

Workshop

Developing Grading Criteria for ILOs

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Developing Grading Criteria for ILOs

Activities of the workshop

- 1. *Discuss* direct and indirect grading of ILOs.**
- 2. *Practise* developing grading criteria for ILOs.**
- 3. *Discuss* appropriate assessment weighting of ILOs.**
- 4. *Practise* deriving appropriate assessment weightings for ILOs.**
- 5. *Discuss* ways of deriving final grade from multiple grades.**

Ultimate Intended Outcome

***Develop* grading strategies and criteria for your own courses.**

Assessing by marks or grades?

Assessing by Marks

For:

- **Used to it.**
- **Seems to be the logical way to assess in certain courses.**
- **Logistically easy.**

Against:

- **Defines quality in terms of accumulating small quantities.**
- **Measurement error also accumulates, thus invalidating fine discriminations. E.g. there is no valid difference between 74 and 75, yet to the student it can make a BIG difference -- an A or a B! Or worse, the difference between pass or fail.**
- **Sends different message to students (backwash).**

Assessing by Grades

Student's performance should be assessed against the ILOs being assessed – *criterion-referenced*.

The grading criteria should clearly define the *standards and quality of achievement of the ILOs* expected of each grade.

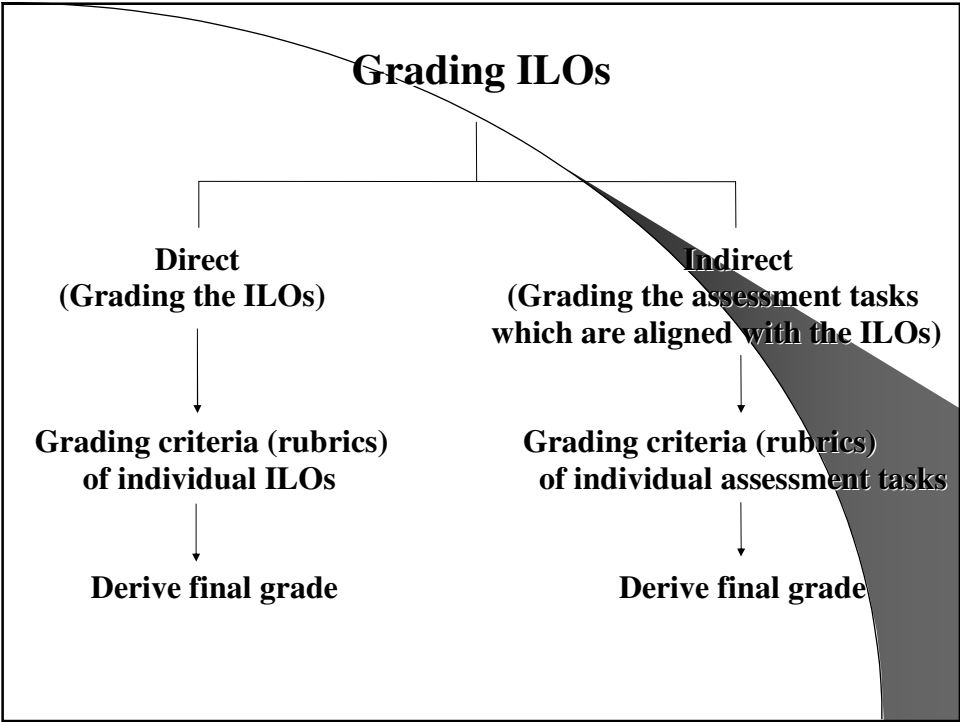
Based on the evidence presented in the students' work, grading should be given to reflect *how well the ILOs have been achieved* based on the evidence presented in the work.

Grading at CityU

Letter Grade	Grade Point	Grade Definitions
A+	4.3	Excellent
A	4.0	
A-	3.7	
B+	3.3	Good
B	3.0	
B-	2.7	
C+	2.3	Adequate
C	2.0	
C-	1.7	
D	1.0	Marginal
F	0.0	Failure
P		Pass

Grading Criteria for ILOs

Letter Grade	Grade Definitions	Criteria (Qualities / standards of achievement of the ILOs expected of the grade)
A+	Excellent	
A		
A-		
B+	Good	
B		
B-		
C+	Adequate	
C		
C-		
D	Marginal	
F	Failure	
P	Pass	



Example of Indirect Grading Criteria for ILOs Grading the Assessment Task (an argue-a-case assignment)

	Weight	D	C	B	A
Introduction	10				
Main discussion/ argument	50				
Summary/conclusions	20				
References	10				

Details see separate handout.

Example of Direct Grading Criteria of ILOs

ILOs	Marginal D 1.0	Adequate C- C C+ 1.7 2.0 2.3	Good B- B B+ 2.7 3.0 3.3	Excellent A- A A+ 3.7 4.0 4.3
	Explain	Able to identify and briefly write about limited points. Very little evidence of using these points to provide reasoning to why they are inter-related.	Able to identify a number relevant points with some details. Use these points to provide a fair reasoning or causality. No evidence of a comprehensive overview of reasoning or causality.	Able to identify a full range of relevant points with details. Supported by relevant literature. Points are organized to provide a comprehensive and cohesive reasoning or causality.
Reflect	Able to use available information to self-evaluate and identify limited aspects of own strengths and weaknesses in a general sense. No evidence of suggestions of ways to improve performance. No evidence of theory being used in Self-evaluation.	Able to use available information to self-evaluate and identify more aspects of own strengths and weaknesses in a general sense. Little application of theory in self-evaluation and limited suggestions of ways to improve performance.	Able to use available information to self-evaluate and identify the full range of own strengths and weaknesses. Self-evaluation is based on theory. Increasingly able to suggest ways to improve performance in a specific context.	As in "Good". Able to generalize self-evaluation to beyond existing context. Suggest ways of improving performance to real-life professional contexts.
Create rapport	Greets client, smiles frequently.	Asks general-personal questions.	Continually tries to put client at ease.	Adjusts questions/procedures to suit perceived degree of client comfort.

Departments need to decide whether to use direct or indirect grading of the ILOs.

Developing Grading Criteria for ILOs

Exercise

Develop grading criteria of your Course using either

- 1. direct grading of the ILOs,*
- or*
- 2. indirect grading of the assessment tasks.*

Share your grading criteria with the group.

Appropriate Weighting of the ILOs?

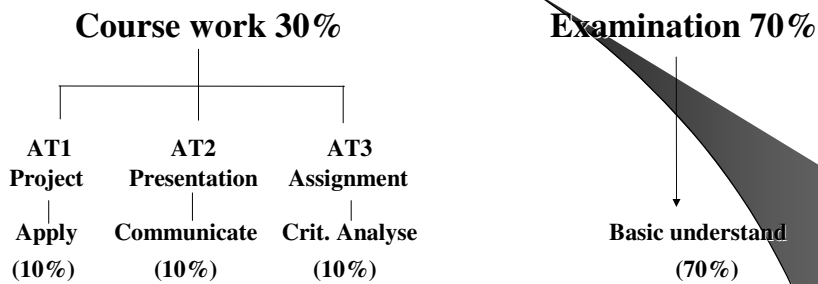
Scenario 1: Equal weighting of the ATs
50% course work, 50% examination

ILOs	Course work	Examination
1. Understand critical concepts	Assignment	√
2. Critical analyse and evaluate	Research review	X
3. Design a system	X	√
4. Invent and explain	Project (invent)	√ (explain)

No problem?
Each of the ILO has been equally assessed.
Is that what we want?

Appropriate Weighting of the ILOs?

Scenario 2: One AT per ILO &
disproportionate weighting of the ATs



Problem:
Lower level ILO “basic understanding” is unduly over-assessed (7 times higher) compared to the higher level ILOs “apply”, “critically analyse”. Anyway, students cannot apply or critically analyse if they do not have any basic understanding.

Appropriate Weighting of the ILOs?

Scenario 3: More than 1 AT per ILO & disproportionate weighting of the ATs

ILOs	Course work 30%	Examination 70%	Wt/ILO
1. Distinguish & compare	√ 6%	√ 23%	29%
2. Identify	√ 6%	√ 23%	29%
3. Case study	√ 6%	X	6%
4. Implement	√ 6%	X	6%
5. Understand	√ 6%	√ 23%	29%

Problem:

Higher level ILOs such as 3 and 4 are only given 1/5 the weighting of the ILOs 1, 2, and 5.

Appropriate Weighting of the ILOs

Exercise

Discuss

- 1. The impact of the 3 scenarios on the relative importance of the ILOs.*
- 2. How could the problems be solved?*

Appropriate Weighting of the ILOs

Two variables to consider:

- **Relative importance of the ILOs (factor h).**
- **Relative effectiveness of the assessment tasks in assessing the ILOs (factor k).**

Appropriate Weighting of the ILOs

Possible Solution 1: Change the weights of the ATs.

ILOs	Course work 70%	Examination 30%	Wt/ILO
1. Distinguish & compare	10%	10%	20%
2. Identify	10%	10%	20%
3. Case study	20%	X	20%
4. Implement	20%	X	20%
5. Understand	10%	10%	20%

*Now all ILOs have the same weight. Is that what you would want?
At least it is a great deal better than the original, not to say convenient.*

Appropriate Weighting of the ILOs

Possible solution 2: Weight the ILOs not the ATs.

- . Weight the ILOs according to their relative importance to your course (factor h).
- . Use more than one AT to address the more important CILOs. All ATs of equal weight.

Assessment Tasks Course ILOs (factor h)	AT1	AT2	AT3
Course ILO 1 (3)	√	√	√
Course ILO 2 (2)	√	√	
Course ILO 3 (1)		√	
Course ILO 4 (1)			√
Course ILO 5 (1)		√	

Note: Use single digit weights not percentages.

Appropriate Weighting of the ILOs

Possible solution 3: Weight the ILOs.

- . Weight the ILOs according to their relative importance to your course (factor h).

Assessment Tasks Course ILOs (factor h)	AT1	AT2	AT3
Course ILO 1 (3)			
Course ILO 2 (2)			
Course ILO 3 (1)			
Course ILO 4 (1)			
Course ILO 5 (1)			

Note: Use single digit weights not percentages.

Appropriate Weighting of the ILOs

Possible solution 4: Weight both the ILOs and the ATs.

- . Weight the ILOs according to their relative importance to your course (factor h).
- . Weight each assessment task (factor k) on a 2-point scale according to its effectiveness in assessing that ILO. 1 = minor focus on the ILO; 2 = major focus on the ILO.

Assessment Tasks Course ILOs (factor h)	AT1 (k = 1 or 2)	AT2 (k = 1 or 2)	AT3 (k = 1 or 2)
Course ILO 1 (3)	(2)	(2)	
Course ILO 2 (2)	(2)	(1)	
Course ILO 3 (1)	(1)	(1)	
Course ILO 4 (1)			(1)
Course ILO 5 (1)		(1)	

Appropriate Weighting of the ILOs

Possible solution 4: Weight both the ILOs and the ATs.

Calculate weighted ILO grade point (S) in the ATs.

Assessment Tasks Course ILOs (factor h)	AT1 (k = 1 or 2)	AT2 (k = 1 or 2)	AT3 (k = 1 or 2)
Course ILO 1 (3)	(2) $S1 = 3.7 \times h \times k / h+k$	(2) $S4 = 4.0 \times h \times k / h+k$	
Course ILO 2 (2)	(2) $S2 = 2.7 \times h \times k / h+k$	(1) $S5 = 3.0 \times h \times k / h+k$	
Course ILO 3 (1)	(1) $S3 = 3.3 \times h \times k / h+k$	(1) $S6 = 3.0 \times h \times k / h+k$	
Course ILO 4 (1)			(1) $S8 = 3.0 \times h \times k / h+k$
Course ILO 5 (1)		(1) $S7 = 4.0 \times h \times k / h+k$	

Deriving a Weighted Grade Point for ILOs and ATs from Multiple Grades

Assessment Tasks Course ILOs (factor h)	AT1 (k = 1 or 2)	AT2 (k = 1 or 2)	AT3 (k = 1 or 2)
Course ILO 1 (3)	(2) $S1 = 3.7 \times h \times k / h+k$	(2) $S4 = 4.0 \times h \times k / h+k$	
Course ILO 2 (2)	(2) $S2 = 2.7 \times h \times k / h+k$	(1) $S5 = 3.0 \times h \times k / h+k$	
Course ILO 3 (1)	(1) $S3 = 3.3 \times h \times k / h+k$	(1) $S6 = 3.0 \times h \times k / h+k$	
Course ILO 4 (1)			(1) $S8 = 3.0 \times h \times k / h+k$
Course ILO 5 (1)		(1) $S7 = 4.0 \times h \times k / h+k$	

Weighted ILO grade point across ATs = $S1 + S4 / 2$

Weighted AT grade point across ILOs = $S1 + S2 + S3 / 3$

Appropriate Weighting of the ILOs

Exercise

- 1. Refer to the possible solutions 1, 2, 3 and 4, select one that would be appropriate to your course.*
- 2. Complete the relevant table for assessing the ILOs.*

Appropriate Weighting of the ILOs

Possible Solution 1: Change the weight of the ATs.

ILOs	Course work __%	Examination __%	Wt/ILO
1.			
2.			
3.			
4.			
5.			

Appropriate Weighting of the ILOs

Possible solution 2: Weight the ILOs not the ATs.

- . *Weight the ILOs according to their relative importance to your course (factor h).*
- . *Use more than one AT to address the more important CILOs. All ATs of equal weight.*

Assessment Tasks Course ILOs (factor h)	AT1	AT2	AT3
Course ILO 1 ()			
Course ILO 2 ()			
Course ILO 3 ()			
Course ILO 4 ()			
Course ILO 5 ()			

Appropriate Weighting of the ILOs

Possible solution 3: Weight the ILOs.

- . Weight the ILOs according to their relative importance to your course (factor h).

Assessment Tasks Course ILOs (factor h)	AT1	AT2	AT3
Course ILO 1 ()			
Course ILO 2 ()			
Course ILO 3 ()			
Course ILO 4 ()			
Course ILO 5 ()			

Note: Use single digit weights not percentages.

Appropriate Weighting of the ILOs

Possible solution 4: Weight both the ILOs and the ATs.

- . Weight the ILOs according to their relative importance to your course (factor h).
- . Weight each assessment task (factor k) on a 2-point scale according to its effectiveness in assessing that ILO. 1 = minor focus on the ILO; 2 = major focus on the ILO.

Assessment Tasks Course ILOs (factor h)	AT1 (k = 1 or 2)	AT2 (k = 1 or 2)	AT3 (k = 1 or 2)
Course ILO 1 ()			
Course ILO 2 ()			
Course ILO 3 ()			
Course ILO 4 ()			
Course ILO 5 ()			

Deriving a Final Grade from Multiple Grades

A Holistic Approach

ILOs	AT1	AT2	AT3	AT4	Grade
1. Relate	√	√			A – if all ILOs well achieved but 1 & 2 excellent
2. Apply		√	√		
3. Identify			√		B – if all are well achieved
4. Explain				√	C – if 3, 4 & 5 are well achieved
5. Communicate				√	
					D – if marginal or only 2 ILOs are achieved

Example of Holistic Grading of Assessment Tasks in a Portfolio

Marginal D 1.0	Adequate C- C C+ 1.7 2.0 2.3	Good B- B B+ 2.7 3.0 3.3	Excellent A- A A+ 3.7 4.0 4.3
<p>The pieces of evidence are relevant and accurate, but are isolated, addressing one aspect of the course. Demonstration of understanding in a minimally acceptable way. Poor coverage, no originality, weak justification of portfolio items.</p>	<p>The evidence is relevant, accurate and covers several aspects of the course. Little evidence of an overall view of the course. Demonstrates declarative understanding of a reasonable amount of content. Able to discuss content meaningfully. Good coverage but little Application or integration. Fair justification of items.</p>	<p>The evidence presents a good appreciation of the general thrust of the course. Good coverage with relevant and accurate support. A clear view of how various aspects of the course integrate to form a Thrust or purpose. Good evidence of application of course Content to practice. Portfolio items well justified.</p>	<p>As in “B” but with higher degree of originality and evidence of internalization into personalized model of practice. Good evidence of reflection on own Performance based on theory. Generalizes course content to new and Unfamiliar real-life contexts.</p>

Help our students understand the grading criteria

- . **Remind students of the ILOs to be assessed.**
- . **Explain to students the standards expected of each grade.**
- . **Illustrate with past papers on**
How the grading criteria have been applied.
How grades have been awarded.
How a better grade could have been achieved.
- . **Clarify any problems that students may have.**

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Activities of the workshop

1. *Discuss* direct and indirect grading of ILOs.
2. *Practise* developing grading criteria for ILOs.
3. *Discuss* appropriate assessment weighting of ILOs.
4. *Practise* deriving appropriate assessment weightings for ILOs.
5. *Discuss* ways of deriving final grade from multiple grades.

Ultimate Intended Outcome

Develop grading strategies and criteria for your own courses.

Grading Criteria (Rubrics)

Some useful reference sources

Teacher Created Rubrics for Assessment – U. of Wisconsin
www.uwstout.edu/soe/profdev/rubrics.shtml

Assessment rubrics
<http://edtech.kennesaw.edu/intech/rubrics.htm>

Rubrics
<http://jonathan.muller.faculty.noctrl.edu/toolbox/rubics.htm>

Teacher created rubrics for assessment
www.uwstout.edu/soe/profdev/rubrics.shtml

The Technology Applications Centre for Educator Development
www.tcet.unt.edu/START/assess/rubrics.htm

Centre for Teaching, Learning and Assessment – Indiana University Kokomo
www.iuk.edu/~koctla/assessment/rubrics.shtml

Asquith, I. SOLO taxonomy as a possible tool for the qualitative assessment of students in higher education.
www.tutor.petech.ac.za/EducSupport/art_6.htm

SOLO – an application to the discipline of physiology.
www.life.sci.qut.edu.au/dallemagne/658solotax.htm