



ASSESSMENT

Designing First Year Assessment Strategically

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Designing First Year Assessment Strategically

One of the key aims of UCD's education strategy (2009-2014) is 'To foster early and lasting student engagement', which includes:

'A review and reform of the structure, outcomes, assessment and remediation strategies for first year, and in particular the first semester, to support the transition from second- to third-level and to adapt to the different needs of different students; The further development of approaches to engage and support students, especially in their first year, including small group learning, peer-mentoring, academic advice and mentoring, specific supports for the development of transferable skills and information literacy, and general welfare supports '.

To facilitate this transition to university learning, assessment design in the first year needs to progressively move students from early low-stakes assessment – which build confidence – to more challenging assessments - for achievement. In addition, students need to be **engaged** and **empowered** in their learning experience in order to achieve **the level of social** and **academic integration** for successful First Year learning (Nicol, 2009).

The **First Year Assessment Project committee** has developed a series of resources, based on literature and UCD case studies, to assist in advising academic staff on the first year assessment. These are now available on www.ucd.ie/teaching/resources/assessment/focusonfirstyear

1. The first resource is for module coordinators and is entitled: *Module Design Principles & Practices for First Year Assessment*. It would be useful, in your current strategic role, and as a module coordinator, to first explore the details in this module design resources (for your convenience we have attached it as an appendix at the back of this resource). It is based on the following six module design principles and highlights some comprehensive examples based on the literature.

Table 1:	The Six Design Principles
	1. Allow students, where possible, have opportunity for regular, low stakes assessment with opportunity for feedback on their progress
	2. Develop students' opportunities for in-class self and/or peer review of their learning against assessment criteria
	3. Allow students multiple opportunities for <u>well-structured</u> and <u>supported</u> collaborative learning and its assessment (peer and group-work, project work)
	4. Consider the redesign of the learning sequence of module learning activities in an efficient and effective manner, including the related blended learning opportunities.
	5. Introduce more active/task-based learning which uses more authentic assessments (i.e. subject/discipline identity
	6. Consider the student work-load demands within the module, as well as in parallel modules

2. This second resource, *Designing First Year Assessment Strategically*, based on a similar one given to programme deans for programme planning, focuses on the key issues required in the overview the first year of a programme. This resource develops on some of these module design principles, but elaborates on some of the actions that can be taken at more school/stage/programme design level.

3. A third resource entitled *Five UCD Case Studies of First Year Assessment*, extracted from the *Module Design* resource, is available at: www.ucd.ie/teaching/resources/assessment/focusonfirstyear Many of these cases address several of the module design principles above, in one module. Sometimes these types of modules may also be entitled 'concept', 'theme-based' or 'enquiry-based' modules.

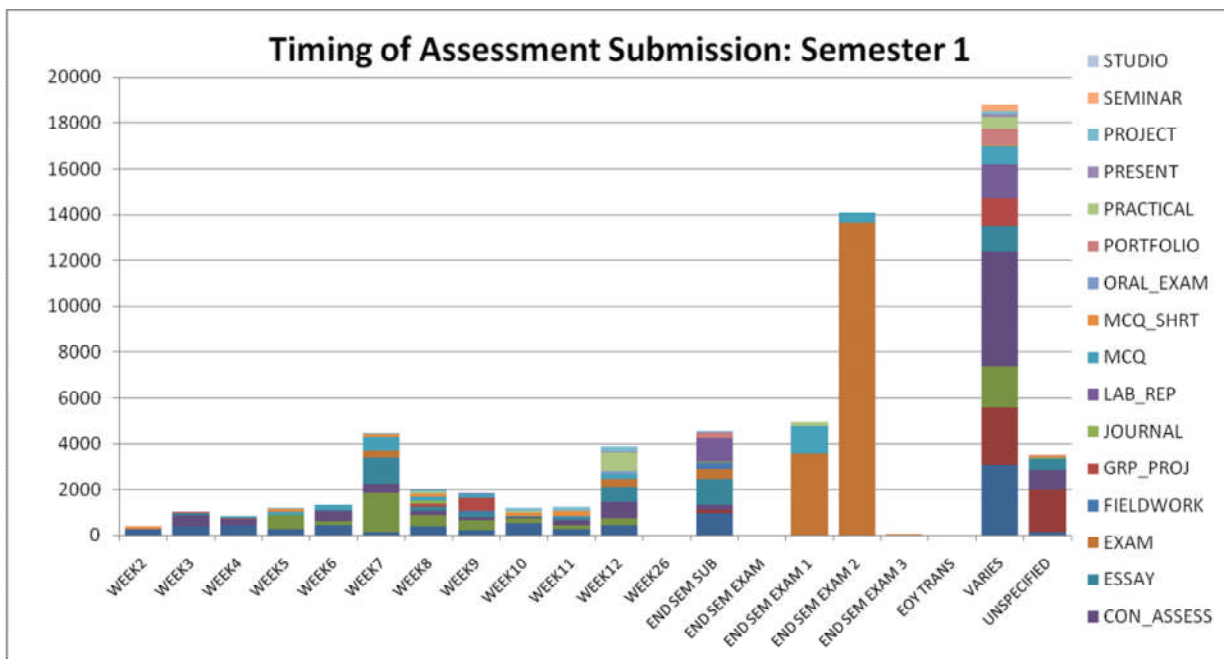
Introduction

The first year of a programme is often designed that students encounter many of the basic concepts in their discipline and in addition, it is often the time in their university education that they experience the largest class sizes. This has often led to: over-reliance on one type of assessment method (i.e. exam, MCQ); overload in assessment; disengagement, at times leading to poor retention rates. In addition, due to the design of many programme, a student make also take modules from many different schools. As a result there is a need to step-back and take a stage overview of the students' experiences of assessment in this important first year. In particular, how students learn and are assessed in the first semester.

UCD assessment data reports presented to the deans recently (February, 2011), provided some useful statistics around assessment in the first year:

A global view shows that 53.4% of modules have 3 or more assessments, 33% of modules have 2 assessments. The global average is 2.8 assessments/module. The cumulative effect for students and staff on some programmes is upwards of 16 assessments per semester. There are discernible peaks of assessment activity: in weeks 7&8; 11 &12; and 14-15; Assessment loads vary between semester 1 and semester 2, with semester 1 appearing higher in some instances; There is a high use of summative MCQ's; There is a high proportion and high weighting of exams as a major form of assessment, in addition to substantial continuous assessment activities. (See also Table 1)

Table 1: The timing and Types of assessments in UCD Semester 1.



The key literature around assessment in first year highlights that student should have space designed into the curriculum to allow more in-depth engagement with the programme and to slow down the often fast pace of content coverage. In addition, students need to be engaged and empowered in

their learning experience in order to achieve the level of social and academic integration for successful first year learning (Nicol, 2009).

In addition, to the six module design principles (see Appendix 1 for more details) there are some additional principles that can be considered in a more strategic over-view of the assessment practices.

Table 1: The Six Module Design Principles
1. Allow students, where possible, have opportunity for regular, low stakes assessment with opportunity for feedback on their progress
2. Develop students' opportunities for in-class self and/or peer review of their learning against assessment criteria
3. Allow students multiple opportunities for <u>well-structured</u> and <u>supported</u> collaborative learning and its assessment (peer and group-work, project work)
4. Consider the redesign of the learning sequence of module learning activities in an efficient and effective manner, including the related blended learning opportunities.
5. Introduce more active/task-based learning which uses more authentic assessments (i.e. subject/discipline identity)
6. Consider the student work-load demands within the module, as well as in parallel modules
Additional three strategic design principles
7. Design space into the curriculum for more engagement in the discipline/subject
8. Develop a coherent approach to use of assessment, i.e. mapping assessments to 'core' learning outcomes for the stage
9. Implement a range of approaches to streamline assessment

Programme/Stage Approach:

Design space into the curriculum for more engagement in the discipline/subject

There are many examples in the theoretical literature on curriculum design on the avoidance of too wide a scope (coverage) of information, and its impact then on assessment practices. There is a danger in trying to achieve a very wide scope in a curriculum that *'as students race through the topics they have less opportunity to engage in the process of sorting, comparing, prioritizing and critiquing... ideas'* (Clark and Linn, 2003). Hussey and Smith (2003, p360) noted *'There is now an abundance of literature to support the contention that effective learning is the result of students interacting deeply with the subject matter supported by a setting that is organised to encourage the engagement of their interests, insights and reflections'*. The effective teacher combines enthusiasm for their subject (Rowland *et al.*, 1998) with a responsiveness to individual and group needs. In doing so, the teacher has to be prepared to shift the locus of control away from her/himself towards the student, thereby reducing the chances of achieving a set of pre-specified outcomes and of 'covering' the syllabus.

Knight (2001) maintained that more complex learning (including creativity) depend on their being slack and space or spare capacity in the system; There should be opportunity for depth study; Curriculum should not be overcrowded; Time for strategic thinking, reflection, planning and portfolio making should be written into programme (Knight, 2001). In addition to this, it appears from the literature that student need time to integrate their understanding of concepts.

Developing from this idea of space, recent curriculum design literature supports the idea of a more *theme-based* approach to curriculum design (Dirkx & Prenger, 1997). Alternatively, organizing 1st year curriculum by *threshold concepts* allows students time to engage with the troublesome knowledge of a discipline (Land *et al.*, 2005; Land *et al.*, 2007). This type of structure helps to prioritize curriculum areas and reduces the speed of coverage mentioned above.

The assessment can now be more aligned with these themes (concepts), this encourages: a) a focus on assessing what is considered to be the most important aspect of the disciplinary knowledge; b) a considered reflection on what method is most appropriate for this theme/concept, and c) a rationalization of the amount of assessment.

By creating more space in the curriculum, it also frees up space for students to develop their learning to learn skills. This can be done by either embedding activities, or designing special modules, that develop skills such as study skills and information retrieval skills. This type of activity introduces 1st year students to the idea of learning to learn in higher education and links with the UCD's Education Strategy (2014) for developing students self-directed, critical and creative thinking skills.

The module size and number bears some relationship with numbers of assessment and therefore particular attention needs to be paid to the potential of over-assessment and the pace at which disciplinary knowledge is addressed within a module. Balancing the amount of disciplinary content with the amount and kind of assessment adopted, to support the acquisition of disciplinary knowledge as well as the testing of learning outcomes needs to be based on firm pedagogical principles. For example at Edinburgh Napier University (2005) a new design process for module assessment was introduced, based

on the following pedagogical principles:

- ensure that every learner is as active as possible;
- design frequent formative assessment;
- put emphasis on collaborative learning (building a learning community);
- consider how learning tasks can be personalised;
- make appropriate use of technology (University of Napier, 2005 p13).

Suggestions from International and UCD case studies or examples:

- A more theme-based approach to curriculum design was used in the *Five UCD Case Studies of First Year Assessment*, extracted from the *Module Design* resource in appendix 1. These are also available at: www.ucd.ie/teaching/resources/assessment/focusonfirstyear

-For more on developing study skills in UCD see the showcase/podcast :

Study Skills for University Learning - Feargal Murphy, College of Arts & Celtic Studies

<http://www.ucd.ie/teaching/showcase/videoshowcases/name,53096,en.html>

Develop a coherent approach to use of assessment, i.e. mapping assessments to 'core' learning outcomes for the stage

Emerging from recent literature, post modularisation, are concepts such as: the integrative curriculum (Fink, 2003; Higgs, 2009), curriculum coherence and programme assessment strategies (Hudson, 2010; Knight, 2000; PASS, 2011). In attempting to develop more coherence by using of a programme-wide approach to assessment (Hudson, 2010), over the duration of a full programme students will have adequate opportunity to be assessed in different ways; receive on-going feedback on their progress; be ensured of a valid and reliable final outcome; and be assessed in both simple and complex tasks (Knight, 2000).

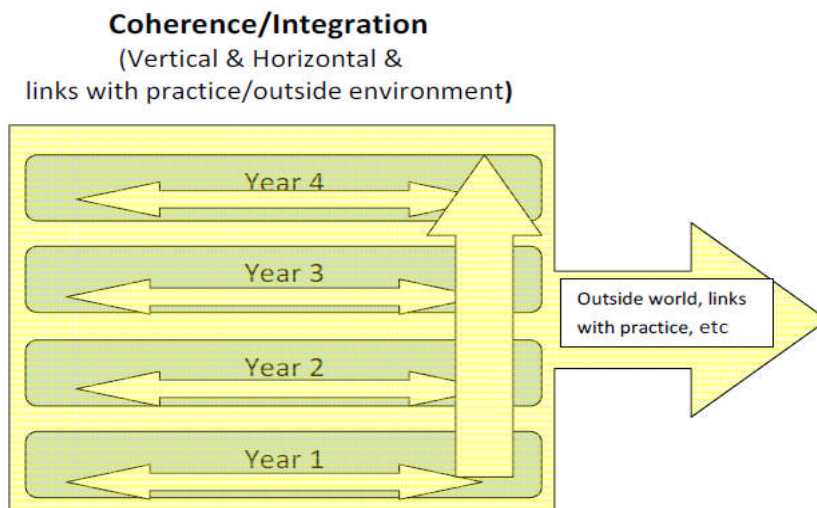
Integrative learning comes in many varieties: connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilising diverse and even contradictory points of view; and, understanding issues and positions contextually (Huber and Hutchings, 2004, p. 13). Clark and Linn's work (2003) would suggest that knowledge integration itself takes time, energy, varied activities and many opportunities to make connections. Gardiner (1996, cited in Diamond, 1998, p85) also supports the idea that the '*most effective curriculum provides multiple opportunities to apply and practice what is learned*'.

Coherence, often interchangeably used with integration, usually incorporates both a horizontal and vertical (sequence) curriculum. In some stage designs, a more horizontal approach to curriculum is emerging, where there are more connections in the learning experiences of core modules that are co-requisites. For example, where a research module and a statistics module could be more integrated in their delivery and assessment, yet still remain two core co-requisite modules.

A Co-requisite



Therefore, each stage of a curriculum should be more coherent: with itself (horizontal integration); with subsequent years (vertical integration); and with the outside world/practice/society.



Curriculum mapping tools are one useful method, which supports coherence in the learning experience by mapping assessments to the programme outcomes (see below for some examples). This activity can also be extended to mapping to the stage/1st year outcomes. This can be more challenging in some programmes where there is high level of service teaching. Consideration on how the first year experience can be made coherent in these situations requires further debate.

Suggestions from International and UCD case studies or examples:

-Curriculum Mapping Tools (cited in, O'Neill, 2009) Among others, authors such as Knight (2000) and Diamond (1998) have proposed some curriculum mapping tools to support in the design and monitoring of assessment at programme level. In addition, institutions such as Murdoch University, Australia have implemented an electronic tool; mapping assessments to their programmes' graduate attributes (Lowe & Marshall, 2004) (see O'Neill, 2009 for further details). Knight recommends viewing programme assessments in relation to the use of high and low stakes assessments and suggests how these can be used more efficiently across a programme (See Table 1).

Table 1: Strategy for Assessment of a Programme (Knight 2000)

- 1) To recognise that some things cannot be reliably assessed and devise alternative ways of making information available to stakeholder
- 2) To invest in reliable assessments of what can be and needs to be reliably assessed ('high stakes assessment')
- 3) To recognise that assessment is not primary a tool for awards, but also an aid to student learning ('low stakes' assessment)
- 4) To use resources freed up by (3) to do (2)

Table 2: Representative of Knight's mapping of programme assessments

	Discipline Specific				Generic Transferrable				
	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute	Graduate Attribute
Year 1	√FP FF	√FP FF	√FP FF	√FP FF	√FP FF		√FP FS		
Year 2	√FP FS	√FP FS	√FP FP	√FP FP	√FP FP	√FP FF			
Year 3	√FP FS HSF	√FP FS HSF	√FP FS HSF	√FP FS HSF	√FP FS HSF	√FP FS		√FP FS AI	√FS AI
Year 4	√HSF	√HSF	√HSF	√HSF	√HSF	√FS HSF	√SF	√FP FS AI	√FS AI

Key:

√= Learning opportunities plainly presented in the majority of courses in this year's programme

FP= Formative, low stakes PEER-assessments

FS= Formative, low stakes SELF-assessments

FF= Formative, low stakes FACULTY-assessments

A1= Faculty give feedback and guidance in student advisement interviews

HSF= High stakes FACULTY-Assessments

Diamond presents a basic competency checklist that may be considered by a curriculum committee to facilitate this mapping task (Diamond, 1998). He also links with graduate attributes.

Table 3: Representative of Diamonds' (1998) Curriculum Competency Mapping Form.

Graduate Attribute (competency)	Module	Module	Module	Module	Module	KEY: A: Introduced B: Used C: Further Develop D: Comprehensively Assessed
Communication	A	A	B	B	C	
Enquiry	A	A	A	A	A	
Creativity	A	B	B	C	C	
Team-working	A	A	A	A	A	
Problem-solving	A	D	D	D	D	
Critical thinking	D	D	C	D	D	
Computer literacy	D	D	D	D	D	
Ethics	A	A	B	A	A	
Leadership skills	A	A	A	A	A	
Information retrieval skills	D	D	D	D	D	
Citizenship	-	-	-	A	A	

These types of tools could be used for mapping first year assessment to the stage outcomes.

-Some examples of assessments that can be used to synthesize work include:

- Capstone Assessments
- Portfolios
- Learning Journals
- Concept maps (Novak & Cañas, 2008)
- Interdisciplinary Projects
- Synoptic assessments (across modules)
- Work-based/authentic assessments

-The Scottish QAA also devised a series of resources around Integrative Assessment; see <http://www.enhancementthemes.ac.uk/themes/IntegrativeAssessment/default.asp>

Implement a range of approaches to streamline assessment

The issue of exploring student and staff workload with assessment, is mentioned in the advice around module design (see appendix, design principle, no 6), however it is often easier to address this issue at a more school, stage or programme level.

Manchester Metropolitan University recently advised staff that:
<http://www.celt.mmu.ac.uk/ltia/issue17/fielding.php>:

1. Heavy assessment workloads may lead to surface learning (e.g. Entwistle and Ramsden, 1983; Kember and Leung, 1998).
2. In general, excessive student assessment workloads lead to excessive staff workloads and tend to lead to poor ratings for teachers (Trigwell and Prosser; 1991).
3. Fewer assessments create space for faster and better feedback.
4. QAA Programme Reviews often highlight student workloads as a problem. For example: *“there appears to be a lack of an effective mechanism to plan and monitor student assessment workload.*

Edinburgh Napier University (2010, p13) encourage schools to explore and set the guidelines around word count (or equivalents) for students, in order to prevent both staff and student workload, i.e. the need for a policy on word count equivalents for all school modules.

Hornby (2003) in a useful document suggests 5 strategies for streamlining assessment. These, for example, address the student and staff workload issues, strategic reduction of summative assessment, front loading, peer/self assessment, in-class assessment, etc... (See Hornby, 2003 for useful case studies). In addition, the Quality Assurance Agency for Higher Education (2010) Scottish Enhancement themes outline some key cases studies that address overload and inefficiency in assessment practices (see also Ross, 2010).

As is recommended in the module design principles, where possible, it is useful to consider the removal of the end of semester examination in semester 1 of first year. This also allows the opportunity for use of 15 weeks for the more continuous assessment and addresses the issue of overuse of examination in semester one in UCD, as presented in p3.

Suggestions from International and UCD case studies or examples

There is some interesting debate on the workload issue in the following website <http://www.celt.mmu.ac.uk/ltia/issue17/fielding.php>: where they advocate schools to discuss and set their own assessment workload/word-count. However, they do give a few examples to work with but these should only be used as a guide for more local contextualised discussion on the issue.

One example they give below is based on a UK 20 Credit (equivalent to our ECT 10 credit module)

*Table 2 is a list of elements and their value is based on a standard 20 credit unit. It is for guidance, and is not prescriptive. However, good practice should encourage the Faculty to adhere to a common set of definitions.**

Book review 800 words	10% of unit marks
Short oral presentation (c. 5 minutes)	10%
Literature search 1000 words	15%
Seminar paper 1000 words	15%
Essay 1500 words	25%
Report 1500 words	25%
Portfolio 6000 words	100%
Project/short dissertation 6000 words	100%
Examination answer one hour	25%
Standard dissertation 12,000 words 40 credit unit, which may be assessed by a single percentage mark, or sub-divided into sections totalling 200 marks	
Postgraduate paper 4-6000 words	100%

** Note that the faculty is reviewing its assessment practices as part of the Challenging Assessment Initiative*

This same webpage also gives some examples from other UK Universities: one from the *University of Southampton* explores the idea of equivalences;

Equivalent to 1000 essay words

- * Examination or timed test 1 hour*
- * Essay in foreign language 300 words*
- * Group report 750 words per member*
- * Reflective journal or learning log 2000 – 2500 words*
- * Oral presentation 20 minutes*
- * Group presentation 10 minutes per member*
- * Clinical assessment 10 minutes**

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APPENDIX 1:

Module Design Principles & Practices for First Year Assessment.



ASSESSMENT

Module Design Principles and Practices for First Year Assessment

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Module Design Principles & Practices for First Year Assessment

One of the key aims of UCD's education strategy (2009-2014) is 'To foster early and lasting student engagement', which includes:

'A review and reform of the structure, outcomes, assessment and remediation strategies for first year, and in particular the first semester, to support the transition from second- to third-level and to adapt to the different needs of different students; The further development of approaches to engage and support students, especially in their first year, including small group learning, peer-mentoring, academic advice and mentoring, specific supports for the development of transferable skills and information literacy, and general welfare supports '.

To facilitate this transition to university learning, assessment design at module level in the first year needs to progressively move students from early low-stakes assessment – which build confidence – to more challenging assessments - for achievement (see Figure 1, p3). In addition, students need to be **engaged** and **empowered** in their learning experience in order to achieve **the level of social** and **academic integration** for successful first year learning (Nicol, 2009). The following 6 principles, based on a review of assessment literature, will assist you in the deliberative design of the first year learning experience, from a module design perspective (Table 1).

Table 1:	The Six Design Principles
	1. Allow students, where possible, have opportunity for regular, low stakes assessment with opportunity for feedback on their progress
	2. Develop students' opportunities for in-class self and/or peer review of their learning against assessment criteria
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	4. Consider the redesign of the learning sequence of module learning activities in an efficient and effective manner, including the related blended learning opportunities.
	5. Introduce more active/task-based learning which uses more authentic assessments (i.e. subject/discipline identity)
	6. Consider the student work-load demands within the module, as well as in parallel modules

These principles reflect similar design principles for programme/school -level assessment, which also explores the more structural and integrative aspects of assessment design, i.e. developing space in the curriculum by use of more theme/concept approach to learning, mapping assessment across a stage, see *Designing First Year Assessment Strategically*, available at: www.ucd.ie/teaching/resources/assessment/focusonfirstyear). This resource is also supplemented by a podcast (Feb-Dec 2011): FOCUS ON FIRST YEAR: see <http://www.ucd.ie/teaching/showcase/audiopodcasts/name,77075,en.html>

This detailed resource for module coordinators, includes: a) Elaboration of the assessment design principles, based on the literature, b) International case studies/examples and c) UCD case study or resource. It is hoped that this will assist you as a module coordinator to implement the assessment design principles in your first year modules, in particular in the first semester.

Extracted from this more comprehensive resource, a separate shorter resource highlights *Five UCD Case Studies of First Year Assessment* available at: www.ucd.ie/teaching/resources/assessment/focusonfirstyear Many of these cases address several of the module design principles above, in one module. Sometimes these types of modules may also be entitled 'concept', 'theme-based' or 'enquiry-based' modules.

Module Coordinators: should design their first year modules to:

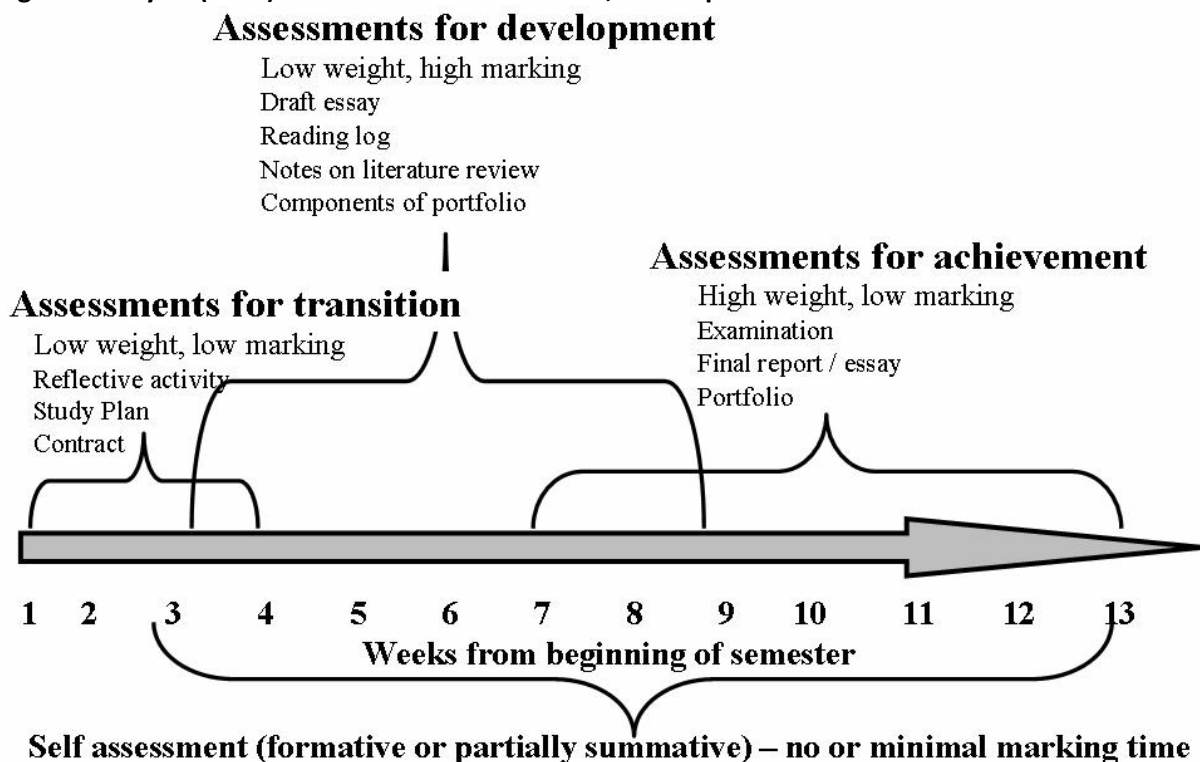
1. Allow students, where possible, have opportunity for regular, low stakes assessment with opportunity for feedback on their progress (Design Principle)

a) Elaboration of the assessment design principles, based on the literature

Students in their first few weeks in university need regular feedback on their progress so that they can assess progress in their learning. Effective and high quality feedback is often regarded as a key element of excellence in teaching that supports student learning (Ramsden, 2003; Black and William, 1998, Sadler, 1989). This is often described as formative (feedback on progress), as oppose to summative assessment (counting towards a grade). If you consider, in particular in the first semester of first year, that students should have strong emphasis on the former, then many assessment tasks can be in-class activities.

Felder and Brent (2010) argue that for assessment strategies to be effective students need to be given opportunities to practice doing the kinds of things that are to be assessed later. Here technologies such as student response systems to give feedback in class can be useful. These strategies have the added benefit of facilitating engagement. Taylor (2008), in Figure 1 below, sets out how assessment in the first semester can evolve from the idea of low stakes assessment, that emphasizes feedback to students, to high stakes which gives assessment for achievement (more summative assessment).

Figure 1: Taylor (2008): Assessment for Transition, Development and Achievement.



By regular short assessments, particularly in-class or on-line, students can have multiple opportunities to have feedback on their work.

However, this approach needs to be conscious of parallel modules and their assessment demands, i.e. six modules with regular low stakes assessment, may lead to overload for students (See Design Principle No 6. :*Consider the student work-load demands within the module, as well as in parallel Modules.*

b) International case studies/examples

-The One-minute Test (PETAL, 2011, see extract below)

One-Minute Test

Description: This versatile technique provides a quick and extremely simple way to collect written feedback on student learning. To use the One-Minute Test, stop class two or three minutes early and ask students to respond briefly to some variation on the following two questions: "What was the most important thing you learned during this class?" and "What important question remains unanswered?" Students then write their responses and hand them in.

- ◆ **Purpose:** One-Minute Tests encourage attendance, increase students' classroom participation, and enable faculty to quickly check how well those students are grasping the material presented. Students, in their turn, receive prompt feedback on their progress and clarification of the content that proved to be difficult for them. They are also given a valuable opportunity to process the material presented to them during the class period.
- ◆ **Procedure:** Administer the One-Minute Test at the end of class if you want to focus on students' understanding of that day's content. However, if you want to assess how well students are learning from their outside assignments (e.g., readings), run the test at the beginning of class. While it is called the "one-minute test," set aside 5 to 10 minutes of class time for the test and let your students know how much time they have and what kinds of answers you want (words, phrases, or short sentences). Finally, allot some time in the next class to discuss students' answers and review areas they found confusing.
- ◆ **Analyzing Data:** Simply tabulating the responses and making note of any useful comments is often all the analysis needed.

-the 'Patchwork Text', (Winters, 2003; Ovens, 2003) describes how multiple student tasks are gathered and shared and synthesized across a module.

- Mini-class tests and formative MCQ tests are used in an on-line environment to provide fine-grained feedback within an on-line Learning System (Egan, Jefferies, & Johal, 2006).

-see also [On the Use of Multiple Class Test Assessments to Promote and Encourage Student Learning](http://www.aishe.org/readings/2007-1/No-09.html) (McLoone, 2007) <http://www.aishe.org/readings/2007-1/No-09.html>

-The Scottish REAP projects gives good concrete examples of how ICT based techniques have been used successfully in large first year classes (see www.reap.ac.uk).

c) UCD case study or resource.

-Dr Eleni Mangina (ex 2858) *School of Computer Science and Informatics* describes how she uses discussion threads within the on-line environment for short regular assessment, see <http://www.aishe.org/readings/2007-1/No-02.html>

Students' Continuous Assessment through Discussion Threads within Blended Teaching Method (face-to-face and e-learning)

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-The UCD Teaching and Learning resource on *Improving the Efficiency and Effectiveness of Feedback to Students* describes some efficient feedback ideas such as :

See <http://www.ucd.ie/t4cms/ucdtlt0025.pdf>

1. Use of a pre-submission check-list (pro-forma): Students self-assess on some pre-defined criteria and hand it in with assignment.
2. Consider feedback in different media/formats: On-line, audio-feedback, verbal class feedback, use of 'clickers' in large class contexts.
3. Student Requested Feedback: Ask students to submit specific requests for areas for feedback at the beginning of assignment. Focus feedback primarily on these areas.
4. Evidence of Action: Student have to integrate (highlight), in next assignment, where actions from previous feedback are integrated into this assignment
5. Timing of Feedback: Focus staff energies on mid-unit feedback, instead of end of semester feedback. This could be an in-class summary to whole class; in-class mini tests; on-line MCQ's, etc

2. Develop students' opportunities for in-class self and/or peer review of their learning against assessment criteria (Design Principle)

a) Elaboration of the assessment design principles, based on the literature

Whereas staff feedback to students is important (Design Principle 1), students have stressed that sometimes they do not understand the feedback they receive (Nicol, 2010), that the feedback is too vague or that it does not provide them with suggestions on how to improve their work. Feedback is often poorly rated by students.

While several studies have looked at the provision of feedback (quantity, quality, timing, etc.), new directions in feedback are pointing to providing opportunities for students to work with the feedback received. Thus, attention should be directed to feedback as a process of communication between teachers and students (Higgins, Hartley and Skelton, 2001). It should take the form of assessment dialogues in an attempt to clarify the assessment process (Carless, 2006)

Taking this one step further, Professor David Nicol, a recent visitor to UCD, (http://www.ucd.ie/teaching/news/news_items/name,77577,en.html) states that *'While feedback dialogue with the teacher is important... peer review is equally important... ...where peers generate and receive feedback in relation to the same assignment task, they learn not only about their own work but also about how it compares with productions of others'* (Nicol, 2010, p.514). Sadler (2010) also advocates to include students in the assessment process – Educate them in the process of making judgments about their work in ways similar to those made by expert assessors (Sadler, 2010).

Developing students active participants in the process of assessing their work can help empower them in the assessment process. Empowerment is closely linked to student engagement. The UCD Choice of Assessment project empowered students, by given them opportunity to chose from a range of assessment methods (2-3 choices) For more on this see <http://www.ucd.ie/teaching/projects/choiceofassessmentmethods/>

One of the key techniques associated with this approach, is to allow students opportunities, often in-class, to self or peer review their work, or examples of work, against the assessment criteria for the module. This allows them to have discussions around the expectations for the assessment of the module and is a more timely activity to allow change of behaviour, than staff directed feedback given after a module is completed.

b) International case studies/examples

-The REAP resource page gives some particular attention to this approach see 'Designing Peer Feedback in modules and courses' <http://www.reap.ac.uk/PEER/Designs.aspx>

In addition, the REAP page draws attention to a useful resource in the University of Melbourne that describes four case students on student peer reviewing http://www.cshe.unimelb.edu.au/downloads/Student_Peer_Review.pdf

2. INCORPORATING STUDENT PEER REVIEW IN TEACHING: FOUR CASE STUDIES	7
CASE A: EXPERIMENTAL ANIMAL BEHAVIOUR	7
CASE B: PEER REVIEW IN MULTIMEDIA AND COMMUNICATIONS	8
CASE C: RESHAPING ENVIRONMENTS	10
CASE D: PROGRAMMING LANGUAGE IMPLEMENTATION	11
REFLECTION ON THE CASE STUDIES	12

Case examples: Computerised peer-assessment Glamorgan, Wales

<p>1. Describe the example and any evidence of success:</p>	<p>Computerised peer-assessment Glamorgan Formative feedback delivered by peers on assignment that was subdivided into three different stages. 90% participated in the peer feedback and the quality of the feedback increased over the term. The final essay marked by the instructor (as in the past). The quality of the student work also improved, particularly that of the weaker students.</p>
<p>What would UCD staff or students have to do for this to work?</p>	<p>Staff No increased workload reported. Any module with essay might use this method to increase quality of student work. ICT skills.</p> <p>Students Learning by doing is approach followed. Quality and quantity of peer feedback improved over term.</p>
<p>Reference(s)</p>	<p>Fitzgibbon, K. <i>First year student experience Wales A practice guide</i>. Higher Education Academy.</p> <p>Dietz, Tracy L. 2002. 'Predictors of Success in Large Enrollment Introductory Courses: An Examination of the Impact of Learning Communities and Virtual Learning Resources on Student Success in an Introductory Level Sociology Course.' <i>Teaching Sociology</i> 30(1):80-88.</p>

c) UCD case study or resource

Dr Charo Hernandez describes this approach with her UCD Level 3 undergraduate students of Hispanic Studies. See <http://www.aishe.org/readings/2007-1/No-13.html>

Using Peer and Self-assessment Practices to Assess Written Tasks

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3. Allow students multiple opportunities for well-structured and supported collaborative learning (peer and group-work, project work) (Design Principle)

a) Elaboration of the assessment design principles, based on the literature

A key issue affecting UCD first year students' engagement is the predominance of large classes in the first year. Cuseo (2007: 10), in a meta-analysis of thirty years of research into the impact of class size on students concludes that 'large class size is a contextual variable that has generally adverse effects on student learning, mediated primarily by *lowering* students' level of *engagement* (active involvement) with the course *instructor*, with *classmates*, and with the *subject matter*' [italics in original]. Innovative assessment strategies could be used to ameliorate some of the problems associated with large classes reported in the literature. A related issue is the difficulties incoming students report in getting to know their classmates. Students entering UCD have concerns about the social aspects of college life, with a recent survey reporting two thirds have fears of being socially isolated in their new environment (Gibney et al 2010). Developing effective social networks is a key part of a successful transition to university life; group work and opportunities for collaborative learning can play an important role here. In a recent Teaching Fellowship project as one first year student suggested UCD: '*Put more emphasis on group orientated projects/assignments in semester 1*'.

Prince (2004, p223) describes collaborative learning as '*any instructional method in which students work together in small groups toward a common goal*', emphasising interaction between students. Johnson, Johnson and Smith (1998), in an overview of 168 studies, report strong evidence in relation to the efficacy of this approach for student learning. Collaborative learning offers clear and significant benefits in terms of engagement, improved academic achievement, quality of interpersonal interactions, self-esteem and perception of support when compared to students working on their own. However group work, including whether it is assessed by a process product/individual or group mark, needs careful consideration.

In the next section, you can see how group work can be developed for 1st year, 1st semester and, in addition, for ideas on how to set up group-work with large classes, see: O'Neill & Moore (2008) <http://www.nairtl.ie/index.php?pageID=23&publicationID=26&skipCode=87266>

b) International case studies/examples

Given the often difficult dilemmas associated with group work, this section sets out good international practice on the use of and assessment of group work:

Group work is a popular approach to student learning in higher education as: Peer learning can improve the overall quality of student learning; Group work can help develop specific generic skills sought by employers and at times can reduce the workload involved in assessing, grading and providing feedback to students (CSHE, 2010). Group work can also support the development of what UCD considers are important graduate attributes, i.e. '*aptitude for continued, self-directed and collaborative learning*' and '*strong interpersonal and decision-making skills to bring to his or her individual discipline or profession*' (UCD, 2010) However, '*under less than ideal conditions, group work can become the vehicle for acrimony, conflict and freeloading..*' (CSHE, 2010) Therefore, it is important to consider the type of assessment and

how we prepare students for group work.

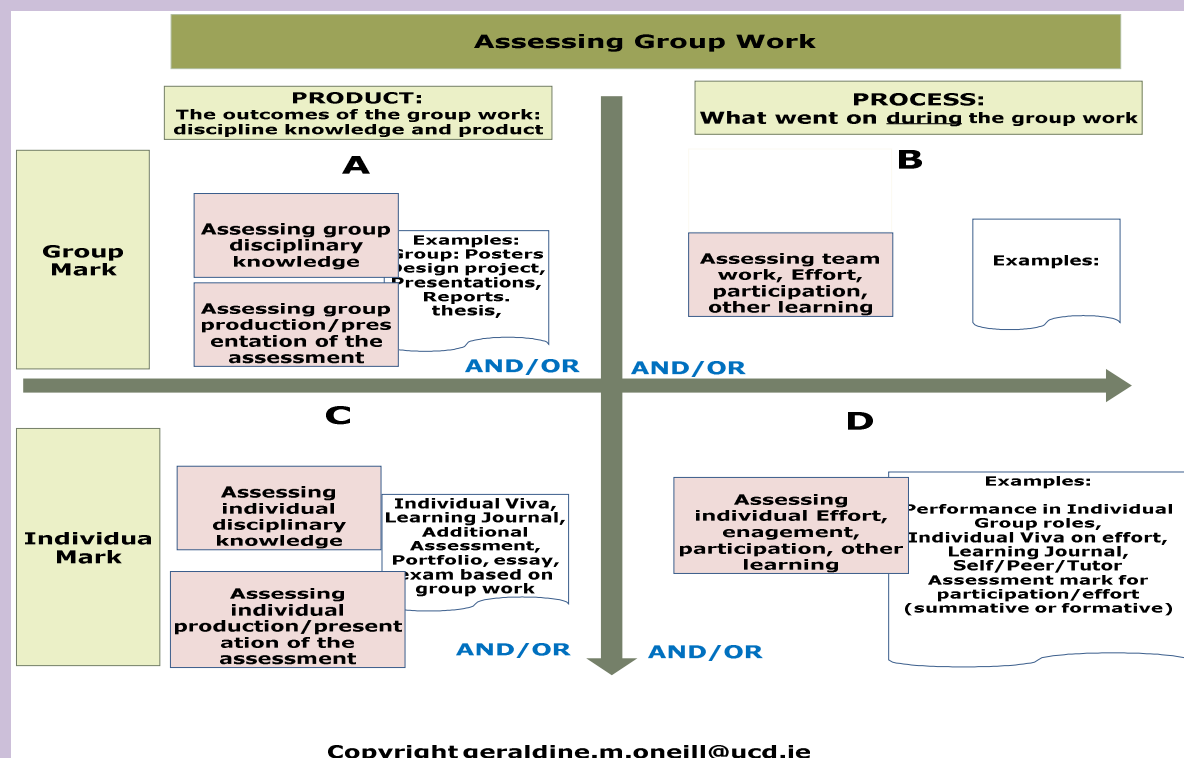
The type of group-work assessment

There have been many breakdowns of how to assess group work, but in considering group assessment, it can be simplified some important questions to ask yourself:

- 1) Whether the product and/or process of the group work is the main emphasis,
- 2) Whether it should be a group mark and/or individual mark based on group work and
- 3) Whether it is primarily tutor or student-marked (peer/self) or both, and

Assessing the product of group work with a group mark only (Quadrant A, Figure 2) (such as a poster/presentation/project) gives an emphasis to the outcome and reflects many real-life work situations. It requires a well functioning, well-prepared group for this option to work well with students in higher education. *This option would be very difficult for new first year students.* Therefore, many academic staff opt for a group mark, with an individual component (Quadrant A and C above). Many students, who have experienced group work, complain about the ‘hitchhikers’ (Oakley et al, 2003) in group work and maintain that the efforts/contributions to the group work should also be assessed (i.e. the process: Quadrants B and D above). One of the challenges for staff in assessing this option is that they aren’t part of the group and can’t easily observe this effort. Hence, these options often require some contribution from the students, such as peer and self assessment. For further elaboration of these issues see Oakley et al (2003); UCD T&L (2010) and James et al (2002).

Figure 2: Assessing Groups Overview



Preparing Students for Group Work and its assessment:

Many of the issues and concerns raised by students, such as equity of effort and group conflict, can be partly avoided by preparing students for group work. This can include introducing students to the rationale for group work; exploring and getting them to set and review ground rules for group work; discussing and allocating different roles; working out procedure for dealing with group conflict as it arises, etc. . Oakley et al (2003) and Jacques & Salmon (2007) give some useful advice on how to prepare students for group work.

See also: Mathematical Modeling Through Group Work, Glamorgan. Fitzgibbon, K. *First year student experience Wales A practice guide*. Higher Education Academy.

c) UCD case study or resource : Base on the UCD Enquiry-Based learning project which emphasized group work, see a:

-For full article on ideas for how group-work can be developed in large classes see:

O'Neill, G., Moore, I. (2008) Strategies for Implementing Group Work in Large Classes: Lessons from Enquiry-Based Learning. In, *Emerging Issues II: The Changing Roles and Identities of Teachers and Learners in Higher Education in Ireland*, eds. Higgs, B., and McCarthy, M.. NAIRTL: Cork. <http://www.nairtl.ie/index.php?pageID=23&publicationID=26&skipCode=87266>

-For copy of Poster based on this work; see <http://www.aishe.org/events/2006-2007/conf2007/proceedings/paper-44.pdf>

Enquiry-Based Learning in Large Classes: Strategies for Organising Group Work

Dr Geraldine O'Neill, University College Dublin
Ivan Moore, Higher Education Consultant, UK

Enquiry-based learning (EBL) is a term that is used to describe an approach to learning that encourages students' engagement with learning initiated by a complex problem or scenario that is sufficiently open-ended to allow a variety of responses or solutions' (Kain & O'Rourke, 2005, p2). Using this approach, students are often required to work in small groups. Academic staff are often hindered by the challenges involved in supporting this use of group work in large class settings. This poster highlights three strategies based on other cases from the international literature, or EBL cases known to the authors in Ireland and the UK.

1. Group Organisation & Facilitation

The optimum size of a group in enquiry/problem based learning is often in the region of 8-10 students (Scherer & Mount, 2000, p71). In large classes, where this is difficult to achieve, alternatives to organising group-work are:

a) One staff facilitator with a very large student group. Groups may subdivide for work outside the facilitated session (eg. Case 1: Electrical Engineering, Loughborough).

b) Having a staff facilitator moving among students' chained groups (eg. Case 2: English Literature, Manchester and Postle, 2006).

c) Using the key staff (facilitator) to work outside the classroom context with some assistant facilitator who in turn work with the student groups (eg. Case 3: Geography, University College Dublin).

d) Lead staff facilitator supports assistant facilitation (supervisor students) in the classroom (eg. Case 4: Manufacturing Engineering, Loughborough and Roberts et al., 2005).

2. Timetabling

Creative use of the timetable is another way to support students in small groups.

A cycle of EBL often happens twice a week. To allow for this in multiple groups, the group could meet Tuesday and Friday and the next group on Monday and Thursday (to meet two groups on the same day). However, these extra teaching hours for staff could be a disadvantage (eg. Case 5: Occupational Therapy, Trinity College Dublin).

Where twice a week is not possible, a cycle of EBL could occur for one group of students weekly or fortnightly. For example, the green/red group could meet the staff facilitator once a week / fortnight and work independently in between. This meeting could be either a formalised or a tutor appointment slot (eg. Case 6: Educational Theories, University College Dublin and Case 7: Computer Science, Manchester).

3. Curriculum Design

By introducing EBL strategically across a full programme there is more opportunity to take advantage of the collective resources.

One option is to select a core, sometimes integrated, module in each year (eg. Case 8: Veterinary Medicine, University College Dublin).

The second option is that the group EBL experience is focused in one or two weeks of the semester and integrates all modules in the programme (like in diagram above). All factors come together to facilitate the student groups working intensively on a one- or two-week project (eg. Case 9: Manufacturing, Automotive and Civil Engineering, Manchester).

See www.ucd.ie/teaching/projects/EBL.html for full references and links to case studies mentioned. Designed by Diane Cashman, UCD

Based on this design principle, that encouraged group-work, see below a UCD ‘First Year Engineering’ and ‘First Year Geography’ and a UCD First Year English module (next section) which were similar approaches used with large first year classes, see below:

UCD Case Studies of the Module Design Principles for First Year Assessment and Engagement	
Module Title & Code	Creativity in Design (CVEN10040)
Describe the example and any evidence of success:	<p>The “Creativity in Design” module is a core module for all 250-300 first year engineering students.</p> <p>The module aims to provide an active-learning engineering experience for first year students, through which they develop their observation skills, problem solving skills, lateral thinking abilities, visual and verbal presentation skills, team-working skills and information literacy skills.</p> <p>Students are introduced to the design/innovation cycle and the techniques and tools of problem solving and are actively engaged, through a series of group work exercises, in using these techniques.</p> <p>The module has been well received by staff, students and commended by the external accreditation body. Student feedback on the module is consistently positive and staff have remarked on the enthusiastic participation and good work that has been emerging. A selection of projects was exhibited to visitors and peers as part of Innovation Dublin 2010.</p>
What design principle(s) does it support? (see principles below)	<p>Design Principle 1 – Weekly facilitated studio sessions provide regular opportunities for closely monitoring student progress and attendance in addition to opportunity for providing formative feedback.</p> <p>DP 2 – Students are made aware of the grading criteria being used for assessment of their work. In the future team member evaluation and peer rating within groups will be introduced.</p> <p>DP3 – The studio setting in which the students work is facilitated by ME students who are trained to provide formative feedback, manage group interaction and encourage participation. This setting provides a supportive environment for collaborative group work to take place.</p> <p>DP4 – The module provides instruction on the tools used in problem solving, research and visual representation. The assignments provide an opportunity for application of the techniques and tools. The assignment briefs are deliberately open-ended, allowing scope for creative solutions to emerge.</p> <p>DP5 – The module is based around active participation and application of techniques and tools of problem solving, prototyping and visual representation and communication. The assignments set challenge students to solve real problems.</p> <p>DP6 – Student work is assessed using both formative and summative approaches in the weekly studio sessions. Students also submit an individual sketch portfolio towards the end of the semester. There is no end of semester examination in this module as the learning outcomes are assessed in the studio and through assessment of the sketch portfolios.</p>

What would UCD staff or students have to do for this to work?

i.e. staff training, module/programme redesign, student support, ...

Facilitating studio work for relatively large numbers of students requires some consideration. In the case of 'Creativity in Design' the approach has been to train ME students to manage the studio sessions. Students on the Structural Engineering with Architecture ME programme have a core module in their fifth year called 'Innovation Leadership'. Within this module students develop their leadership, project management, teamwork and facilitation skills in addition to formally honing their problem-solving skills. These students undertake all of the assignments in advance of the first year students and are responsible for running/managing the studio sessions every week, setting the agenda, guiding groups, encouraging participation from all students, scheduling presentations, providing feedback, grading and reflecting back and reporting on the weekly studio sessions. A group of 5 ME students are assigned to facilitate studio work with 12/13 first year teams, each team having 5 members. This approach has been a very successful component of the module. Employers have also commented positively on the value of the training and education that the ME students have received through this module. The Review Group undertaking a recent Accreditation visit commented very positively on the initiative, particularly in relation to the link between the ME students and the first year students.

The space used for group work should be carefully considered. This space should be flexible and capable of being used as a comfortable workspace where model making can be facilitated, with white-boards and wall space available for displaying material. The space should also accommodate presentations, provide power points and wireless internet access.

Whilst there are formal lectures within this module the main focus is on active participation within a studio setting. Staff participating in this type of initiative need to be comfortable with both large group interactive teaching approaches and small group interaction. Consideration should be given to the assessment methods and processes used and aligning these with the learning outcomes of the module.

The production of a student module handbook is worth consideration. Within this handbook the module outline and learning outcomes can be outlined. The students' responsibly in relation to participation, attendance, submission of work and lines of communication can be set out. The assessment methods to be used and the grading criteria can be included, thus ensuring that students understand the standard of work expected relative to grade bands. Any equipment or materials that students are expected to obtain can be noted and the schedule for the semester can be included. Group allocation can also be included in the handbook and possibly reference to Group facility on Blackboard, if this is being used, this allows students to make contact electronically with their group members which can be useful if they don't already know each other.

Contact Number/e-mail of staff involved in the design:

Dr. Amanda Gibney, Amanda.gibney@ucd.ie
Contact No.: 3217

	UCD Case Studies of the Module Design Principles for First Year Assessment.
Describe the example and evidence for success:	<p>Module: Introduction to Human Geography I (Geography)</p> <p>N= 370 students in First Year. (2007, 2008, 2010)</p> <p>This entire module was undertaken using an enquiry-based learning approach based around four authentic short case studies that were hosted in the online learning environment, Moodle. A very positive learning experience was reported in feedback and the importance of incentivisation and group responsibility were identified as the key factors in promoting engagement.</p> <p>Any other comments on strategies for success: Group exercises worked best when the students nominated someone from within the group to act as convener and pull individual information into a group submission. Be open to the lecture theatre becoming a little chaotic as a result of in-lecture group work, and more interactiveness. Our most important innovation was incorporating student work into our lectures. We took student-generated material from online discussions, submitted assignments and tutorials, and used it as content for our lectures. This gave students a sense of ownership of the module.</p>
<p>What would UCD staff or students have to do for this to work? i.e. staff training, module/programme redesign, student support, ...</p>	<p><u>How to organize group-work</u> (size, staff/student ratio, student chairs, etc)</p> <p>Group-work took place in both the large lecture theatre with 400 students and in smaller tutorial groups of 14-16 students. In the lecture theatre, the module coordinator asked students to sit in their tutorial groups and ensured that all lectures involved group activity and conversation. The groups were encouraged to think about a specific question which drew on their own experiences, and then various groups were asked to outline their findings to the lecture hall, holding a radio microphone in front of them. A large proportion of group work was undertaken in small group tutorials run by geography postgraduate students, both MA and PhD. We designed the tutorials and provided training on content for tutors. In advance of tutorials, students were assigned preparatory work that had to be submitted online prior to the tutorial. The tutorials involved debates, discussions, group map work and statistical analysis. Students were awarded marks for their preparation, attendance and participation in tutorials in line with clearly specified criteria. However, most group activity took place through the virtual learning environment.</p> <p>We encouraged students who missed lectures to talk to their groups or us about the material that was covered. We also assigned a number of group discussions that had to be undertaken and completed on-line, and subsequently formed the basis for individual submissions. Discussion boards provided the key mechanism through which students interacted with each other, but also scheduled face-to-face meetings to prepare group tasks.</p> <p><u>How timetabled:</u> The number of formal lecture hours per week was reduced from two to one to allow time for e-learning and independent research, however the second dedicated hour was reserved for consultation, to allow time for student group work and to add in an additional lecture if it was considered necessary. Small-group tutorials for this module took place in weeks 2,5,8 and 11. Students could also engage with the module coordinators during office hours</p>

UCD TEACHING AND LEARNING / RESOURCES

	or before/after lecture classes.
Contact Number/e-mail	Dr Niamh Moore, niamh.moore@ucd.ie; +353 1 716 8222
Reference(s) if applicable.	<p>Univeritas 21 (2008) Designing a range of Enquiry-based learning approaches to support student engagement across a variety of disciplinary contexts http://www.universitas21.com/TandL/Presentations/EBLposter.pdf</p> <p>Moore, N. & Gilmartin, M. (2010) 'Teaching for better learning: a blended learning pilot project with first year geography undergraduates'. <i>Journal of Geography in Higher Education</i>, 34 (3):327-344.</p>

4. Consider the redesign of the learning sequence of module learning and assessment activities in an efficient and effective manner, including the potential for more blended learning opportunities. (Design Principle)

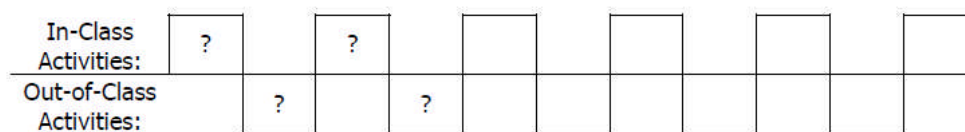
a) Elaboration of the assessment design principles, based on the literature

In more recent module design literature, there has been a re-examination of the role and sequence of the different learning opportunities. Whereas the lecture had played the key role in the past, as students had limited access to resources, this has now changed with an increase in resources available on-line. Poor attendance at lectures in some areas has also been a source of concern for academic staff. There is a shift, in particular with the opportunities of the VLE environment, to the idea of the lecture becoming a more supplementary resource for a more task-based approach, i.e. the students are required to do a task, activity (individually or in groups, on-line or face to face meetings) and then having completed this they then receive a 'focused expert' lecture. This model is advocated in the e-learning literature (Littlejohn & Pegler, 2007), the Problem-based learning literature (Gijbels et al, 2005 ; Fyrenius, et al, 2005; O'Neill and Hung, 2010) and in recent course-design models (Fink, 2003: 2004, 2011).

The UCD module descriptor allows you, as a module coordinator, to take full potential of the 'specified learning activities' section on the module descriptor. Through more careful consideration of this section, students by 'doing' tasks can 'cover' what was traditionally done in the lecture. Blended learning allows you more opportunity to monitor the 'out of class' leaning activities, particularly in larger groups.

Fink (2004) argues for the more considered relationship between teaching, learning and assessment activities in both the in and out-of-class learning opportunities (see below).

Figure 8 - The "Castle Top" Template for Creating an Instructional Strategy



Therefore, instead of starting in the module design process by filling in the usual lecture load, such as 12, 24, 36 lectures for a 12 week semester, you may consider the module as a series of in and out-of-class activities, that feed into the assessment requirements. The lectures supporting these student activities.

Assessment that support participation and student activities, align more closely with this module design approach.

For more on-line assessment examples see

http://www.adelaide.edu.au/clpd/online/assessonline/assess_tools/ This also gives some nice examples for assessing group discussion on-line.

b) International case studies/examples and

-One example of a redesign of the learning sequence is seen below, in Railton and Watson's (2005) redesign to enhance autonomous learning skills.

Previous practices	Studying media studies
Teaching strategies	
<ul style="list-style-type: none"> • 1 hour lecture • Lectures address disciplinary knowledge 	<ul style="list-style-type: none"> • 2 hour lecture / workshop • Lectures address disciplinary knowledge <i>and</i> learning skills
<ul style="list-style-type: none"> • 1 hour tutor-managed seminars • Individual tutorials (during general office hours) 	<ul style="list-style-type: none"> • 1 hour student-managed reading groups • Group tutorials (during timetabled reading group slot) • Individual tutorials (during general office hours)
Assessment strategy	
<ul style="list-style-type: none"> • Book review and essay (<i>IMM</i>) • Group presentation and essay (<i>C&C</i>) 	<ul style="list-style-type: none"> • Glossary, article report and essay
Learning support	
<ul style="list-style-type: none"> • Handouts in lectures • Discussion questions provided during seminars 	<ul style="list-style-type: none"> • Lecture slides and other materials available through Blackboard • Discussion questions provided in advance of reading groups via Blackboard • Group discussion space via Blackboard

Figure 1 Changes in teaching, learning and assessment practices

-This principle also challenges academic staff to consider that assessment is more streamlined into the teaching and learning activities: *'The traditional view that the assessment of students' achievement is separate from instruction and only comes at the end of the learning process, is no longer tenable'*. (Gijbels et al, 2005, p73).

c) UCD case study or resource (see also UCD Geography, UCD Engineering, in previous section)

	UCD Case Studies of the Module Design Principles for First Year Assessment.
Describe the example and any evidence of success:	<p style="text-align: center;">Module: Literature and Context 1 UCD School of English, Drama and Film</p> <p>An enquiry based approach was used in this first year module of 500+ students. This approach requires a module redesign, where the focus is the problem/enquiry presented in a group, as the starting point.</p> <p>The students were organised into groups of 25, and then into 3-4 groups within that. Groups of 6-8 were felt to be appropriate, given some inevitable attrition.</p> <p>Two problems (enquiry) were developed:</p> <p>(i) students were to write a newspaper feature promoting the writings of Chaucer to the general reader; and</p> <p>(ii) students were to adapt or rework a scene, speech or character from a selection of Shakespeare plays in order to encourage teenagers to engage with the Globe theatre in London.</p> <p>We began with our learning outcomes and tied everything we did to them, using them constantly as the benchmark against which we judged whether the problems were appropriate and so on. We had in mind the chronological spread we were aiming at and located the problems within these parameters. For this particular project, with all of its operational complexity, the problems were the starting point, and the core of what we did; everything else in the module was then designed to support and</p>

	<p>facilitate students in the execution of those problems.</p> <p><u>Assessment</u>: 25% Chaucer Group Project; 25% Shakespeare Group Project; 50% learning journal over the semester (submitted via Blackboard)</p>
What would UCD staff or students have to do for this to work?	<p>We did intensive training – one information day for interested tutors, a 2 day training session for those appointed, and regular meetings during module delivery and assessment, plus email contact. From the initial decision to use EBL to delivery took a full 18 month period of planning, designing, testing, reworking, with regular review sessions in the year since we first piloted EBL for English</p>
Contact Number/e-mail of staff involved in the design:	<p>Associate Professor, Danielle Clarke, UCD School of English, Drama and Film, Danielle.clarke@ucd.ie 01-7168694</p>
Reference(s) if applicable.	<p>For more detailed information see: Clarke, Dillane, Long McAreavey and Pattwell (2009) Literature in Context : Enquiry Based Learning for First Year Students. http://www.nottingham.ac.uk/~aezweb/working_with_english/5/clarke_dillane_long_mcareavey_pattwell_2009.pdf Accessed 14.2.2011 Barrett, T., Cashman, D. (Eds) (2010) <i>A Practitioners' Guide to Enquiry and Problem-based Learning</i>. Dublin: UCD Teaching and Learning http://www.ucd.ie/t4cms/ucdtli0041.pdf</p>

For other UCD example of module redesign, contact Diane Cashman (diane.cashman@ucd.ie) for more blended learning design principles, or Tara Cusack (tcusack@ucd.ie) for redesign with a first year collaborative learning module.

5. Introduce more active/task-based learning which uses more authentic assessments (i.e. subject/discipline identity) (Design Principle)

a) Elaboration of the assessment design principles, based on the literature,

Prince (2004, p223) defines active learning '*as any instructional method that engages students in the learning process*'. For examples, carrying out a project, in-class activities/exercises, engagement in wiki development, presentations, etc. More passive forms of learning, that are more teacher-led, can lead to more surface approaches to learning. In addition, to attempting to make students more active, it is apparent that in order to motivate them we also need to make the activity relevant to what they believe could be the potential pathway for learning, i.e. their discipline/subject/programme/career. See for initial ideas http://cte.umdj.edu/active_learning/active_general.cfm

As reported in a recently published paper, by the UCD Fellows in Teaching and Academic Development engaged in an investigation of first year engagement (Gibney et al, 2010), the literature suggests a link between the attitudes of first year students and their behaviour during their first year at university. This behaviour is linked to motivation which ultimately affects engagement and impacts academic performance. In the study the primary motivating factor for choosing to study at UCD was enhancing employment prospects in addition to a desire to explore subjects of interest (showing the relevance of both extrinsic and intrinsic motivating factors).

In a paper by Breen and Lindsay (2002) the significance of discipline-specific motivation is reported as being important in relation to student success. They recommend that the discipline specific values and demands are made clear early within programmes of study. The paper also suggests a link between retention and clarity of discipline specific expectations.

The implication for this design principle is that a) student should be as active as possible, and b) teaching and learning activities need to use real-life examples, making important connections to the students' current lives and future careers. The assessment methods should also parallel this using a variety of authentic real-life assessments, where possible. In addition, student should have opportunity to experience a developmental and supported approach to the common assessment types of the discipline, i.e. early essay writing skills support, early exposure to case studies, support in laboratory report writing, etc.

b) International case studies/example

- A useful American resource for some active learning strategies in classrooms is seen at <http://www.calstatela.edu/dept/chem/chem2/Active/main.htm>

-Assessments that are 'authentic' to the discipline are should be encouraged, where possible, in the first year, for example, Posters in the Sciences, Patient Case Studies in the Health Sciences.

-A large scale US project on making chemistry relevant, 'Chemistry in Context', explores how this approach has impacted on making learning more relevant and active for UG non-science students, see http://www7.nationalacademies.org/bose/PP_Middlecamp_WhitePaper.pdf

-For developing essay writing skills: in a first year education subject at the Queensland University of Technology (QUT), students are broken up into small groups. Each group is provided with a copy of the same written excerpt and asked to respond in a specific way: reflectively, analytically, critically, emotionally, or by summarising. Responses are then shared with the class, and the fundamental differences between responses are analysed' (Healy, 2008, cited in Kift & Moody 2009)

-A psychology degree program uses the same assessment definitions and criteria throughout the entire program. These are formally articulated to students and staff through a written assessment guide which defines academic terms (e.g., what is an essay?; what is a research report?) and assessment criteria for each type of task (Gibbs, 2009, cited in Kift & Moody 2009)

-University-wide guides for citation, referencing, and academic writing have been developed at QUT as the benchmark from which any variations in style may be made as required by an individual subject, program, school, or faculty. Students must be advised clearly if the referencing and citation requirements differ from those represented in *QUT cite/write* (n.d)'. cited in Kift & Moody 2009).

c) UCD case study or resource

-In a UCD Project, Professor Jean-Michel Picard designed his first year module: 'Making of Modern France', so that the students chose either a poster or a presentation as the assessment method, replacing the more traditional examination (UCD Choice of Assessment Project <http://www.ucd.ie/teaching/projects/choiceofassessmentmethods/>). Contact Professor Jean-Michel Picard (impicard@ucd.ie) or for third year example Dr Kathy O'Boyle (koboyle@ucd.ie), for use of posters as assessment method.

-In first year UCD Agriculture Programme, Professor Jim Phelan (james.phelan@ucd.ie) has redesigned the first year science modules to relate more specifically to the students discipline, i.e. 'Maths for Agriculture'; 'Physics for Agriculture'.

-UCD Professor Joe Brady describes how he is 'Using Blogs and Twitter to Encourage Student Engagement' in a large first year geography class. See UCD T&L showcase. <http://www.ucd.ie/teaching/showcase/showcases/name,52841,en.html> and he has also used WIKIs for a similar purpose, see <http://www.ucd.ie/teaching/showcase/showcases/name,52696,en.html>

In UCD Computer Science and first year science modules below, each module advocates many of the module design principles, but in particular the discipline identity, see both below:

UCD Case Studies of the Module Design Principles for First Year Assessment & Engagement

Module Name & Code	Computer Science in Practice (COMP10130)
Describe the example and any evidence of success:	<p>School of Computer Science introduced a core module “Computer Science in Practice” for all first years in semester 1, 2010-11. This replaced the elective module in semester 1, year 1.</p> <p>“Computer Science in Practice” introduces students to the breadth and depth of computer science, covering major areas of current activity and research in the school (including bioinformatics, natural computing, compression, web search engines, social networks, speech technologies); the idea is to give students the “very” big picture on what can be done with computer science. The module has a significant practical component, involving students in group presentations, additional topic research and development of related skills. Part of the module covers aspects of career development, including contact with graduate employers within the IT sector.</p> <p>The introduction of this new module is part of a wider strategy to reform Stage 1 CS, which aims to:</p> <ul style="list-style-type: none"> • Foster student identity with CS programme and a sense of belonging with both staff and students; • Help students gain an appreciation of the discipline and associated career opportunities; • Facilitate active engagement in learning through group work opportunities; • Encourage deeper learning throughout the semester through the exclusive use of continuous assessment in all semester 1 modules and full 15-week teaching semester.
What design principle(s) does it support? (see principles below)	<p>Design Principle 1 – Continuous assessment used throughout module using a learning journal (to engender lecture note-taking skills) and hands-on weekly practicals (to convey a deeper understanding of lecture topics)</p> <p>DP 2 – Group work projects are presented within the group and to the whole class; groups are re-configured every 3 weeks to break-up cliques and allow students to work with (nearly) everyone in the class</p> <p>DP3 – Students work in groups on well-structured tasks on each topic explored (for 3 hours each week). Module is taught in CS Active Learning Lab which is particularly conducive to group work and collaboration.</p> <p>DP4 – Students are immersed from the outset in research presentations on state of the art research problems. Blend of research problems, lectures, practical group-work tasks and exploration of related professional practice opportunities.</p> <p>DP5 – Active and task-based learning is at the heart of this module; teaching assistants are encouraged to challenge students in practical work, not</p>

	<p>direction but more a dialogue</p> <p>DP6 – Continuous assessment throughout this module facilitates spread of workload and assessment (the careers week was used to encourage students to also catch up on missed practical work). Combined with a 15 week teaching semester there is space and time in the module for review and catch-up.</p>
<p>What would UCD staff or students have to do for this to work? i.e. staff training, module/programme redesign, student support, ...</p>	<p>The module requires the commitment of the leading researchers in the school (e.g., in CSI 6 professors lecture on this course) to deliver lectures and follow-up in the practical sessions. There is a definite need to provide role models for the discipline.</p> <p>The Active Learning Lab is a key resource that facilitates group work and collaborative learning opportunities. All students work on open laptops during lectures and practicals.</p> <p>A colleague from the Careers Centre devised and delivered the careers component of the module; and a site visit to an employer was organized. The module needs to be coordinated and championed by senior member of School; to give it credibility and underline its importance.</p>
<p>Contact Number/e-mail of staff involved in the design:</p>	<p>Professor Mark Keane, mark.keane@ucd.ie Contact No.: 2481</p>

UCD Case Studies of the Module Design Principles for First Year Assessment & Engagement

<p>Module Title & Code</p>	<p>Principles of Scientific Enquiry (SCI10010)</p>
<p>Describe the example and any evidence of success:</p>	<p>From September 2011, “Principles of Scientific Enquiry” will be introduced as a core module for all 400 first year science students, following a pilot offering with 36 students in 2010-11.</p> <p>This module introduces students to the principles of scientific enquiry through lectures and group work. Working in small groups, students in conjunction with their academic mentor identify a scientific problem, review the literature and develop a project plan. The work develops students independent study skills within a scientific framework. This module involves staff from all disciplines within the Science Programme and students are encouraged to undertake their project work in a discipline that is of particular interest to them. Using a project based approach; students learn communication and presentation skills, methods of sourcing scientific information, scientific writing and analysis. Formal direction on teamwork, communication, presenting, sourcing and appraising information, scientific reading and writing, and critical thinking will be central to this module.</p> <p>The feedback on this module has been positive. Both staff involved in the tutorials and the students felt that it raised awareness amongst students in relation to researching and citing the scientific literature and stimulated their interest in the scientific process. In many instances, it was the first formal training in scientific writing and communication. The small group design also facilitated direct engagement with academics and provided opportunities for social engagement between incoming students.</p>

<p>What design principle(s) does it support? (see principles below)</p>	<p>Design Principle 1 – Weekly group-work tasks provide regular opportunities for assessment of student progress. In-class contribution and engagement is assessed on an ongoing basis, as are group presentations and individual submissions of work. Students also complete a learning journal (which is assessed) as a means of reflecting on their own learning over the course of the semester.</p> <p>DP 2 – The group work project provides the focal point of in-class and out-of-class learning activity. Students present to each other as well as their academic supervisor on a regular basis.</p> <p>DP3 – Students work in groups on well-structured tasks for up to 6 hours per week. Half of the teamwork time is supervised by tutor or academic mentor, while the remaining independent teamwork hours are formally timetabled for students.</p> <p>DP4 – The module delivery is a combination of large group lectures, medium group workshop sessions and smaller group contact with academic mentor. The module is designed to integrate the development of key skills alongside the undertaking of a scientific project.</p> <p>DP5 – Active and task-based learning is at the heart of this module; students are encouraged to undertake their project work in a discipline that is of particular interest to them.</p> <p>DP6 – Continuous assessment throughout this module facilitates spread of workload and assessment. There is no terminal exam.</p>
<p>What would UCD staff or students have to do for this to work? i.e. staff training, module/programme redesign, student support, ...</p>	<p>This module requires the commitment of about 80 academics to mentor a project groups in their discipline and in some cases contribute to lectures. Postgraduate tutors are recruited and trained to facilitate the workshops. Academic tutors meet with their group formally for 1 hour per week. A flexible teaching space is required to allow students to work in small groups on their projects.</p> <p>This module is coordinated and championed by the Dean of Science, to underline its importance within the Science Degree programme.</p>
<p>Contact Number/e-mail of staff involved in the design:</p>	<p>Professor Mark Rogers, mark.rogers@ucd.ie Contact No.: 2197</p>

6. Consider the student work-load demands within the module, as well as in parallel modules (Design Principle)

a) Elaboration of the assessment design principles, based on the literature

Some of the issues to do with assessment workload require a School or programme overview of the amount and types of assessment used, in addition, to the structure of the modules, i.e. 5 or 10 credit modules (for more on this see both *Resource for Programme/Directors/Heads of Schools* in this webpage) . However, as a module coordinator you can go some way to exploring this issue.

One of the potential consequences of modularisation, as far as assessment is concerned, appear to be fragmentation and over-assessment, or at least these are new possibilities (Brown *et al.*,1997). This observation points to the need to create strategies at the programme level that seek to overcome these problems (Mutch, 2002). Zeegers (2001) explored the change in students' approaches to learning over time within the same cohort of science students. Findings of his study support the view that student perceptions of study tasks, time restraints, **content overload**, past and present teaching, and assessment procedures all have some impact on the general approach to study being adopted by the students. From a student's perspective, this can lead to him/her relying on study strategies which he/ she believes will lead to success, often driving a more surface approach to learning. According to Prosser (2004), surface approaches to learning are generally associated with the perceptions that the workload is too high and that assessment is testing reproductive learning, whereas deep approaches to learning are associated with the perceptions that teaching is good and goals and standards are clear. Lizzio *et al.* (2002) also found that the perceptions of heavy workload and inappropriate assessment push students to adopt surface approaches to learning' Cited in Serife (2008).

In first year larger classes, staff are often left with little option but to use assessments that require less correction time, such as MCQ's and short examinations. Recent UCD data highlights an extremely high use of examinations and MCQs in the first semester of first year. In many cases continuous assessment is being used in addition to the end of semester examination.

In the first year, first semester, a reduction of end of semester examination is being encouraged. This allows more time for students and staff to work on in-semester assessment, i.e. reducing the need for end of semester examinations. If you have concerns about student plagiarism, there is some useful developmental and preventative advice (see links below) and, in addition, SAFE ASSIGN in Blackboard can be used to allow student to understand and be monitored for plagiarism.

In addition, as for the first design principle, consider an emphasis in this first year, first semester, for stronger emphasis on assessment for learning, than assessment for achievement.

Some recent resources below, discuss ideas for streamlining assessment for assessment overload.

b) International case studies/examples

-To address this issue, University of Napier (2010, p13) encourage schools to explore and set the guidelines around word count for students, in order to prevent both staff and student workload, i.e. the need for a policy on word count equivalents for all school modules.

Thompson and Falchikov (1998) discuss the impact of assessment workload on student adopting a surface approach to their learning. This article also explores the issue developing of students' time management skills. The UCD Assessment Audit Project (Keenan & O'Neill, 2008) identified that assessment overload was an issue for both staff and students.

Hornby (2003) in a useful document suggests five strategies for streamlining assessment, for example addresses the student and staff workload issues, see 'strategic reduction of summative assessment, front loading, peer/self assessment, in-class assessment, etc..

-In addition, the Quality Assurance Agency for Higher Education (2010) Scottish Enhancement themes outline some key cases studies that address overload and inefficiency in assessment practices (see also Ross, 2010)

-Preventing Plagiarism advice;

<http://web.presby.edu/writingcenter/faculty/preventplag.html>

<http://guides.library.ualberta.ca/content.php?pid=62200&sid=458155>

<http://sja.ucdavis.edu/files/plagiarism.pdf>

c) UCD case study or resource

In a recent UCD project to around Choice of Assessment Methods (<http://www.ucd.ie/teaching/projects/choiceofassessmentmethods/>), Dr Evelyn Doyle (evelyn.doyle@ucd.ie) used a choice between continuous or end of semester examination. She found that some students chose the end of semester option as parallel modules had more continuous assessment. This type of choice allows students to monitor their own work-loads in parallel modules. <http://www.ucd.ie/t4cms/case%20%20c%20doyle.ppt>

Many UCD schools have monitoring of assessment word count (or equivalence) as a means of monitoring assessment overload.

Some UCD modules, such as *Physics for Medicine*, first year, already use no end of semester examination in first year (ian.mercer@ucd.ie)

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