-case basis. This is an example of the individual approach. Some of the problems are: other students do not receive the benefit of the technology, the use of technology only by disabled students tends to socially set them apart from the others, and often they are physically set-apart from other students because only a computer in the library or laboratory is equipped with the AT, meaning that the student must leave the classroom to use it. UDL on the other hand, is designed to benefit all students together.

8. It is necessary to measure the primary and secondary impact of UDL.
There is a rich and important relationship between research and practice. Both are necessary to inform the other. To date, UDL has been minimally researched, and educators are therefore under-informed as to evidence-based implementation.

9. Claims of UDL must be evaluated on the basis of enhanced student performance.
Hand-in-hand with the eighth proposition, Edyburn is calling for rigorous empirical research on UDL that establishes whether this educational design is making a difference to student learning.

10. UDL is much more complex than we originally thought.
This proposition needs no further elaboration, beyond that articulated in the propositions that came before it.

UDL In Practice

Here are two actual examples of UDL, one from primary school, and one from university.

A primary school teacher had a year two/three class. She started wearing an FM system for a year three hearing-impaired student. The system not only amplified her voice for the hearing-impaired student, but for the entire group through speakers at the back of the classroom. The next year, the hearing impaired student moved on to year four in another class and the teacher stopped using the FM system. The year three students, who had the teacher the previous year for year two, complained that they could not hear the teacher as well as they could the year before. The teacher started using the FM system again and has used it ever since.

A university lecturer was teaching cultural values. He anticipated lively discussion and debate because this year he had students from more diverse cultures than ever before. Week after week, his questions were greeted with silence and he left disappointed and frustrated. A colleague gave him the advice of using an online discussion forum to complement what he was doing in class. Immediately upon making this tool live, the discussion flourished. There was lively debate and opposing positions expressed. Curious, he interviewed students as to why they were willing to engage online, but not in class. He received various responses. Some explained that it was too intimidating to share such personal opinions and experiences live and face-to-face. Many shared that they were afraid of offending one another in the class and that an online forum allowed them to change their wording until they got it just right. The lecturer now includes online forums as part of the learning experience in all of his subjects.

If you would like to read more about UDL, here are some recommended books, articles and websites:

Books And Articles

Burgstahler, S.E. & Cory, R.C. (Eds.) (2008). Universal design in higher education. Cambridge, MA: Harvard Education.
Edyburn, D.L. (2010). Would you recognize universal design for learning if you saw it? Ten propositions for new directions for the second decade of UDL. Learning Disability Quarterly, 33, 33-41.
Rose, D.H. & Meyer, A. (Eds.) (2006). A practical reader in universal design for learning. Cambridge, MA: Harvard Education.
Rose, D.H. & Meyer, A. (2002). Teaching every student in the digital age: Universal design for learning. Alexandria, VA: Association for Supervision and Curriculum Development.
Rose, D.H., Meyer, A. & Hitchcock, C. (Eds.) (2005). The universally designed classroom: Accessible curriculum and digital technologies. Cambridge, MA: Harvard Education

Websites

Electronic curb-cuts CAS (Center for an Accessible Society), Steve Jacobs
http://www.accessiblesociety.org/topics/technology/eleccurbcut.htm
Practical implementation strategy for UDL
Edyburn (2009) Tic-Tac-Toe Instructional Planning
http://www.uwm.edu/~edyburn/tictactoe.html
Universal design for learning
CAST (Center for Applied Special Technology)
http://www.cast.org
History and principles of UD and UDL
NCSU-DSO (North Carolina State University, Disability Studies Office)
http://www.ncsu.edu/dso/general/universal-design.html

Shelley Kinash, PhD is the Director of Quality, Teaching, and Learning Bond University on the Gold Coast, Australia. She can be contacted at skinash@bond.edu.au or http://works.bepress.com/shelley_kinash/

Assessment Tip

Access UDL examples and resources from the National Center on Universal Design for Learning (http://www.udlcenter.org/implementation/examples) and consider their potential for enhanced assessment design in your subject.

BECOME SELF-AWARE OF YOUR OWN PRESUMPTIONS, BELIEFS AND ATTITUDES

The Three Principles of UDL primarily focus on designing your assessment and learning tasks to facilitate flexibility and accessibility of your subject to your diverse students. In this section, we turn the focus on you, the teacher. Bond University's student body is distinctly international, with many of our colleagues from globally diverse contexts. However, as anyone who has travelled outside of one's comfort zone will testify, practices, customs and behaviours we take for granted can be challenged, miscommunicated and misunderstood by others. In order to effectively facilitate strategies to help your students adapt to the learning environment, it is important to reflect upon your own role as another carrier of diversity, in the context of cultural, learning and social traditions (Caroll, 2005).

If you have worked only in one academic culture, or in similar academic cultures that share the same values, practices and beliefs, the things you do may not seem to involve culture at all, and are logical, normal and obvious (Caroll, 2005). As an example, we draw from this resource's suggestion of peer-assessment practices to enhance engagement with learning. You may try to implement these strategies in your assessment practices. However, a student who is accustomed to only the teacher making judgements about student work may feel frustrated and ask, What is the purpose of being marked by someone who doesn't know what she's doing either? Similarly, in a tutorial group or seminar discussion, certain behaviours are expected and these may be obvious to you, but not to all your students. As a result, you may experience disappointments, unexpected attitudes and escalating conflicts.

It is important to stress that these differences should not be perceived as deleterious or "as negative expressions of your own [academic and] cultural values ('they never speak', 'they plagiarise', 'they want too much support')" (Carroll, 2005, p. 28). Instead, try to explain to students why they are required to peer and self-assess and the value of these exercises. Focus on how you might help students to adapt and learn new skills to achieve the tasks required of them in the new learning environment.

Assessment Tips

Minimise barriers with options.

UDL is inclusive of student strengths and needs and facilitates student-centred learning. Students may prefer handouts over computers, or role-plays over speeches. Presentation of material can be via PowerPoint, interactive concept maps, or simulation exercises. Make sure documents are available in flexible formats.

Maximise opportunities to reap benefits from diversity in the classroom.

Design assessment and learning tasks that require reflection and discussion of how personal differences might be perceived in the discipline. Students will need to explain, explore, inquire and negotiate meaning within this authentic context.

Use student exemplars to demonstrate what is expected.

Assessment tasks may contain hidden 'prompts' apparent only to students who are familiar with the academic culture. For example, 'Discuss' may be interpreted to seek one's opinion and thoughts in a general way, which might result in a waffly and generic written essay, rather than one of analysis and argument. Provide explicit instructions about the assessment tasks, and exemplars when appropriate.

What's in your UDL toolkit?

List three of the common assessment tasks (AT) your students might be expected to complete:

AT 1:

AT 2:

AT 3:

For each assessment task listed, respond to the following:

Is the AT represented in a way that communicates the necessary information effectively to the user, regardless of method of access, linguistic or sensory abilities? If no, what are some ways you could make it more accessible?

AT 1:
AT 2:
AT 3:

Is the AT designed to accommodate alternative options for individual expression and communication, based on individual preferences and abilities? If no, what other methods of expression and communication could you accept as demonstration of the intended learning outcome?

AT 1:
AT 2:
AT 3:

Is the AT designed to provide the learners with discretion and autonomy to complete the tasks in reference to personal interests, experiences, social and learning cultures? If no, how could you adapt the AT to engage the individual, while still achieving the intended learning outcome of the task?

AT 1:
AT 2:
AT 3:

Summary of Chapter 9

Universal Design for Learning (UDL) is a set of principles in which teaching, learning and therefore, assessment, should be accessible to all learning styles, backgrounds and abilities in the classroom. UDL focuses on who the end-users are, and employs assessment designs that allow students to configure the content and tasks to meet their individual strengths, needs and preferences, while still achieving the intended learning outcomes of the tasks. The three principles of UDL are: (1) Provide multiple means of representation; (2) Provide multiple means of action and expression; and (3) Provide multiple means of engagement. These principles provide a framework within which to respond to student diversity while maintaining academic autonomy as designers of the subjects.

Technological tools for education are an essential component to implementation of UDL. Presenting content in various contexts using visual representations, audio clips or interactive video simulations are possible methods to implement UDL. Online role-play, discussion boards, and video chats have also been used to promote accessibility and flexibility. However, educators must be vigilant to use technology to enhance pedagogy, rather than as a distraction to learning or teaching.

Finally, diversity is not limited to the students. Be aware of your own role as a carrier of diversity in the classroom, especially where you might hold assumptions, beliefs and attitudes that may result in engaging, or conversely, disappointing interactions with your students. Rather than attributing negative experiences with diverse students, shift the focus on how you can best prepare students to adapt to studying and learning in your subject.

Key terms

Universal Design for Learning	Flexibility	Accessibility
Diversity	Representation	Engagement

Additional resources

Burgstahler, S. E., & Cory, R. C. (Eds.). (2008). Universal design in higher education: From principles to practice. Cambridge, MA: Harvard Education Press.

Janowski, K. (2012). Free UDL technology toolkit for UDL in all classrooms [Electronic wiki]. Retrieved from http://udltechtoolkit.wikispaces.com/

Rose, D.H., Meyer, A., Strangman, N., & Rappolt, G. (2002). Teaching every student in the digital age: Universal design for learning. Alexandria, VA: Association for Supervision and Curriculum Development.

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Biggs, J., & Tang, C. (2011). Teaching for quality learning at university: What the student does (4th ed.). Berkshire, England: Open University Press.

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CHAPTER 10: Quality, Standards and Enhancement

Throughout this resource, student assessment has been identified as an important component of learning and teaching. An allied factor of importance for tertiary educators is that of quality assurance. Managing and ensuring quality tertiary education is one of the key responsibilities of the Bond University community. Stakeholders seek evidence of assured quality learning and teaching, confirming that universities do what they say they do. There is recognition that we need quality assurance of tertiary education and as a result, there is an increased demand for insitutional accountability.

> "To produce uniquely identifiable graduates who are leaders and thinkers, imbued with initiative, the spirit of free enterprise and a continuing quest for intellectual inquiry, challenge and opportunity."
>
> Bond University Mission Statement 2012

The final chapter of this resource aims to provide an overview of quality assurance of education and how educators might consider assessment practices in this larger context.

LEARNING OUTCOMES

Upon completion of this chapter, you should be able to:

- Describe the background, context and underlying themes in assuring quality education in tertiary institutions.
- Reflect upon your role in maintaining and enhancing educational quality at Bond.
- Identify opportunities for gathering and making use of feedback to enhance assessment.
- Develop a reflective approach for personal and professional development.

STRATEGY #10: USE FEEDBACK TO ENHANCE QUALITY OF ASSESSMENT

Have you considered how internal and external stakeholders affect your teaching and assessment practices?

What is your role in maintaining and enhancing quality education at Bond?

How do you gather and make use of feedback from students?

Background and context

The Australian Qualifications Framework (AQF) is "the national policy for regulated qualifications in Australian education and training" (AQF Council, 2011, p. 9). As a national objective, the AQF ensures that Australian education and qualifications standards align with other qualifications frameworks internationally. It is now indisputable that the international mobility of graduates and workers is significant. To support this mobility, and to facilitate improvement of mutual trust and recognition of qualifications between nations and regions, Australian education and qualifications must meet benchmarking standards (AQF Council, 2011). In plain language, this means that Bond University, or any university for that matter, can be permitted to exist as a silo. Worldwide standards ensure that students can transfer between universities and that degrees qualify students in an equivalent manner regardless of which university they attended.

Consequently, the Tertiary Education Quality and Standards Agency (TEQSA) was created to independently regulate and evaluate the performance of Australian higher education institutions against the Higher Education Standards Framework. The government has made it clear that it is committed to quality assurance and a regulatory framework, with an emphasis on student outcomes. Therefore, in order to remain in Australia's higher education system, Bond University must meet, among other Threshold Standards, the Qualification Standards as set out by the AQF. Chapter 4 of the Higher Education Standards Framework (Threshold Standards) 2011 requires that all accreditation of new awards and reaccreditation of existing awards must meet the corresponding specifications, including the levels criteria, described in the AQF. In other words, Bond University's degrees, programs and subjects must satisfy the minimum threshold quality standards as idenfitied in the AQF to remain an accredited university.

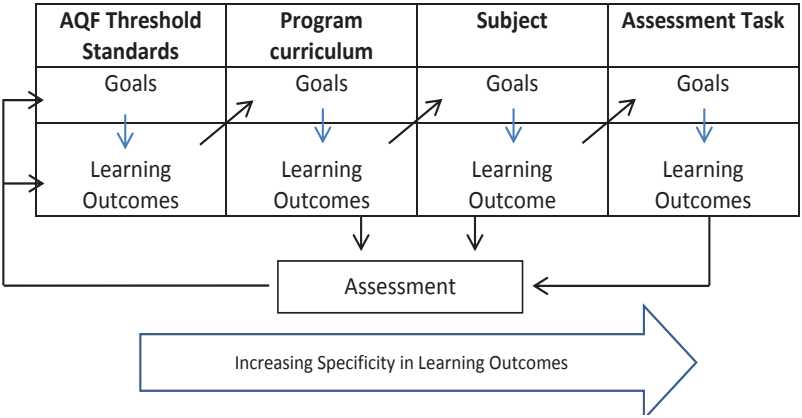
University programs at the Bachelor's level are defined as Level 7 qualifications, while Master's level programs are Level 9 qualifications. For further detailed information and to view the full publication of the AQF levels, policies and objectives, visit www.aqf.edu.au.

Changing profile of higher education

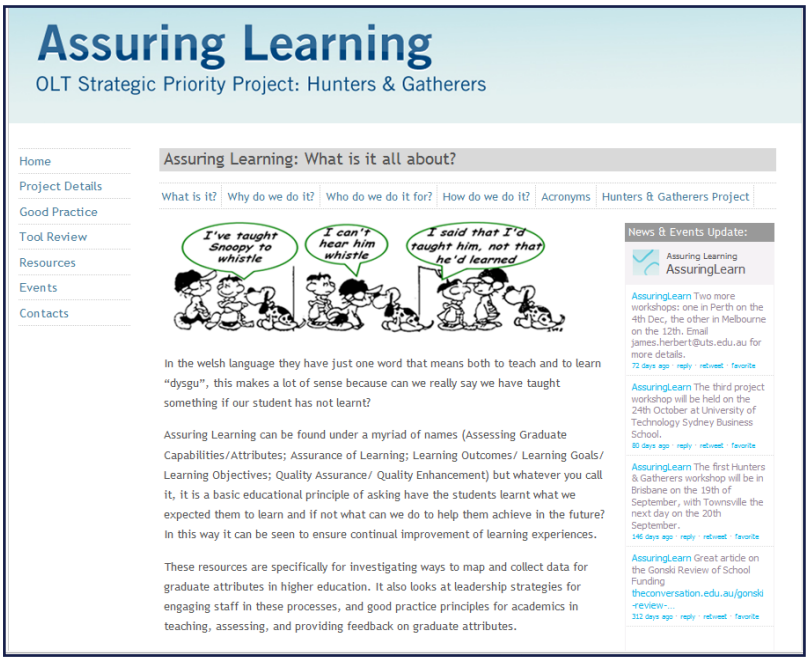
Numerous developments in the context of the current generation of learners has fundamentally changed higher education. Higher education has expanded globally, with dramatic increases in number of domestic and international student enrolments. Students are vocationally oriented and are demanding more programs of study that lead directly into professional practice (Dunn, Morgan, O'Reilly, & Parry, 2004). Tertiary students continue to pay more for their education and training, resulting in greater competition among institutions to set themselves apart from the others. Increased information literacy and technological advancement have changed the way universities conduct their core business (Johnson, Adams, & Cummins, 2012). Our students are also increasingly comprised of part-time students and distance learners, which has led to increasing demand for flexible study options (Moore, 2012). These developments have no doubt changed the profile of higher education and have had a significant influence on the way we assess our students.

As we have discussed throughout this booklet, assessment is the method through which we collect evidence of student learning, and thereby assemble evidence that the university is successfully doing what it says it does. One of the underlying themes of university teaching is that the intended learning outcomes that educators develop, the learning and teaching activities they design, and the assessment of student achievement of those learning outcomes will align with, and contribute to, the whole curriculum of the relevant program of study (Kinash et al., 2012). For example, in addition to assuring quality curriculum, teaching and pedagogy of each subject in a Bachelor of Arts in International Relations, each of the subjects must contribute to an overall quality program of study. In relation to assessment, a learning map should allow academic leaders to ask, answer and reflect on questions such as: at what points in the program are students assessed and at what points do they receive feedback; is their a progression within the degree between the introduction, development and assurance of competencies through assessment?

Each program of study should subsequently align with the threshold quality standards as established by the AQF, and regulated by TEQSA. This important relationship is represented below:



Adapted from Diamond, R. M. (2008). Designing and assessing courses and curricula: A practical guide (3rd ed.) (p. 6). San Francisco, CA: Jossey-Bass.



Assurance of Learning evaluates how well educational aims and expectations are achieved. For more information on Assurance of Learning in Relation to Assessment: http://assuringlearning.com

Your role

As the lecturer or tutor of your subject, your fundamental concern may be to teach to your own satisfaction, and your students' positive evaluation as indicated through TEVALs. Given this context, how does quality assurance affect you and your assessment practices? Educators are increasingly faced with balancing the tension between external stakeholder demands, which seek to ensure the standards of quality education do not decline, and student demands, which seek greater flexibility, choice in assessment, and greater support (Dunn, Morgan, O'Reilly, & Parry, 2004). Satisfying the stakeholders in this process may appear to be a challenging task, but if you have implemented good assessment strategies, such as those outlined in this resource, you might have already successfully balanced the interests of the stakeholders in your teaching!

In other words, your role in the quality assurance process is to:

- write appropriate intended learning outcomes (Chapter 1);
- constructively align the assigned assessment tasks to the learning outcomes as listed in the subject outline (Chapter 2);
- select a suitable mode and type for the assessment task (Chapter 3);
- be explicit about your expectations for assessment and be transparent about how one would achieve a High Distinction (Chapter 4);
- design robust, meaningful and engaging assessment tasks so that they themselves are learning opportunities for the students (Chapter 5);
- provide students with opportunities to practise their skills and their articulation prior to final submission (Chapter 6);
- give regular and specific feedback to students about their strengths and how to further their work (Chapter 7);
- grade using pre-established specifications and make it clear to students how to self-assess their own work measured against these criteria (Chapter 8);
- allow multiple means of representation, expression and engagement to encourage accessibility and flexibility for a diversity of students (Chapter 9); and
- use feedback to enhance quality of teaching (Chapter 10).

Feedback and enhancement of teaching

At the management level, Bond University has developed strategic goals, operational plans, and implemented curriculum review processes to manage and facilitate change and continual growth and improvement of the student learning experience. Accordingly, each faculty and institute collects data about each subject and educator and aggregates the information at the program level to ensure alignment with the University's strategic goals, as well as the AQF qualification standards. One such clear mechanism at Bond is the electronic teaching evaluation survey conducted each semester (eTEVALs). eTEVALs survey student perceptions and collect feedback on their satisfaction with the subjects and educators.

In this resource we have addressed the value of feedback in student learning. Feedback is equally important for teaching enhancement. Each semester, from Week 10 through to the end of Week 14, students are invited to anonymously complete Subject Surveys and Educator Surveys for each subject in which they are enrolled. eTEVAL reports are then made available for educators to review during O Week of the following semester. Academics are encouraged to utilise this valuable resource in developing and enhancing your teaching, including assessment design.

eTEVAL Survey Questions Relating to Assessment Design and Practice

Students are asked to rank the extent to which they agree with the following statements:

Strongly Disagree	¬	Disagree	¬	Neither Disagree or Agree	¬	Agree	¬	Strongly Agree

The learning outcomes are clearly defined.

The assessment tasks are appropriate to the learning outcomes.

The educator defines expectations clearly.

The educator provides constructive feedback.

The educator provides timely feedback.

By applying the same principles of reflective, metacognitive and experiential theories of learning, consistent feeback from students, peers, colleagues and mentors will result in good teaching and assessement practice (Kember & McNaught, 2007). Feedback informs the development and refinement of all elements of your teaching, from planning, to delivery, to assessment. With each passing semester, consider what worked and what did not, and make the relevant adaptations.

Obtaining feedback

eTEVALs are not the only way to obtain feedback. While they provide a formalised and consistent method of obtaining feedback, the questions asked or the responses received may be insufficient for your needs. Here are some alternative ways to obtain feedback:

1. Obtain feeback directly. When activities are used in class, communicate directly with students to gather their opinions and perceptions on how successful the activity was for their learning. You may also speak with them informally if rapport with the students has been developed to allow the students to respond comfortably.
2. Use student performance results in formative assessment. Students receive feedback on what they have or have not understood, but as the educator, you also receive feedback on whether the assessment format or method of delivery achieved what you intended. For example, at the end of a session, ask students to write down three things they did not understand and three things they learned.
3. Design your own survey. eTEVAL questions are designed to be generic to suit most faculties and subjects. If there are particular aspects of your subject or assessment design for which you are seeking feedback, devise your own specific questionnaire.

Optimising your feedback:

√	Develop an action plan to address the feedback you receive. Address the criticisms as well as the praise. How would you improve? If something worked well, how would you sustain it?
√	Communicate with students - closing the loop. Provide students with a summary of the data you received and how you responded to their feedback. This demonstrates that you care about their learning experience.
√	Review and discuss the feedback with another colleague.
√	Choose a small number of strategies you will implement to address a chosen area for improvement. Avoid trying to implement too many strategies.
√	Keep track of feedback over time. Is there a trend?
√	Review the effectiveness of your changes and make further plans in light of that knowledge.

Resource: Crane, L. (2012). Guide to understanding eTEVAL at Bond University. Gold Coast, QLD: Faculty of Health Sciences and Medicine, Bond University. Retrieved from http://www.bond.edu.au/etevals

Reflection for enhancement of assessment practices

Reflect on the various aspects of your assessment practices, such as:

- Description of the task
- Alignment with learning outcomes
- Suitability of the mode and type
- Format and timing of feedback
- Workload on the student and the assessor
- Accessibility

Do you currently obtain feedback about your assessment practices in particular? If so, do they sufficiently address all aspects of the assessment tasks? How would you improve the gathering of feedback?

Summary of Chapter 10

Student assessment is significant to a range of different stakeholders, including both internal (Bond University) and external (AQF and TEQSA). Students and their families demand value for money, employers and the wider community demand successful and competent graduates, and the local, national and international communities demand accountability to quality standards. This chapter provided a brief overview on the role of the Australian Qualifications Framework (AQF) and the Tertiary Education Quality and Standards Agency (TEQSA) in setting, regulating and monitoring standards for quality education. Accordingly, one of the primary purposes of assessment is to provide stakeholders with evidence that the institution is meeting their needs.

As educators within an institution, your role is to design assessment to meet the needs of these stakeholders. In particular, this chapter highlighted the important relationship underlying assessment design. The assessment task should be appropriately aligned with the subject learning outcomes and program learning objectives, which subsequently feeds into the goals and learning objectives of external threshold standards for accreditation. By adapting many of the strategies outlined in this resource, designing assessment to meet the needs of the range of different stakeholders is a manageable and doable task. Finally, just as learning is a process, teaching and assessment design skills must go through a similar iterative cycle of planning, action, observation and reflection. Gather feedback through formal (eTEVALs) and informal (face-to-face) opportunities and optimise the data by developing an action plan, communicating your responses to students and consistently reviewing the changes.

Key terms

quality assurance	TEQSA	accreditation
AQF	threshold standards	eTEVALs

Additional resources

Australian Qualifications Framework Council. (2012). Australian Qualifications Framework. Retrieved from http://www.aqf.edu.au/

Office of Learning and Teaching. (2012). Bond University: eTEVAL report user guide - For teaching staff and administrators. Gold Coast, QLD: Office of Learning and Teaching, Bond University. Retrieved from http://www.bond.edu.au/about-bond/learning-and-teaching/office-of-learning-and-teaching/etevals/index.htm

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Crane, L. (2012). Guide to understanding eTEVAL at Bond University. Gold Coast, QLD: Faculty of Health Sciences and Medicine, Bond University. Retrieved from http://www.bond.edu.au/about-bond/learning-and-teaching/office-of-learning-and-teaching/etevals/index.htm

Diamond, R. M. (2008). Designing and assessing courses and curricula: A practical guide (3rd ed.). San Francisco, CA: Josse-Bass.

Dunn, L., Morgan, C., O'Relly, M., & Parry, S. (2004). The student assessment handbook: New directions in traditional & online assessment. Abingdon, Oxon: RoutledgeFalmer.

Johnson, L., Adams, S., & Cummins, M. (2012). The NMC Horizon Report: 2012 Higher Education Edition. Austin, Texas: The New Media Consortium. Retrieved from http://net.educause.edu/ir/library/pdf/hr2012.pdf

Kember, D., & McNaught, C. (2007). Enhancing university teaching: Lessons from research into award-winning teachers. Abingdon, Oxon: Routledge.

Kinash, S., Mathew, T., Lawson, R., Herbert, J., French, E., Taylor, T., ... Summers, J. (2012, June). Australian higher education evaluation through assurance of learning. Proceedings of the 8th International Conference on Evaluation for Practice, June 18-20, 2012. Pori, Finland. http://tampub.uta.fi/handle/10024/65313

Moore, M. G. (Ed.). (2012). Handbook of Distance Education (3rd ed.). Abingdon, Oxon: Routledge.

CONCLUSION

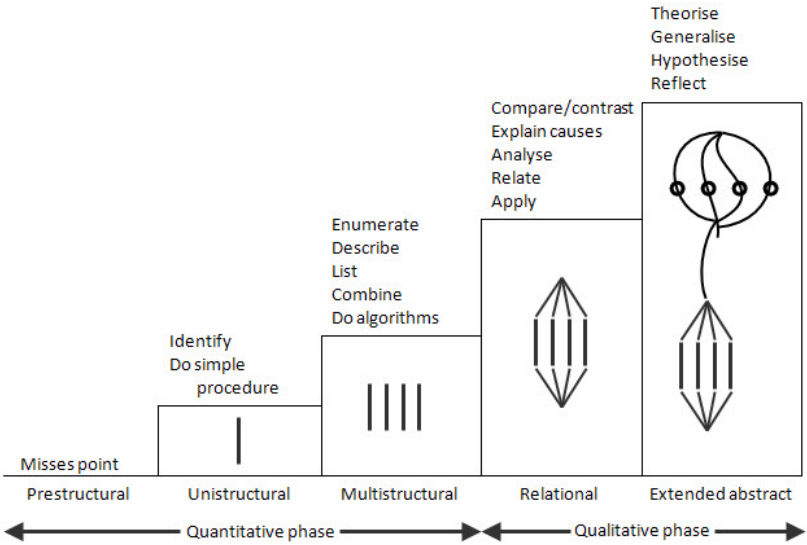
Assessment@Bond was designed with you, the Bond educator, in mind. We hope you have found this to be a useful resource to support your assessment and marking practices. Rich with relevant research and literature on assessment strategies in higher education, this resource presented practical tips and suggestions for enhancing and developing assessment that meets the needs of a range of stakeholders. More than an overview of concepts related to assessment practices, Assessment@Bond offered the educator a unique mix of practical strategies and scholarship and related them to you, the end-user.

The 10 assessment strategies outlined in this resource enhance student learning. It is our hope that this resource helped you review and refine your approaches to assessment, fostering a more fertile learning environment and rewarding learning and teaching experiences. The end of this resource in no way marks the end of the development process. As you further adapt, revise and refine the assessment process, we encourage you to take new and interesting directions. Innovative approaches to assessment can be exciting and surprising! We invite you to share with us how you experimented with, and investigated these 10 strategies and look forward to hearing about your successes.

HELPFULRESOURCES

SOLO Taxonomy

SOLO stands for Structure of Observed Learning Outcomes and represents a systematic way to describe how a learner's performance grows with each level of complexity. The figure below is extracted from Biggs and Tang (2011, p. 91) and demonstrates the hierarchy of verbs that may be used with each of the five levels of the SOLO taxonomy. This tool is most useful when writing learning outcomes for assessment, and when writing rubrics or marking criteria for essays and other tasks that require demonstration of a range of levels of cognitive performance.



The figure is structured to demonstrate increasing levels of complexity in a learner's thinking processes. Kember and McNaught (2007) have usefully and clearly summarised how the SOLO taxonomy should be read. To clarify, at the Prestructural level, the student has failed to address the issue and misses the point. At the Unistructural level, the student has only dealt with a single point within a greater complex problem. At the Multistructural level, the student may have identified the appropriate issues, but lacks structure and has not properly linked the ideas together. It has the effect of a bullet point list. At the Relational

level, the student may have identified the same issues as the prior level, but has taken it further and applied a coherent structure. Finally, at the Extended Abstract level, the student takes the coherent and logical structure of the prior level, and goes beyond what you may have reasonably expected. For example, if the student has related the content to external and/or recent research and has drawn sound conclusions as a result.

Top Tools for Learning

Source: Centre for Learning & Performance Technologies. (2012). Top 100 tools for learning. Retrieved from http://c4lpt.co.uk/top100tools/

1. Twitter	Social networking & micro-blogging
2. YouTube	Video-sharing
3. Google Docs/Drive	Office suite and data storage
4. Google Search	Web search engine
5. WordPress	Blogging/website tool
6. Dropbox	File synchronization
7. Skype	Text and voice chat tool
8. PowerPoint	Presentation software
9. Facebook	Social network
10. Wikipedia	Collaborative encyclopaedia
11. Moodle	Course management system
12. Evernote	Note-taking tool
13. Slideshare	Presentation hosting site
14. Prezi	Presentation software
15. Blogger	Blogging tool
16. Google Reader	RSS Reader
17. Google +	Social network/video meetings
18. Diigo	Social bookmarking/annotation tool
19. Word	Word processing software
20. Yammer	Private social networking engine

Detailed example of a grading rubric for online discussion

Source: Crisp, G. (2007). The e-assessment handbook (p. 196). London: Continuum International Publishing Group.

Criteria	Excellent	Good	Acceptable	Below Standard
Analysis and critical thinking	Entry is highly relevant and insightful. Shows comprehensive analysis and depth, draws conclusions from information presented	Entry is relevant, insightful and shows thoughful analysis, summarises known information	Entry is relevant, but superficial with minimal analysis, recalls known information	Entry is not relevant, no analysis
Integration	Entry contains new content and critiques responses from others	Entry related to topic and comments on responses from others	Entry related marginally to topic and only agrees or disagrees with responses from others	Entry not related to topic and no mention of responses from others
Resources	Provides appropriate references to literature to support own entry and critiques on responses from others	Provides appropriate references to literature to support own entry and general references for comments on responses from others	Provides general references to literature to support own entry but not to comments on responses from others	No references or citations
Individual contribution	New ideas presented which add significantly to the discussion	New ideas presented which are relevant to the discussion	Common knowledge only presented	Restating course content or misses the point
Milestones	Exceeded number of minimum entries, responded without prompting	Completed minimum number of entries, responded without prompting	Completed minimum number of entries, but responded when reminded	Did not contribute unless prompted, some missing
Language and grammar	Scholarly language with minimal grammatical errors	Appropriate language with minimal grammatical errors	Common use of language with some grammatical errors	Misuse of language, difficult to understand

Other Useful Websites

1. Assuring Learning - Australian Office for Learning and Teaching Strategic Priority Project: Hunters & Gatherers [http://assuringlearning.com/]

2. UNSW Assessment as Learning Toolkit - Resources for designing assessment, assessment methods, feedback, and reviewing assessment quality [http://teaching.unsw.edu.au/assessment-toolkit]

3. Practical Guidelines for Writing Assessment Criteria and Standards - University of Queensland [http://www.uq.edu.au/teaching-learning/docs/Writing_Criteria_Standards.doc]

4. National Center on Universal Design for Learning - Guidelines, resources, examples and tools on implementing UDL in the classroom [http://www.udlcenter.org/aboutudl/udlguidelines]

5. TedEd - Educational videos online - "Lessons worth sharing" [http://ed.ted.com/]

6. Big Think - Video interview with 600+ thought leaders in a range of fields [http://ed.ted.com/]

7. Rubistar - Free tool to help teachers create quality rubrics [http://rubistar.4teachers.org/]

8. iRubric - Free rubric development, assessment, and sharing tool [http://www.rcampus.com/indexrubric.cfm]

9. Assessing Learning in Australian Universites - Ideas, strategies and resources for quality in student assessment [http://www.cshe.unimelb.edu.au/assessinglearning/docs/AssessingLearning.pdf]

10. Assessing student learning - Online assessment [http://www.cshe.unimelb.edu.au/assessinglearning/03/online.html]

11. Assessment Toolkit - Macquarie University [http://staff.mq.edu.au/teaching/curriculum_development/assessment/toolkit/]

ACADEMIC SUPERVISOR INFORMATION SHEET

The following information serves as a brief guide for lecturers and/or tutors supervising End of Semester Examinations.

NOTE: Supervisors are required to report to the Examination venue (Sports Hall in most instances) at least 20 minutes before the scheduled commencement time of their exam. (This time is necessary for briefing Academic Supervisors on exam procedures, seating layout and for checking exam papers prior to the start of the exam session).

Academic Supervisors who are late or don't turn up might cause a late start of the session or for students not to receive last minute instructions for that paper.

RESPONSIBILITY OF SUPERVISOR

Academic Supervisors should devote their whole attention to the continuous supervision of candidates. Academic Supervisors should move amongst the candidates at intervals without disturbing them. Only one supervisor should be absent from the room at any one time. When a supervisor is absent remaining supervisors need to be particularly vigilant.

BEFORE EXAMINATION COMMENCES

During the briefing, supervisors will be shown the seating plan and will be provided with the following:

- A class list, listing those students sitting the exam in the Sports Hall, Special Requirements Room and Computer Lab, if applicable.
- A copy of the exam paper for perusal and last minute error checking.
- Seating information
- Ensure that no bags, mobile phones and food or drink (except a clear water bottle) will be brought into the examination venue. Students have been advised that mobile phones are not permitted in the examination hall and will be reported for attempted cheating if in possession of a mobile phone during the exam.
- Ensure that student is not wearing head wear or sunglasses in the exam room unless it's for religious reasons

DURING PERUSAL

- Answer queries.
- It is the responsibility of academic supervisors to thoroughly check that only the specified materials have been brought into the examination room.
- When allowing the use of calculators/dictionaries it is the responsibility of the academic supervisor to ensure that only allowable calculators/dictionaries are used.
- During perusal, it is the responsibility of academic supervisors to ensure students do not write in any answer booklets. Students may make notes on their exam question paper except in the instance of multiple choice questions being included in their exam paper.

DURING EXAMINATION

- Supervise students.
- Distribute extra examination booklets as required. Should students request water or tissues these are to be taken to the student by the academic supervisor.
- It is expected that academic supervisors will remain throughout the entire examination session. For sessions that have students sitting Special Requirement and/or Computer Exams, it is expected that the supervisor will stay for the Sports Hall perusal period to answer any questions before reporting to the Computer Lab 4_1_18 (Computer exams) and/or room 4_1_30 (Special Requirements). Academic supervisors are then required to return to the Sports Hall for the remainder of the exam session.

END OF EXAMINATION

- Ensure that all students stop work when requested. Pay particular attention to those at the rear of the Sports Hall.
- Ensure that no examination booklets are removed from the examination room.
- Students will remain standing until their examination paper has been collected by the academic supervisor.
- Collect papers as quickly as possible.

It is the responsibility of the academic supervisor to collect all papers for his/her subject. Exam Officers and/or administration staff are NOT permitted to collect completed papers. (Any examination paper inadvertently taken from the examination venue and presented at a later time is deemed compromised and cannot be considered for marking).

At the end of each Sports Hall exam, administration staff will provide supervisors with a signed "Exam Summary", including the total number of students who attended and a list of students absent. Before leaving the Sports Hall, academic supervisors will need to ensure that the number of exam papers collected matches the total number of attendees on the "Exam Summary".

Special Requirement and Computer Exam papers supervised by Student Administration staff at other venues will be collected and retained in the Student Administration office. These papers will be available for collection by Faculty staff the following day.

CHEATING

Academic supervisors should be vigilant during the exam.

If a student is caught cheating, the following procedure should be followed:

- The answer booklet should be confiscated and a new answer booklet given to the student to continue the exam
- The materials used for cheating should be confiscated
- A new answer booklet given to the student to complete the exam
- Note the time of the incident
- Complete an incident report
- Notify the Examinations Coordinator immediately and hand over any answer booklets, materials used and incident report
- The Examinations Coordinator will report the incident to the Dean of the Faculty with supporting evidence.

TOILETS

- Students are not permitted to leave the examination room for the first 30 minutes and the last 10 minute
- Only one student at a time is permitted to enter the bathrooms
- Students must sign the "toilet register" when leaving the examination room to go to the toilet and again upon their return
- Supervisors are not expected to accompany students to the toilet
- Regular checks of the toilets are made by Student Administration staff. They are stationed outside the examination room to monitor students.

PLEASE NOTE

- Students turning up late **will not** be permitted to enter the examination room after the **first 30 minutes.**
- Students in the examination room are not permitted to leave the room within the **first 30 minutes** or during the **last 10 minutes** of the examination.
- Announcements regarding the accuracy of the examination paper should be made during perusal time. No announcements will be made after the start of exams has been announced.

iLearn Exam Checklist

This Faculty Checklist should be used in conjunction with the University *iLearn 9.1 Online Exam Supervisor's Manual*.
For further support, contact HSS iLearn Co-ordinator Ben Sinclair bsinclai@bond.edu.au

Pre-Exam

	Exam must be held in a Computer Lab(s) (students cannot use their own computers)
	Provide adequate staff for invigilation Contact Associate Dean (Staffing) Phillip Fourie pfourie@bond.edu.au if extra staff are required
	Put as Password on the Exam (stops students from taking the exam from home), reveal password verbally just before the exam is to start
	Turn off all iLearn content prior to the exam
	Post 'Exam in Progress' notice on the door(s) of Computer Labs (size A4 sheet)
	Prepare the Lab(s) (see page five, iLearn 9.1 Online Exam Supervisor's Manual)
	Open Lab(s) to students, Check their Names against the Student Roll at the door, allow adequate time for login and exam preparation prior to scheduled start
	Ask students sitting at the back of the room to move forward to a spare seat if possible
	All bags, mobile phones and watches to be placed at front of the room
	Read aloud, clearly and exactly the 'Prior to Examination' Statement (pages five and six, iLearn 9.1 Online Exam Supervisor's Manual)
	Have students complete the 'Online Exam Attendance Form' (available Appendix 2, iLearn 9.1 Online Exam Supervisor's Manual)
	After exam start, collect 'Online Exam Attendance Forms', confirm details against Students ID, and check against Student Roll (they could be taking it from home)
	Check for USB sticks in computers (students might be covering them)

During Exam

	Continually walk around room to check students computers
	Check for USB sticks in computers
	Ensure students computer monitors are facing straight (students cannot turn their monitor to the side)
	Read aloud, clearly and exactly the 'Last 10 Minutes' and 'Conclusion of Examination' Statements (page six, iLearn 9.1 Online Exam Supervisor's Manual)

Post-Exam

	Before students leave, have them check with iLearn support person that their exam has been submitted correctly

If student is suspected of cheating

	Note the room number and computer number
	Email servicedesk@bond.edu.au and ask to have the computer history checked
	Notify Associate Dean (Students) Steve Webb swebb@bond.edu.au immediately

Assessment Policy

Policy number	TLR 4.01
Policy name	Assessment (Issue One)
Applicability	All staff and students
Contact person	Pro Vice-Chancellor, (Teaching and Learning)
Policy status	Approved
Date of approval	1 April 2010
Date last amended	
Date of next review	October 2012
Related policies	University Handbook, Part 2: Academic Regulations COR 4.01 Student Development and Support Policy COR 1.07 Disability Policy

1. Overview

The task of assessing and awarding a grade in each subject is a requirement of the Academic Regulations (University Handbook, Part 2: Academic Regulations, 48). The purpose of this Policy is to supplement the Regulations by describing staff and student responsibilities in more detail.

Faculties may also have additional assessment policies that provide details about the implementation of University-wide regulations and policies at the Faculty level.

Where this Policy relates to an existing Regulation or Policy, the relevant document is noted and a hyperlink provided to the source document on the University's network.

2. Definitions

Apart from the following supplementary definitions, the terms used in this policy are described or defined in the University Handbook (Part 1: Award Regulations, Schedule 1: Glossary and Definitions, p.58).

2.1 **Assessment task** means work such as an examination, test, assignment, practical, internship, clinical placement, presentation or other oral work, project, dissertation or thesis which a student is required to complete for any one or a combination of the following reasons:

a) the fulfilment of educational purposes (for example, to motivate learning, to provide feedback or to demonstrate student performance against expected learning outcomes);
b) to provide a basis for an official record of achievement or certification of competence;
c) to permit grading of the student's performance in the subject.

Assessment tasks may be formative (that is, they guide student learning without contributing to the overall grade for a subject); summative (that is, they contribute to the overall grade for a subject); or a combination of both.

2.2 **Dean,** for the purposes of this policy, includes the Dean's delegate.

2.3 **Progressive assessment** means assessment that occurs during a semester or phase and which contributes to the overall grade for the subject. It does not include an end of semester or barrier examination.

3. Assessment quality

Assessment should be consistent with the expressed learning outcomes for the subject and/or program. In particular, Subject and Program Coordinators should ensure that assessment tasks are:

- **Valid**—that is, they measure achievement against intended learning outcomes;
- **Reliable**—that is, they are consistent across multiple assessors, over time and across different groups of students; and
- **Fair**—that is, they give students equitable opportunities to demonstrate their learning.
- **Accessible** – that is, alternate formats with equivalent content are provided for students with disabling conditions

To give students equitable opportunities to demonstrate their learning, subjects should, where feasible, contain a mix of different assessment tasks without being overly burdensome on staff or students.

The quality of assessment must be assured through a Faculty quality assurance process, and as part of the University's regular cycle of review of subjects, programs and Faculties.

4. Class Attendance

Students are encouraged to attend all classes. Students who miss a class are responsible for obtaining any information or materials provided during the class.

Where attendance is required or participation is assessed, staff must keep appropriate attendance or participation records.

A student who has an unsatisfactory attendance record or who performs poorly at progressive assessment tasks may be identified as being in need of support under the COR 4.01 Student Development and Support Policy.

5. Progressive Assessment

5.1 General

Students may be required to complete progressive assessment tasks, including examinations administered within the Faculty. Assessment criteria and standards should be communicated to students before or at the same time as the assessment task. Staff must ensure that submission and return are reasonably secure processes.

Staff should mark and return progressive assessment tasks within a reasonable time. Feedback should be provided, including constructive criticism, so students understand how they attained the mark or grade awarded.

Students may be penalised for late submission of assessment tasks. Students must be warned in advance of any penalties that may apply and must be notified of any penalty actually incurred.

5.2 Assessment of Group Work

Subject coordinators should ensure that appropriate conditions are set for group work and must make clear the distinction between group work and individual work in their subject outlines.

Coordinators should ensure that, as far as possible, all members of a group contribute in an equitable manner. Differential marks for members based on their contribution to the group may be given if a transparent procedure for doing so is in place and announced at the start of the project.

5.3 Extensions

Subject coordinators may grant extensions for the submission of progressive assessment tasks. The granting of extensions should comply with the following.

1) Extensions should only be granted when there is an appropriate explanation for or justification of the reason. Many students meet assessment deadlines despite adversity, and it is unfair to them if extensions are allowed to others without proper explanation and justification.
2) Applications should be made on or before the due date of the assessment task. An application lodged after the due date should only be accepted if the reason for the extension made it impossible to seek an extension earlier.
3) Applications for extensions should generally be made in writing and supported by documentary evidence. Where the request is made on medical grounds, it should be accompanied by an appropriate medical certificate. Extensions for personal reasons should only be granted in exceptional circumstances, and only if sufficient evidence is given of the circumstances (e.g. letters from employers, funeral notices, letters from doctors and other professionals, etc).
4) In rare cases where students do not wish to divulge the circumstances to a subject coordinator, they should be allowed to speak to a counsellor in Student Services or to the Dean. In such cases subject coordinators should be guided by Student Services or the Dean.
5) The length of the extension granted should reflect the severity of the student's circumstances or the period of the student's illness.
6) Extensions should not normally be granted for the following reasons:

    - Computer crashes – it is the responsibility of the student to ensure proper backup of assessment tasks.
    - Clashes in assessment dates – it is the responsibility of the student to manage their workload.
    - Pressure of paid employment – it is the responsibility of the student to ensure that their subject load reflects the level of work commitments they may have.
    - Travel arrangements – it is the responsibility of the student to make travel arrangements that do not conflict with assessment requirements.

5.4 Deferred Progressive Examinations

The University Regulation for Deferred Examinations (see University Handbook, Part 2: Academic Regulations, 51) applies generally to examinations organised within a Faculty during a semester, except that applications for deferral should be made to the Subject Coordinator rather than to Student Administration.

6. Related Procedures

7. Related Guidelines and Forms

The Provision of Alternative Academic Arrangements for Students with a Disability
Arrangements for Reasonable Adjustment in Examinations for Students with a Disability

ADDITIONAL NOTES

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Office of Learning and Teaching
Bond University
Gold Coast, Queensland 4229
Australia

Phone: +61 7 5595 3345
Facsimile: +61 7 5595 0217
Email: skinash@bond.edu.au

www.bond.edu.au/qtl-resources

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