DESIGNING RUBRICS FOR BETTER ASSESSMENT

Definitions

Criterion – a property or characteristic by which the quality of something may be judged.

Standard – a definite level of achievement aspired to or attained. Standards specify levels of quality (or achievement, or performance)

Specifying criteria nominates qualities of interest and utility but does not have anything to offer, or make any assumptions about, actual quality.

Holistic Rubric: Holistic standards containing a number of implied criteria (e.g. relevance, critical thinking, logic of organisation, presentation)

A. The work is of very high quality throughout; there is clear evidence of mastery over the subject matter; the material is organised logically; the articulation between various parts is smooth and mutually supportive and the <u>whole work is presented nearly faultlessly.</u>

B. The work addresses the specified issue; it shows a reasonable level of critical thinking and discrimination; the development provides adequate supporting arguments with reasons and uses factual data correctly; the work is focussed but lacks the originality and creativity that would lift it to A level; <u>and the work is free of errors in grammar, punctuation and spelling.</u>

C. The work contains mostly relevant material with some that is marginal; the level of organisation could be improved with many possible connections between content and parts not made; the general approach is reproductive with not a great deal of evidence of creative thought or synthesis; <u>the technical production is reasonably competent</u>, but a lack of clarity in expression sometimes produces ambiguity.

<div align="right">Sadler, 2005 p. 186</div>

Analytic Rubric: provides explicit standards for each criterion

Criteria	Developing standard	Competent standard	High standard
Interaction skills	Evidence of efforts to develop and use basic interactive skills such as listening to and contributing ideas.	Evidence of skill in offering ideas listening, responding to and supporting others' ideas and initiatives	Evidence of skill in communicating at both emotional and intellectual levels, establishing rapport and recognizing others' viewpoints

Contributions to group planning	Evidence of recognition of some steps essential to working towards a solution to group problem-solving; and/or	Evidence of acknowledgment and incorporation of others' ideas when planning group problem-solving tasks	Evidence of proactive leadership through reflecting on and learning from the group problem solving experience and developing suggestions for enhanced group performance

UQ Assessment Policy: PPL 3.10.02

http://ppl.app.uq.edu.au/content/3.10.02-assessment

Assessment is making judgements about how students' work meets appropriate standards and drawing inferences from these judgements about students' attainment of learning outcomes. At The University of Queensland assessment is used to achieve the following purposes:

- engage students in productive learning;
- inform teaching and learning decision-making;
- provide evidence of course- and program-level learning outcomes and graduate attributes;
- provide comprehensive, accurate, consistent and dependable certification of student achievement; and
- maintain professional and disciplinary standards.

The University is committed to the provision of high quality, innovative and engaging assessment practices according to the following principles:

Assessment is a *developmental learning activity*: The assessment process engages students in worthwhile learning activities and develops their capacity to make independent judgements about the quality of their own and others' work.

Assessment involves *mutual responsibility*: Teachers have a responsibility to provide opportunities for students to demonstrate learning through appropriate assessment tasks and to support learning through effective feedback, as well as to orient students new to university study to university assessment methods and standards; students have a responsibility to demonstrate evidence of learning through their responses to assessment tasks and to reflect and act on feedback to improve their learning.

Assessment is *criterion-referenced*: Judgements about the quality of students' performance are made by reference to explicit or predetermined criteria and standards and not by reference to the achievement of other students.

Assessment is *transparent*: Students and teachers can see that there is an explicit and logical relationship among assessment tasks; learning objectives; the criteria used as the basis of assessment judgements; and the grades associated with different levels or standards of performance.

Assessment is *credible*: Assessment measures what teachers intend it to and provides a consistent or dependable indication of the quality of students' performance.

Assessment is *fair and equitable*: The content, format and conduct of assessment are designed to ensure that no individuals or groups of students are unfairly advantaged or disadvantaged.

Assessment is a *purposeful, professional activity*: Assessment is integral to course and program design, review and evaluation. There is: quality assurance of assessment at program- and course-level, and within schools and faculties; collaboration with colleagues to provide the whole-of-program approaches that make assessment a coherent experience for students; and ongoing revision and enhancement of assessment practices.

Assessment is _sustainable and workable_: Assessment is conducted within the provisions of current resourcing and is achievable for teachers and students with reasonable effort.

The design and conduct of assessment according to these principles requires effective collaboration between a number of stakeholders associated with teaching and learning including members of academic and professional staff across the University.

PPL 3.10.7 Grading system

http://ppl.app.uq.edu.au/content/3.10.07-grading-system

NUMERIC RESULTS (1-7) AND DESCRIPTORS

Final Grade	Descriptor
1	Fail. Fails to demonstrate most or all of the basic requirements of the course.
2	Fail. Demonstrates clear deficiencies in understanding and applying fundamental concepts; communicates information or ideas in ways that are frequently incomplete or confusing and give little attention to the conventions of the discipline.
3	Fail. Demonstrates superficial or partial or faulty understanding of the fundamental concepts of the field of study and limited ability to apply these concepts; presents undeveloped or inappropriate or unsupported arguments; communicates information or ideas with lack of clarity and inconsistent adherence to the conventions of the discipline.
4	Pass. Demonstrates adequate understanding and application of the fundamental concepts of the field of study; develops routine arguments or decisions and provides acceptable justification; communicates information and ideas adequately in terms of the conventions of the discipline.
5	Credit. Demonstrates substantial understanding of fundamental concepts of the field of study and ability to apply these concepts in a variety of contexts; develops or adapts convincing arguments and provides coherent justification; communicates information and ideas clearly and fluently in terms of the conventions of the discipline.
6	Distinction. As for 5, with frequent evidence of originality in defining and analysing issues or problems and in creating solutions; uses a level, style and means of communication appropriate to the discipline and the audience.
7	High Distinction. As for 6, with consistent evidence of substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critically evaluates problems, their solutions and implications.

Alternate performance labels
- Exemplary, Proficient, Acceptable, Unacceptable
- Substantially Developed, Mostly Developed, Developed, Underdeveloped
- Distinguished, Proficient, Apprentice, Novice
- Excellent, Accomplished, Developing, Beginning
- Exceeds expectation, meets expectation, doesn't meet expectation
- Advanced, Proficient, Functional, Developing
- Capstone, Milestone, Benchmark, Inadequate

A rubric design process

A step-by-step process for designing scoring rubrics for classroom use adapted from Smith, Sadler & Davies (2010) and Mertler (2001) with information compiled from various sources (Airasian, 2000 & 2001; Montgomery, 2001; Nitko, 2001; Tombari & Borich, 1999).

STEP 1: CLARIFY YOUR ASSESSMENT.
1. "What ability or knowledge do you want students to demonstrate?" (ie What intended learning outcomes are you assessing?)
2. "What are you are asking students to do?" (ie The assessment task)

STEP 2: IDENTIFY SPECIFIC OBSERVABLE ATTRIBUTES
Consider what attributes you will be able to identify (both those you want to see as well as those you don't) in your students' product, process, or performance. Specify the characteristics, skills, or behaviors that you will be looking for, as well as common mistakes you do not want to see.

STEP 3: BRAINSTORM EXCELLENT, PASSABLE AND NOT ACCEPTABLE CHARACTERISTICS
Consider the attributes you have identified in step 2 put characteristics into each category of excellent, passable and not acceptable.

- What standard would you expect for a top mark?
- What standard do you expect to pass?
- What characteristics are not acceptable?
- If desired fill in the gap between passable and excellent.

STEP 4 HOLISTIC
Use the characteristics and attributes developed in steps 2 and 3 to develop a narrative _for the collective attributes_ that describes the expected standard of work for each level of performance in your rubric. Start with the top, passing and not-acceptable levels and then fill in gaps as required.

STEP 4 ANALYTIC
Write thorough narrative descriptions for excellent work and poor work for _each individual attribute_. Describe the highest and lowest levels of performance using the descriptors for each attribute separately.

Specify your criteria, ideally criteria should be:

- Independent (each criteria should be independent and not reassessing the same attribute across multiple criteria)
- Singular (each criteria should refer to attributes that will be combined for all performance – i.e. avoid situations where you will want to give a students performance an A and C for the same criteria)
- Minimal, students and assessors struggle to make judgements with too many criteria
- Clear and concise for both assessors and students
- Written without reference to quality (that is what standards are for)

In practice you need to find the balance of these ideals that works most effectively for your students.

Complete the rubric by describing other levels on the continuum that ranges from excellent to unacceptable work _for each attribute_. Write descriptions for intermediate levels of performance for the attribute separately.

STEP 5: COLLECT SAMPLES OF STUDENT WORK THAT EXEMPLIFY EACH LEVEL. These will help you score in the future by serving as benchmarks.

STEP 6: MODERATE YOUR RUBRIC. Use your assessors and peers as testers and reviewers of your rubric. Are there points of confusion or disagreement in using your rubric for making judgements?

STEP 7: REVISE THE RUBRIC, AS NECESSARY. Be prepared to reflect on the effectiveness of the rubric and revise it prior to its next implementation.

References

Airasian, P. W. (2000). _Assessment in the classroom: A concise approach_ (2nd ed.). Boston: McGraw-Hill.

Airasian, P. W. (2001). _Classroom assessment: Concepts and applications_ (4th ed.). Boston: McGraw-Hill.

Chase, C. I. (1999). _Contemporary assessment for educators._ New York: Longman.

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Nitko, A. J. (2001). _Educational assessment of students_ (3rd ed.). Upper Saddle River, NJ: Merrill.

Tombari, M. & Borich, G. (1999). _Authentic assessment in the classroom: Applications and practice_. Upper Saddle River, NJ: Merrill.

Trice, A. D. (2000). _A handbook of classroom assessment_. New York: Longman.

How to use rubrics effectively

Effective use of rubrics relies as much on avoiding some common pitfalls as it does on implementing some positive practices. The key point to remember is not to assume that because the rubric makes sense to you it will make sense to your students.

- Never simply give students your rubric thinking that even after you "talk it through" they will perfectly understand the full meaning of the performance standards you have described.
- Use rubrics as a learning device, not just an assessment device, by getting students to engage with the idea of using rubrics as a guide, helping them (and you) to make and record judgments about performances and to understand what those judgments were based upon. If students can use the rubric process to improve their ability to accurately and realistically judge performances (including their own work) against achievement standards they should be able to perform better as a result.
- Create opportunities in class for students to look at examples of work of varying standards from an assessment task similar to the one they are going to be assessed on. They need to analyse these examples to identify the criteria and how they connect with the ways in which the quality of the performance will be judged and thereby discern variation between the good and poor examples of performance.
- Have students devise their own rubric based on their observations in class, either as a discussion activity for the whole class, in pairs, or as individuals.
- Share your rubric with your students and talk through the differences between their ideas for criteria and the standards for each, and yours as captured in your rubric. Remember – you are the expert judge and the task is to help them come to some convergence between their understanding and yours.
- Use the rubric to frame the feedback you give. Rubrics are essentially qualitative appraisals in that a performance is judged by selecting the pattern of descriptors in the cells of the rubric that best matches the qualities of a performance. Thus, by returning the completed rubric to students they can get diagnostically useful feedback on their work.

Calvin Smith, Royce Sadler, Lynda Davies, (2010) GIHE, Griffith University, Assessment Rubrics retrieved from http://www.griffith.edu.au/__data/assets/pdf_file/0006/245634/Issues-Paper-on-rubrics.pdf Retrieved Jan 2015

Resources

Revised Bloom's Taxonomy

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behaviour important in learning. During the 1990's a new group of cognitive psychologists, lead by Lorin Anderson (a former student of Bloom), updated the taxonomy to reflect relevance to 21st century work. The two graphics show the revised and original Taxonomy. Note the change from nouns to verbs associated with each level.
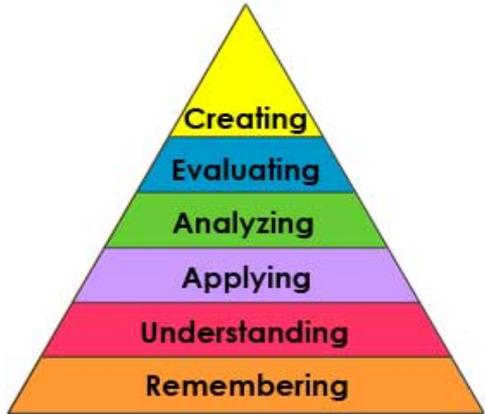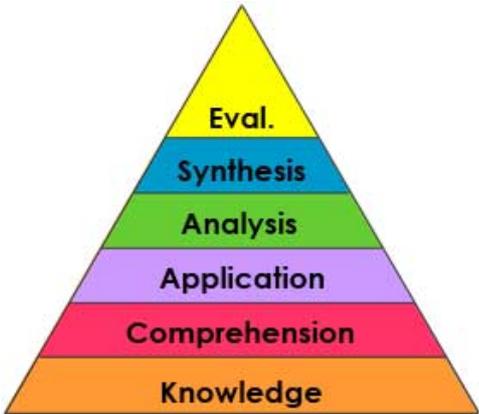
| **Revised Bloom's Taxonomy**	**Original Bloom's Taxonomy**
Remembering: can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, reproduce state
Understanding: can the student explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
Applying: can the student use the information in a new way?	choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.
Analyzing: can the student distinguish between the different parts?	appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
Evaluating: can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate
Creating: can the student create new product or point of view?	assemble, construct, create, design, develop, formulate, write.

From **Bloom's Taxonomy – Richard C. Overbaugh, Lynn Schultz Old Dominion University**http://ww2.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm (Accessed Jan 2015)

Biggs' Structure of, the Observed Learning Outcome (SOLO) taxonomy
http://www.johnbiggs.com.au/academic/solo-taxonomy/

SOLO Taxonomy with sample verbs indicating levels of understanding

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(Biggs, p. 48)
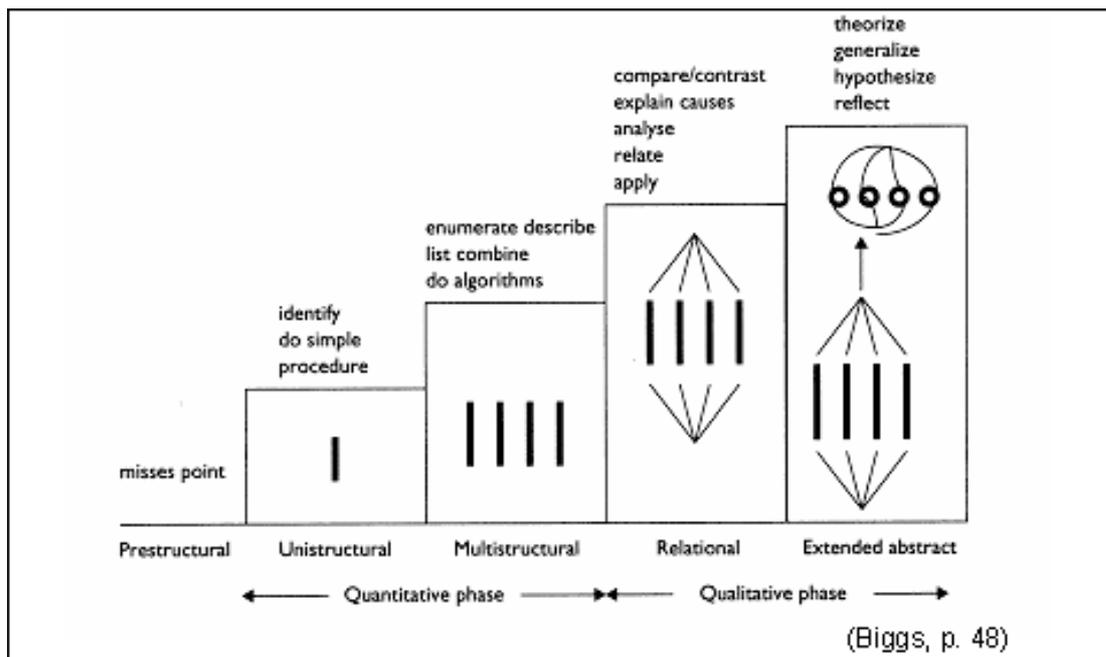
- A **uni-structural** response might outline the influence of nature (genetic inheritance etc) on the development of a child's ethical system, or it might simply define and accurately describe ethical systems.
- A **multi-structural** response might outline the influences of both factors, but never bring together and balance their influences.
- A **relational** response will answer the question, describing the influences, their interaction and their balance.
- An **extended abstract** response would cover the ground of the relational response, but then might, for example, go on to set this in the context of various theories of child development, or of ethical systems.

Biggs, J.B., and Collis, K.F. (1982). Evaluating the Quality of Learning - the SOLO Taxonomy. New York: Academic Press.
http://www.johnbiggs.com.au/academic/solo-taxonomy/

RUBRICS

BLACKBOARD LEARN SHARING RUBRICS

http://www.blackboard.com/Platforms/Learn/Products/Blackboard-Learn/Features/Sharing-Rubrics.aspx

BUSINESS ASSESSMENT CRITERIA GRID – M PRICE & C RUST – HEA

http://78.158.56.101/archive/palatine/files/920.pdf

A RUBRIC FOR LEARNING, TEACHING, AND ASSESSING SCIENTIFIC INQUIRY IN PSYCHOLOGY

Halonen, J. S., Bosack, T., Clay, S., McCarthy, M., Dunn, D. S., Hill, G. W., ... & Whitlock, K. (2003). A rubric for learning, teaching, and assessing scientific inquiry in psychology. Teaching of Psychology, 30(3), 196-208.

VALUE RUBRICS

https://www.aacu.org/value/rubrics

The original VALUE initiative in 2007-09 involved teams of faculty and other educational professionals from over 100 higher education institutions engaged over many months to develop 16 VALUE rubrics for the LEAP Essential Learning Outcomes. Each rubric was developed from the most frequently identified characteristics or criteria of learning for each of the 16 learning outcomes. Drafts of each rubric were then tested by faculty with their own students' work on over 100 college campuses.

Intellectual and Practical Skills
- Inquiry and analysis, Critical thinking, Creative thinking, Written communication, Oral communication, Reading, Quantitative literacy, Information literacy, Teamwork, Problem solving

Personal and Social Responsibility
- Civic engagement—local and global, Intercultural knowledge and competence, Ethical reasoning, Foundations and skills for lifelong learning, Global learning

Integrative and Applied Learning
- Integrative learning

A GENERIC LEARNING RUBIC – J. ORRELL

https://teaching.unsw.edu.au/sites/default/files/upload-files/GenericAssessmentRubric.pdf

This rubric outlines levels of attainment and a range of generic learning attributes that might be taught and assessed in a university education. The following rubric has been developed based on a number of frameworks that describe levels of learning attainment. They include:

- The Solo Taxonomy (Biggs, 1992)
- The Florida Taxonomy of Learning attainment (Grant and Givens Fisher, 1982)
- The Taxonomy of Ethical Moral Reasoning (Perry, 1999)

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Library of 70 rubrics you can import into Turnitin.

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ASSESSMENT STANDARDS: A MANIFESTO FOR CHANGE (THE WESTON MANOR GROUP)

1. The debate on standards needs to focus on how high standards of learning can be achieved through assessment. This requires a greater emphasis on assessment *for* learning rather than assessment *of* learning.

2. When it comes to the assessment *of* learning, we need to move beyond systems focused on marks and grades towards the valid assessment of the achievement of intended programme outcomes.

3. Limits to the extent that standards can be articulated explicitly must be recognised since ever more detailed specificity and striving for reliability, all too frequently, diminish the learning experience and threaten its validity. There are important benefits of higher education which are not amenable either to the precise specification of standards or to objective assessment.

4. Assessment standards are socially constructed so there must be a greater emphasis on assessment and feedback processes that actively engage both staff and students in dialogue about standards. It is when learners share an understanding of academic and professional standards in an atmosphere of mutual trust that learning works best.

5. Active engagement with assessment standards needs to be an integral and seamless part of course design and the learning process in order to allow students to develop their own, internalised, conceptions of standards, and monitor and supervise their own learning.

6. Assessment is largely dependent upon professional judgement, and confidence in such judgement requires the establishment of appropriate forums for the development and sharing of standards within and between disciplinary and professional communities.

FEEDBACK: AN AGENDA FOR CHANGE

1. It needs to be acknowledged that high level and complex learning is best developed when feedback is seen as a relational process that takes place over time, is dialogic, and is integral to learning and teaching.

2. There needs to be recognition that valuable and effective feedback can come from varied sources, but if students do not learn to evaluate their own work they will remain completely dependent upon others. The abilities to self and peer-review are essential graduate attributes.

3. To facilitate and reinforce these changes there must be a fundamental review of policy and practice to move the focus to feedback as a process rather than a product. Catalysts for change would include revision of resourcing models, quality assurance processes and course structures, together with development of staff and student pedagogic literacies.

4. Widespread reconceptualisation of the role and purpose of feedback is only possible when stakeholders at all levels in Higher Education take responsibility for bringing about integrated change. In support of this reconceptualisation, use must be made of robust, research-informed guiding principles, and supporting materials.

5. The Agenda for Change calls on stakeholders to take steps towards bringing about necessary changes in policy and practice.

http://www.brookes.ac.uk/aske/documents/ManifestoLeafletNew.pdf

Limitations of rubrics

Despite their benefits, assessment rubrics do have their limitations. Two of the most important are: (a) it is impossible to capture every conceivable criterion or allocate to performance standards every possible aspect of all possible performances; and (b) as a device for developing students' learning they are

restricted by the problem that what the lecturer writes in the rubric from his/her expert point-of-view may be inscrutable and inaccessible to students, and so meaningless as an aid to learning (Kohn, 2006; D.R. Sadler, 2009).

Sadler (2009) identified these serious flaws in the logic of rubric use. Although a rubric looks like a scheme for explicating the implicit or tacit knowledge underpinning expert judgements, that very task is, in principle, impossible to do completely – especially in a summarised form such as a rubric. There will always be some other criterion, or some aspect of a performance at a particular standard, that goes un-explicated; no attempt to capture all aspects of expert judgement can escape this problem of the indeterminacy of the criteria and standards descriptors. To appreciate the problem imagine that you have been working with a rubric and a student challenges the mark they were awarded, claiming that they believe their performance was at a higher standard than the one you judged it to be. As part of your defence you will probably find yourself having to draw on elaborations of the two standards in question (in other words, invoking nuances of, or even extra, criteria within the defined standards). This was what rubrics were meant to eliminate. Furthermore, by definition a rubric is based on an analysis of your expert judgement of holistic performances on assessment tasks, but when analysis is done, the judgement of the whole is necessarily atomised and thereby reduced to the individually-assessed criteria and standards. It is often observed that these do not completely capture all the aspects of a performance, leaving some "remainders" that cannot be explicitly justified in terms of the limited rubric descriptors.

Another problem is that rubrics developed by individual lecturers necessarily represent their ways of thinking about, and understanding of, the content and how they want students to demonstrate their learning through the assessed performance. As a teaching tool that is meant to help students come to an understanding of how expert judgements are made in a discipline, it suffers the flaw that a rubric is usually delivered to students as a prepared structure, not one that students themselves have had a hand in constructing and applying. It is therefore more difficult for them to integrate it with their prior knowledge, experience and understanding. Experiencing a rubric as somewhat foreign runs exactly counter to the earlier expressed hope that the explication helps students learn to make qualitative judgments.

Kohn, A. (2006). The trouble with rubrics. English Journal, 95(4), 12-15.
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Calvin Smith, Royce Sadler, Lynda Davies, (2010) GIHE, Griffith University, Assessment Rubrics retrieved from http://www.griffith.edu.au/__data/assets/pdf_file/0006/245634/Issues-Paper-on-rubrics.pdf Retrieved Jan 2015

Assessment that supports Student's Learning

1. Provide spaced assessed tasks to enable students to allocate sufficient time to study over a suitable time period and avoid 'cramming'.
2. Design the assessment so that students tackle the task appropriately: i.e. they engage in the process of learning rather than simply producing a final product.
3. Give students the opportunity to practice the skills they need for each assessment.

USE FEEDBACK TO ENHANCE LEARNING

4. Provide sufficient and detailed feedback.
5. Focus your feedback on student performance, learning or actions the student can control.
6. Provide timely feedback: while it matters to the student and can be used to improve future performance.
7. Align feedback with the learning goals of the assignment and the assessment criteria.
8. Provide feedback that is appropriate to the student's breadth and depth of background, experience, and level of independence.
9. Feedback needs to be read and noticed.
10. Feedback is acted on by the student.

- Gibbs, G & Simpson, C (2004) 'Conditions under which assessment supports students' learning', *Learning and Teaching in Higher Education*, Issue 1

1. These tips have adapted from the University of Kent, based on Gibbs, G & Simpson, C (2004) 'Conditions under which assessment supports students' learning', *Learning and Teaching in Higher Education*, Issue 1., and Brown, S, Race, P & Smith B, (1996) *500 Tips on Assessment*, Kogan Page: London.

http://brown.edu/about/administration/sheridan-center/teaching-learning/assessing-student-learning/top-ten-tips