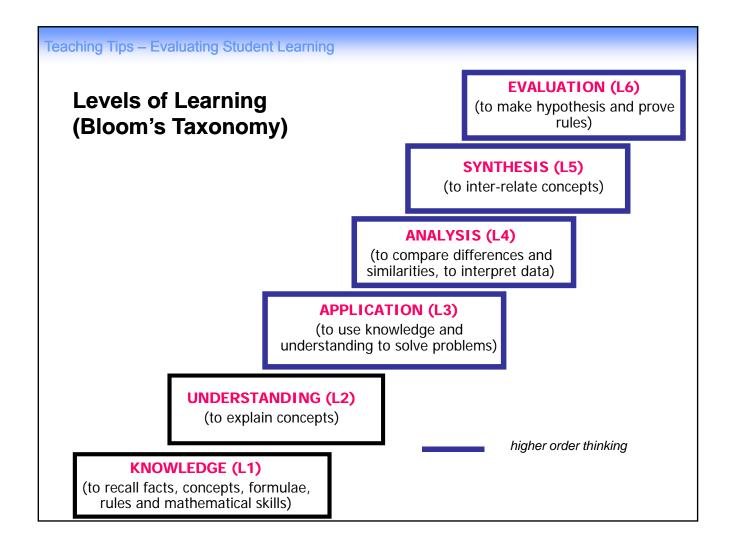


Teaching Tips – Evaluating Student Learning A Quick Look on Bloom's Taxonomy V $\overline{\mathbf{A}}$ **Planning for Evaluation Constructing A Test** ∇ **Administering Quizzes/Tests** V **Giving Prompt Feedback to Students** $\overline{\mathbf{A}}$ **Using Assessment Information to Improve** \mathbf{V} **Teaching Grading Guidelines** V **Additional Tips Pertaining to Effective** $\overline{\mathbf{A}}$ **Learning Assessment**



Level of Learning	Skills Demonstrated
Knowledge (L1)	 observation and recall of information knowledge of dates, events, places knowledge of major ideas mastery of subject matter Question Cues: list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Understanding (L2)	 use information use methods, concepts, theories in new situations solve problems using required skills or knowledge Questions Cues: apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Application (L3)	 understanding information grasp meaning translate knowledge into new context interpret facts, compare, contrast order, group, infer causes predict consequences Question Cues: summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend

Adapted from: Bloom, B.S. (Ed.) (1956) Taxonomy of Educational Objectives: The Classification of Educational Goals: Handbook I, Cognitive Domain. New York; Toronto: Longmans

Level of Learning	Skills Demonstrated
Analysis (L4)	 seeing patterns organization of parts recognition of hidden meanings identification of components Question Cues: analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis (L5)	 use old ideas to create new ones generalize from given facts relate knowledge from several areas predict, draw conclusions Question Cues: combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
Evaluation (L6)	 compare and discriminate between ideas assess value of theories, presentations make choices based on reasoned argument verify value of evidence recognize subjectivity Question Cues assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

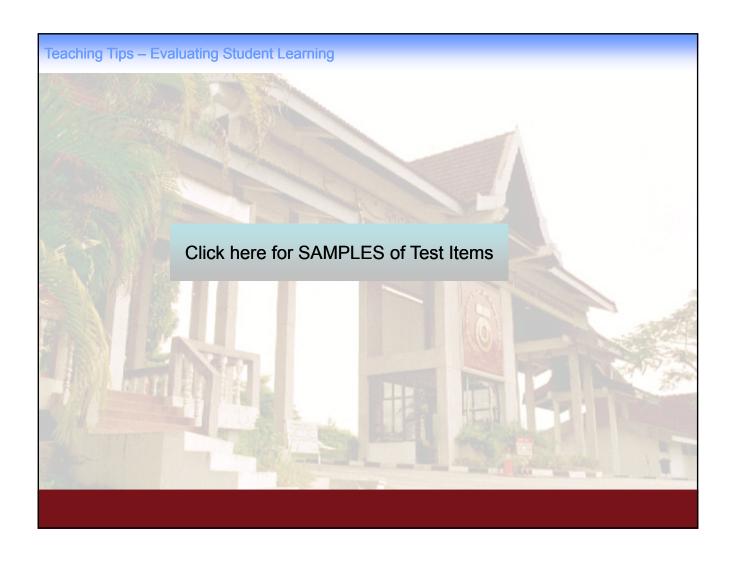
Adapted from: Bloom, B.S. (Ed.) (1956) Taxonomy of Educational Objectives: The Classification of Educational Goals: Handbook I, Cognitive Domain. New York; Toronto: Longmans

Assessment Guides for For Competency-Oriented Subject

DACUM Rating Scale

Can perform this task/competency with more than acceptable speed and quality and with initiative and adaptability and can lead others in performing this task	6
Can perform this task/competency with more than acceptable speed and quality and with initiative and adaptability to special problem situations	5
Can perform this task/competency without supervision and assistance with more than acceptable speed and quality of work	4
Can perform this task/competency without assistance and/or supervision	3
Can perform this task/competency satisfactorily, but requires periodic supervision and some assistance	2
Can perform this task/competency but not without constant supervision and some assistance	1
Cannot perform this task/competency satisfactorily for participation in work environment	0

Retrieved from http://www..chebucto.ns.ca/~ac200/DACUMscale.html)



Planning for Evaluation:

☑ Effective evaluation should be multidimensional. Deploy a combination of evaluation methods that provide a more complete and accurate picture of learning; short quizzes, tutorials, group work, short tests, final test, etc.

✓ Plan your evaluation schedule (over the whole semester) FAIRLY before the semester starts. You may find a mapping matrix like this useful:

Types of Assessment	Weightage (%)	Level of Knowledge/Skills to be Acquired						
Assessment	(70)	L1	L2	L3	L4	L5	L6	
Quizzes	5	√			1			
Tutorials	7		√	√	7	-8		
Group Work	8	1		-6	√	√		
Test 1	10	√	V	V		1	3	
Test 2	15	√	1	√			9	
Final Test	50	1	1	- √	√	1		
Generic Skills	5			l like			-	

Planning for Evaluation (cont):

- Discuss with your students about the evaluation schedule.
- ✓ Make these information KNOWN to all students during the first meeting/week. It is useful to specify dates (or approximate) showing when a particular assessment would be held or due for submission.
- ☑ Give lucid and frequent messages to students about the course objectives and learning outcomes to be evaluated.
- Students may need a practice test to get familiar with your test content and format. It would be helpful to run test EARLY in the semester and consider discounting the first test should the result are unexpectedly poor.

Teaching Tips – Evaluating Student Learning Planning for Evaluation (cont): ✓ You MUST bear these in mind in your evaluation plan: Evaluation are primarily designed to measure the student's acquisition of the required learning outcomes (where students end up) Evaluation must also function to provide information pertaining to student's experiences that lead to those outcomes (the curricula, teaching, and kind of student effort, etc).

Constructing a Test:

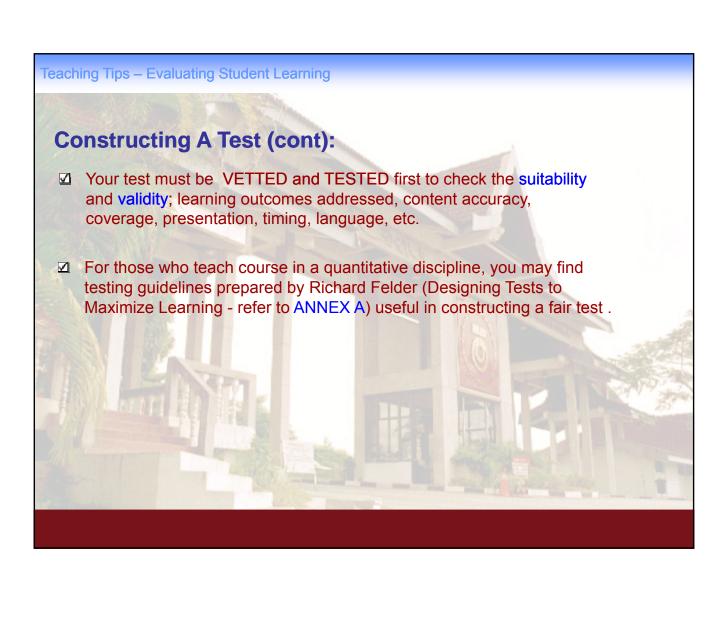
☑ Construct your test item based on LEARNING OUTCOMES and level of knowledge/skills to be acquired. Regardless of your teaching experience, you would always find a mapping matrix like this useful in constructing a 'fairly composed' test:

Final Test (50%)

Learning	Weightage	Item	Level of Knowledge/Skills to be Acquired					
Outcomes	(%)	Nos.	L1	L2	L3	L4	L5	L6
		Q01		√	V			36
LO1	377	Q02	√	√	√	1		18
1.00								
LO2		1	Ja.					Jay.
LO3	Y		9 1				B. 100	

Constructing a Test (cont):

- ☑ These are some basic principles in constructing fair test items:
 - Test item should be covered in lectures, assignments, etc
 - Test item should not be tricky, with unfamiliar twist that requires students to work out on the spur of the moment
 - If a test item comprises of several sub-items Arranging them in appropriate sequential order (e.g. according to levels of learning) may help reducing student's anxiety as well as increases his/her level of confidence
 - Test item should be of appropriate length
- Never set a test item that you are not ready to answer yourself. Practice the habit of writing model answers to your items and using them to help students appreciate what you want. Asking your fellow colleagues to review and try out your test would be very useful.



Administering Quizzes/Tests:

- Conduct quizzes and tests as scheduled
- Observe the 'right timing' to conduct quizzes and tests as it predominantly determines the test validity
- ☑ In case you are using Multiple-Choice Question (MCQ) test to a fairly large number of students - It is practical to use several sets of similar tests and make sure students sitting in adjacent rows are given different sets of MCQ tests
- ☑ Pay attention to various forms conventional as well as sophisticated 'cheating' during the testing session!

Giving Prompt Feedback to Students:

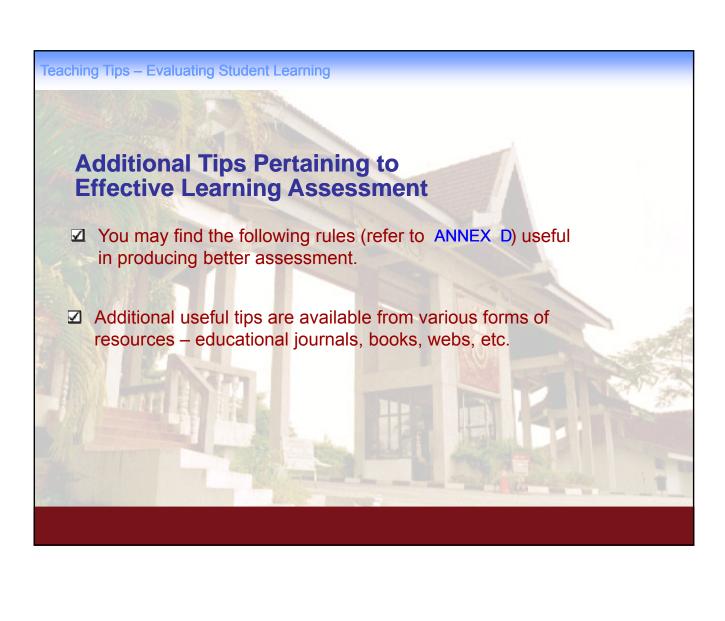
- Mark and process the quizzes, tests etc. promptly based on a clear and transparent marking scheme.
- Give students immediate feedback; test score obtained, comments on strength and weakness, constructive suggestions to improve learning, etc
- Discuss the results with students in the class. Utilize this discussion session to train and improve student's problem solving skills by 'expanding' the tasks.
- Whenever possible, entertain those who require individual attention. Always remember your roles as a gatekeeper as well as a coach!
- ☑ Establish a formal procedure for students to complaint about test grades

Using Evaluation Information to Improve Teaching:

- ☑ The evaluation information can be very resourceful! Manage the effectively and make full use of them to improve your teaching as well as student learning.
- ✓ Learn from your students' mistakes. Use assessment to discover their misunderstandings, then modify teaching to address them.
- ☑ Critically analyze the information gathered from various forms of evaluation and perform SELF-REFLECTION about your teaching.
- ☑ Plan and execute 'remedial' action accordingly; change the teaching approach, reinforce the pre-requisite foundation, organize a re-test, etc

Grading Guidelines:

- Avoid the following in your test grading:
 - Excessively harsh grading, with little distinction being made between major conceptual errors and minor calculation mistakes
 - ✓ Inconsistent grading
- ✓ For those who teach course in a quantitative discipline, you may find guidelines prepared by Richard Felder useful in the test grading (refer to ANNEX B).
- ✓ You may also find the Grading Guidelines (ANNEX C) helpful if you are teaching lecture-type under-graduate courses.



ANNEX A:

Felder's Guidelines on Test Design – Test Construction

(Refer to Richard. M. Felder (2002) Designing Tests to Maximize Learning *J. Prof. Issues .in Engr. Education & Practices*, 128 (1), 1-3 for full details)

- ✓ Test on what you teach.
- ✓ Consider handling out a study guide one to two weeks before each test.
- ✓ Minimize speed as a factor in performance on tests.
- ✓ Always work out a test from scratch when you have what you think is the final version, then revise it to eliminate the flaws you discover and try it again.
- ✓ Set up multiple-part problems so that the parts are independent!
- ✓ Design 10-15% of the test to discriminate between A-level and B-level performance.
- ✓ Don't deliberately design tests to make the average grade 60 or less.
- ✓ Be generous with partial credit on time-limited tests for work that clearly demonstrates understanding and penalize heavily for mistakes on homework, where students have time to check their work carefully.
- ✓ If you give a test on which the grades are much lower than you anticipated and you believe some of the responsibility is yours, consider making adjustments.
- ✓ If you give a test on which the grades are much lower than you anticipated and you believe some of the responsibility is yours, consider making adjustments.
- ✓ If you are teaching a large class and use teaching assistants to grade tests, take precautions to assure that the grading is consistent and fair.
- ✓ Institute a formal procedure for students to complain about test grades.

ANNEX C:

GARISPANDUAN PENGREDAN MATA PELAJARAN BERBENTUK KULIAH

(source: Abu Bakar Hashim, Faculty of Education, UTM)

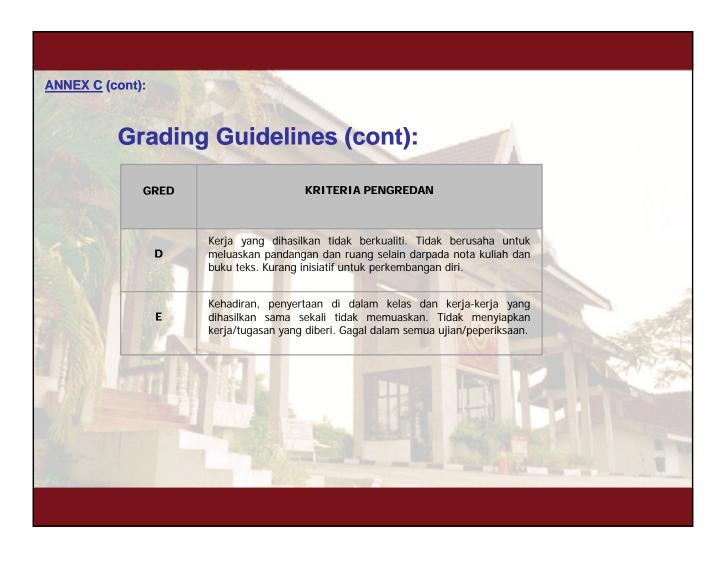
Panduan ini bertujuan untuk memaklumkan kepada pelajar tentang kriteria yang digunakan dalam pengredan sesuatu kursus yang dijalankan dalam bentuk kuliah. Melalui panduan ini, pelajar diharapkan dapat menentukan matlamat dan ekpektasi kendiri, sementara pensyarah pula boleh mengunakannya sebagai panduan dalam memberikan pengredan yang adil kepada pelajarnya.

Pelajar digalakkan berbincang dengan pensyarah untuk memahami sepenuhnya implikasi kriteria yang dinyatakan. Ini bertujuan membantu mereka merancang aktiviti pembelajaran yang selaras dengan matlamat kursus dan juga matlamat peribadi mereka.

ANNEX C (cont):

Grading Guidelines (cont):

GRED	KRITERIA PENGREDAN
A	Pelajar menunjukkan pencapaian cemerlang, memahami dan menguasai kandungan kursus dengan baik. Dapat menyampaikan pengetahuan yang diperolehi dengan tepat dan berkesan, sama ada secara lisan atau penulisan. Dapat mendemonstrasikan sikap, perlakuan dan kemahiran tertentu yang seharusnya diperolehi daripada kursus yang diikuti. Mengambil dan menyempurnakan semua ujian, kuiz, peperiksaan dan tugasan dengan cemerlang. Menunjukkan usaha perkembangan diri. Pembacaan yang luas mengenai bidang dan skop kursus. Kehadiran dan penglibatan aktif di dalam kelas. Kebolehan membantu orang lain memahami kandungan kursus. Kebolehan memimpin perbincangan. Menghasilkan penulisan (tugasan) yang bermutu.
В	Menepati sebahagian besar daripada kriteria untuk Gred A tetapi menunjukkan kelemahan tertentu dalam setengah-setengah usaha untuk sampai ketahap cemerlang.
С	Memperolehi dan menunjukkan penguasaan ilmu pengetahuan yang memadai. Keseluruhan kerja dan sikap berada pada tahap sederhana.



ANNEX D:

FOURTEEN RULES FOR BETTER ASSESSMENT IN HIGHER EDUCATION

(source: Learning to Teach in Higher Education, Paul Ramsden)

- 1. Link assessment to learning: focus first on learning, second on encouraging effort, and third on grading; assess during the experience of learning as well as at the end of it; set tasks that mimic realistic problems whenever possible; reward integration and application.
- 2. Never assess without giving comments to students about how they might improve.
- 3. Learn from your students' mistakes. Use assessment to discover their misunderstandings, then modify teaching to address them.
- 4. Deploy a variety of assessment methods.
- 5. Try to get students participating in the assessment process, through:
 - discussions of appropriate methods and how the methods relate to the course goals
 - joint staff-student design of assessment questions and negotiation of criteria for success and failure
 - self and peer assessment activities
 - offering students responsible choice among different methods
- 6. Give lucid and frequent messages, both in the assessment questions you set and in your course goals, that memorization, reproduction, and imitation will be penalized and that success in your courses will only be achieved through decisive demonstrations of understanding.

ANNEX D (cont):

- 7. Think about the relation between reporting and feedback; justify on educational grounds either the separation or the combination of the diagnostic and summative functions of a particular test, rather than blindly applying an algorithm such as 'No assessment for feedback should count for a mark' or 'Every assessment should count or students won't bother with it.'
- 8. Use multiple-choice and other 'objective' tests very cautiously, preferably in combination with other methods. When numbers of students and time permit alternative techniques (see 6 above), use these.
- In subjects involving quantitative manipulations, always include questions requiring explanations in prose (such as 'What does it mean in this case to say that the standard deviation is 1.8?) as well as numerical examples
- 10. Focus on validity (is what you are measuring important?) before reliability (is your test consistent?). Try to avoid the temptation to test trifling aspects because they are easier to measure than important ones
- 11. Do everything in your power to lessen the anxiety raised by assessments
- 12. 'Examinations are formidable even to the best prepared, for the greatest fool may ask more than the wisest man can answer' (Colton). Never set an assignment or examination question you are not ready to answer yourself. Practice the habit of writing model answers to your questions and using them to help students appreciate what you want
- 13. Reduce the between-student competitive aspects of assessment while simultaneously providing inducements to succeed against a standard (through using assessments of group products and deriving standards from several cohorts of students, for example).
- 14. Be suspicious of the objectivity and accuracy of all measures of student ability and conscious that human judgment is the most important element in every indicator of achievement