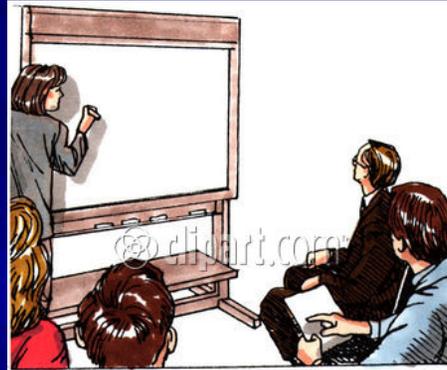


How do I link Learning Outcomes to Teaching and Learning Activities and Assessment?



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Beirut, Lebanon

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“The adoption of a learning outcomes approach represents more than simply expressing learning in terms of outcomes. It entails much more due to their significant implications for all aspects of curriculum design, delivery, expression, assessment and standards”.

Adam S, 2004

Assessment of Learning Outcomes

- Having designed modules and programmes in terms of learning outcomes, we must now find out if our students have achieved these intended learning outcomes.
- *How will I know if my students have achieved the desired learning outcomes? How will I measure the extent to which they have achieved these learning outcomes?*
- Therefore, we must consider how to match the method of assessment to the different kinds of learning outcomes e.g. a Learning Outcome such as “Demonstrate good presentation skills” could be assessed by the requirement that each student makes a presentation to their peers.
- When writing learning outcomes the verb is often a good clue to the assessment technique.



Formative Assessment

- ❑ Assessment **FOR** learning – gives feedback to students and teachers to help modify teaching and learning activities, i.e. helps inform teachers and students on progress being made.
- ❑ Assessment is integrated into the teaching and learning process.
- ❑ Clear and rich feedback helps improve performance of students (Black and Williams, 1998).
- ❑ Usually carried out at beginning or during a programme, e.g. coursework which gives feedback to students.
- ❑ Can be used as part of continuous assessment, but some argue that it should not be part of grading process (Donnelly and Fitzmaurice, 2005)



Summative Assessment

- Assessment that summarises student learning at end of module or programme – Assessment OF Learning.
- Sums up achievement – no other use.
- Generates a grade or mark.
- Usually involves assessment using the traditional examination.
- Only a sample of the Learning Outcomes are assessed – cannot assess all the Learning Outcomes.



Continuous Assessment

- A combination of summative and formative assessment.
- Usually involves repeated summative assessments.
- Marks recorded.
- Little or no feedback given.



Assessment

- *“Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experiences”*
(Huba and Freed, 2000)
- *“A way of finding out what our students know and can do”*

Example of Matching the Assessment to the Learning Outcome

Learning outcomes

1. Demonstrate good presentation skills.
2. Formulate food product
3. Identify an area for research
4. Identify signs and symptoms of MS in a patient

Assessment?

- a) Multiple choice questions
- b) Prepare a 1000-word research proposal
- c) Lab-based project
- d) Make a presentation to peers

To what extent has each Learning Outcome been achieved?

- Not a question of “yes” or “no” to achievement of Learning Outcomes.
- Rubric: A grading tool used to describe the criteria which are used in grading the performance of students.
- Rubric provides a clear guide as to how students’ work will be assessed.
- A rubric consists of a set of criteria and marks or grade associated with these criteria.

Linking learning outcomes and assessment criteria.

Learning outcome	Assessment criteria				
	Grade 1	Grade 2 : 1	Grade 2 :2	Pass	Fail
<p>On successful completion of this module, students should be able to:</p> <ul style="list-style-type: none"> ■ Summarise evidence from the science education literature to support development of a line of argument. 	<p>Outstanding use of literature showing excellent ability to synthesise evidence in analytical way to formulate clear conclusions.</p>	<p>Very good use of literature showing high ability to synthesise evidence in analytical way to formulate clear conclusions.</p>	<p>Good use of literature showing good ability to synthesise evidence in analytical way to formulate clear conclusions</p>	<p>Limited use of literature showing fair ability to synthesise evidence to formulate conclusions.</p>	<p>Poor use of literature showing lack of ability to synthesise evidence to formulate conclusions</p>

- Important to ensure that there is alignment between teaching methods, learning outcomes and assessment criteria.
- Clear expectations on the part of students of what is required of them are a vitally important part of students' effective learning (Ramsden, 2003)
- This correlation between teaching, learning outcomes and assessment helps to make the overall learning experience more transparent and meaningful for students.
- For the good teacher, learning outcomes do not involve a “paradigm shift”.



Teaching for understanding



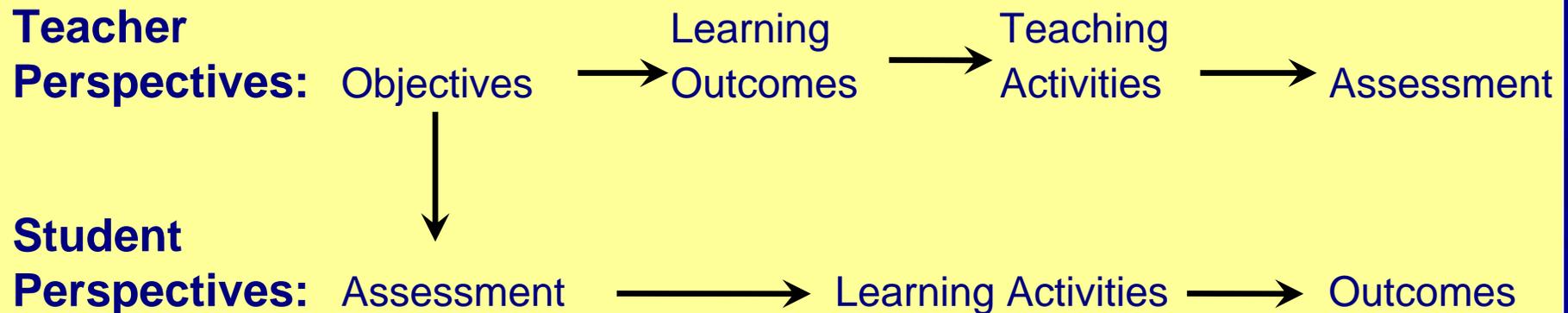
Learning outcomes



There is a dynamic equilibrium between teaching strategies and Learning Outcomes.

It is important that the assessment tasks mirror the Learning Outcomes since, as far as the students are concerned, the assessment *is* the curriculum: “From our students’ point of view, assessment always defined the actual curriculum” (Ramsden, 1992).

Biggs (2003) represents this graphically as follows:



“To the teacher, assessment is at the end of the teaching-learning sequence of events, but to the student it is at the beginning. If the curriculum is reflected in the assessment, as indicated by the downward arrow, the teaching activities of the teacher and the learner activities of the learner are both directed towards the same goal. In preparing for the assessment, students will be learning the curriculum” (Biggs 2003)

“Constructive Alignment” (Biggs, 2005)

Constructive

- The students construct understanding for themselves through learning activities. “Teaching is simply a catalyst for learning” (Biggs).
- “If students are to learn desired outcomes in a reasonably effective manner, then the teacher’s fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes.... It is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does” (Shuell, 1986)

Alignment

- Alignment refers to what the teacher does in helping to support the learning activities to achieve the learning outcomes.
- The teaching methods and the assessment are aligned to the learning activities designed to achieve the learning outcomes.
- Aligning the assessment with the learning outcomes means that students know how their achievements will be measured.

- Constructive alignment is the deliberate linking within curricula of aims, learning outcomes, learning and teaching activities and assessment.
- Learning Outcomes state what is to be achieved in fulfilment of the aims.
- Learning activities should be organised so that students will be likely to achieve those outcomes.
- Assessment must be designed such that students are able to demonstrate that they have met the learning outcomes.
- Constructive alignment is just a fancy name for “joining up the dots”.

(Morss and Murray, 2005)

Steps involved in linking Learning Outcomes, Teaching and Learning Activities and Assessment

1. Clearly define the learning outcomes.
2. Select teaching and learning methods that are likely to ensure that the learning outcomes are achieved.
3. Choose a technique or techniques to assess the achievement of the learning outcomes.
4. Assess the learning outcomes and check to see how well they match with what was intended

If the learning outcomes are clearly written, the assessment is quite easy to plan!



Linking Learning Outcomes, Teaching and Learning Activities and Assessment

Learning Outcomes	Teaching and Learning Activities	Assessment
<p>Cognitive (Demonstrate: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation)</p>	<p>Lectures</p> <p>Tutorials</p> <p>Discussions</p> <p>Laboratory work</p>	<ul style="list-style-type: none"> •End of module exam. •Multiple choice tests. •Essays. •Reports on lab work and research project. •Interviews/viva. •Practical assessment.
<p>Affective (Integration of beliefs, ideas and attitudes)</p>	<p>Clinical work</p> <p>Group work</p> <p>Seminar</p>	<ul style="list-style-type: none"> •Poster display. •Fieldwork. •Clinical examination. •Presentation. •Portfolio. •Performance.
<p>Psychomotor (Acquisition of physical skills)</p>	<p>Peer group presentation etc.</p>	<ul style="list-style-type: none"> •Project work. •Production of artefact etc.

Learning outcomes Module ED2100	Teaching and Learning Activities	Assessment 10 credit module Mark = 200
Cognitive <ul style="list-style-type: none"> •Recognise and apply the basic principles of classroom management and discipline. •Identify the key characteristics of high quality science teaching. •Develop a comprehensive portfolio of lesson plans 	Lectures (12) Tutorials (6) Observation of classes (6) of experienced science teacher (mentor)	End of module exam. Portfolio of lesson plans (100 marks)
Affective <ul style="list-style-type: none"> •Display a willingness to co-operate with members of teaching staff in their assigned school. •Participate successfully in Peer Assisted Learning project 	Participation in mentoring feedback sessions in school (4) Participation in 3 sessions of UCC Peer Assisted Learning (PAL) Programme. Peer group presentation	Report from school mentor End of project report. (50 marks)
Psychomotor <ul style="list-style-type: none"> •Demonstrate good classroom presentation skills •Perform laboratory practical work in a safe and efficient manner. 	Teaching practice 6 weeks at 2 hours per week. Laboratory work	Supervision of Teaching Practice Assessment of teaching skills (50 marks)

Does every learning outcome have to be assessed?

- In theory “yes” but in practice “no”.
- In some cases they have to be assessed, e.g. licence to practice (e.g. medicine) or to perform essential tasks (e.g. aircraft pilot).
- When assessment is limited purely to an examination paper, it may not be possible to assess all the Learning Outcomes in such a short space of time – sampling of Learning Outcomes.
- Even if all the Learning Outcomes are assessed on an examination paper, due to choice of questions, a student may not be assessed on all of them.

Programme Accreditation

	Prog. Learning Outcome 1	Prog. Learning Outcome 2	Prog. Learning Outcome 3	Prog. Learning Outcome 4	etc
Module 1		✓			
Module 2	✓				
Module 3			✓		
Module 4				✓	
Module 5	✓				
Module 6		✓		✓	

What other information, apart from the Learning outcomes is needed to describe a module?

- **Credit Weighting:** Number of ECTS credits.
- **Teaching Period(s):** Term 1, Term 2 or both. .
- **No. of Students:** Maximum number of students allowed to take the module.
- **Pre-requisite(s):** Module(s) that should already have been passed by student.
- **Co-requisite(s):** Another module that the student must take with this module.
- **Teaching Methods:** Details of number of lectures, tutorials, etc.
- **Module Co-ordinator:** Name of person in charge of module.
- **Lecturer(s):** Name(s) of person(s) teaching the module. .

Module Description (continued)

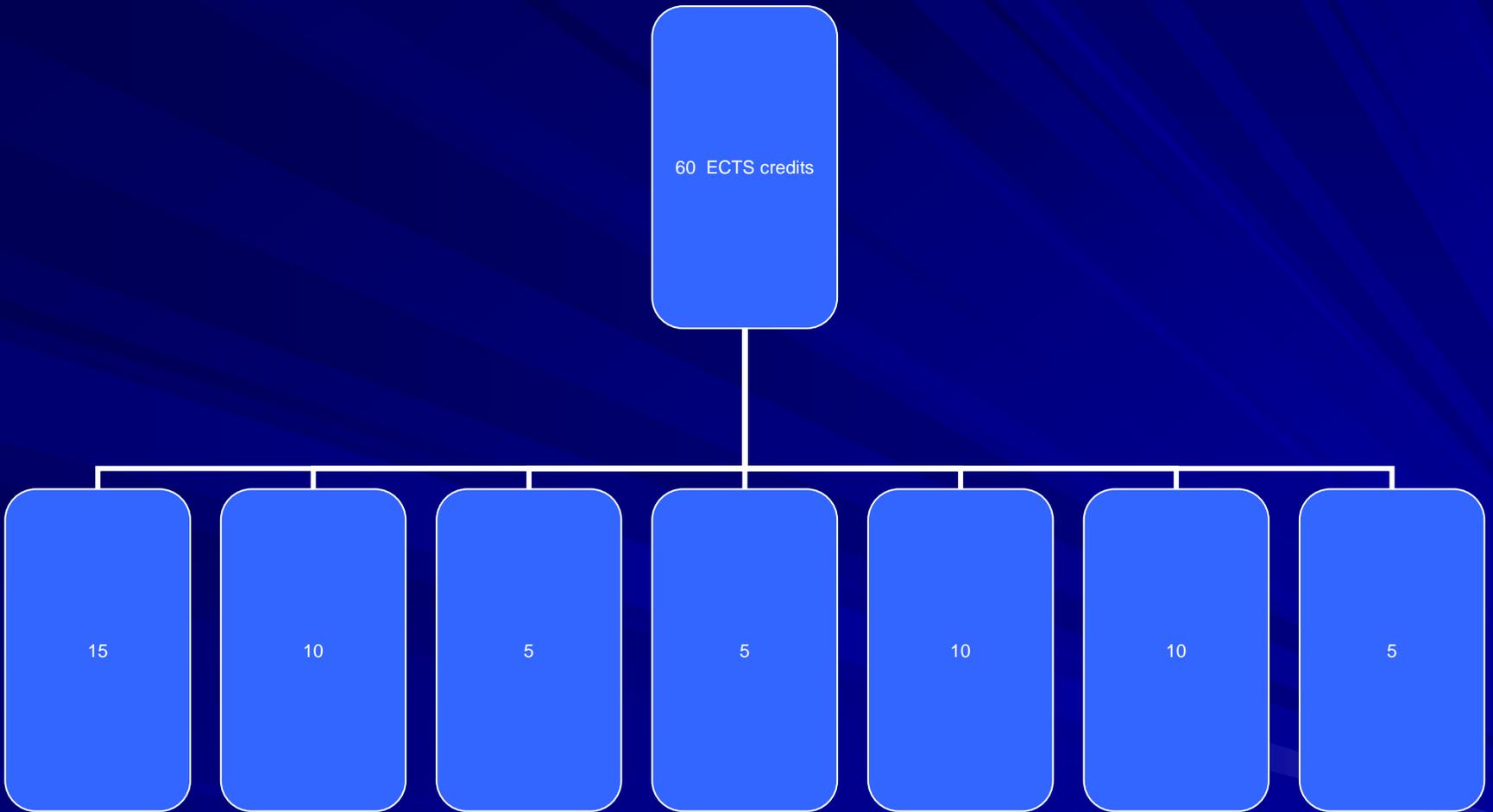
- **Module Objective:** A sentence stating the objective of the module.
- **Module Content:** A list of topics covered in the module.
- **Learning Outcomes:** On successful completion of this module, students should be able to:
[List of learning outcomes].
- **Assessment:** Details of total mark for module and details of the breakdown of this total mark, e.g. written paper, continuous assessment, project, etc.
- **Compulsory Elements:** Any part of assessment that **MUST** be passed in order to pass the module, e.g. professional practice component.
- **Penalties (for late submission of Course/Project Work etc.):** Details of marks deducted for late submission.
- **Pass Standard and any Special Requirements for Passing Module:** The minimum mark that must be obtained in order to pass the module.
- **End of Year Written Examination Profile:** Number and duration of examination papers.
- **Requirements for Supplemental Examination:** Number and duration and date of repeat examination for those who fail the module.

Modularisation

- A module is a self-contained fraction of a student's workload for the year with a unique examination and a clear set of learning outcomes and appropriate assessment criteria.
- The size of a module is indicated by its credit weighting.
- Under ECTS system, each year of degree programme = 60 credits.
- Modules are allocated 5, 10, 15 or 20 credits depending on the fraction of the programme workload covered in the module.
- Each module is given a unique code, e.g. ED2013

ED2013

Education Year 2 Number assigned to this module



Advantages of modularisation

- Gives greater clarity of structure and helps to establish clear relationship between credits and student workload in ECTS system.
- Reflects more accurately the various elements of students' workload.
- Facilitates work abroad, work placement, off-campus study as modules for degree examinations.
- Gives greater clarity and consistency in assessment.
- Provides flexibility in the design of degree programmes by incorporating modules from different areas.

- Facilitates credit accumulation, i.e. increases number of pathways to final degree award. Hence, encourages greater diversity of students, e.g. mature and part time students.
- Allows third level institutions to participate in schemes like SOCRATES so that students obtain ECTS credits towards their degree.
- Facilitates greater ease of student transfer between institutions offering ECTS-based programmes.
- Facilitates resource allocation within university.

Introducing Learning Outcomes at University Level

Learning Outcomes in UCC

- UCC participated in the European Universities Association Network on Quality in Teaching and Learning in 2003 – 2004. "Implementing a Learning Outcomes Approach to Teaching" – Quality Culture Project IV (EUA).
- Network of six EU universities involved.
- Headed up by Prof. Aine Hyland, Education Dept. and Dr Norma Ryan Quality Promotion Unit UCC An 18 month project - the report was published in 2005. The project concentrated on Learning Outcomes rather than Competences

A number of international conferences on Bologna Process were held in University College Cork – how I became involved.

INTERNATIONAL SYMPOSIUM

Implementing Learning Outcomes

Implications for re-defining Teaching & Learning



Friday 10th & Saturday 11th February 2006

LECTURE THEATRE G02,
BROOKFIELD HEALTH SCIENCES COMPLEX
UNIVERSITY COLLEGE CORK

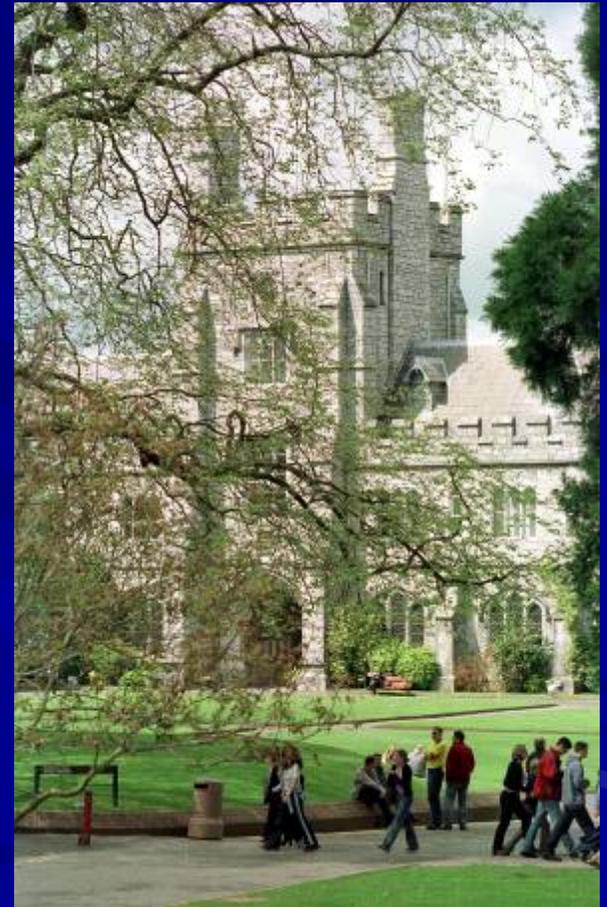


UNIVERSITY COLLEGE CORK
NATIONAL UNIVERSITY OF IRELAND CORK
COLLAÍTE NA hÍRÉSCUÍE DOSEACH
COLLEGIUM NA HIBERNIA CORCAEII

The Teaching and Learning Centre

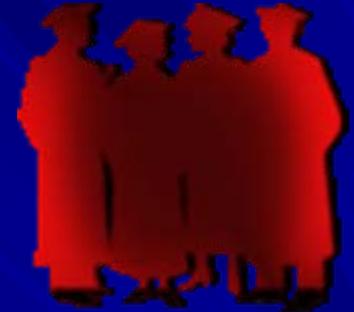
Ionad Bairre

- Set up in October 2006 – Dr Bettie Higgs and Dr Marian McCarthy.
- Has provided a continuous series of lunchtime seminars on Teaching and Learning throughout each academic year.
- “Taking a Learning Outcomes approach to Teaching and Learning”
- “Learning Outcomes-how can we be sure they have been achieved?”
- “Getting to Grips with Assessing Creative and Original Student work - Unpredictable Learning Outcomes”
- Drop-in workshops on Learning Outcomes.



Postgraduate Certificate, Diploma and MA in Teaching and Learning in Higher Education

- Initiated in October 2004.
- To date 4 cycles of the Postgraduate Certificate course have been completed involving 170 staff.
- A total of 90 staff members have completed the Postgraduate Diploma course.
- The MA in Teaching and Learning at Higher Education has been completed by 20 staff members.
- Has provided a great resource throughout the university – seminars based in individual Departments.

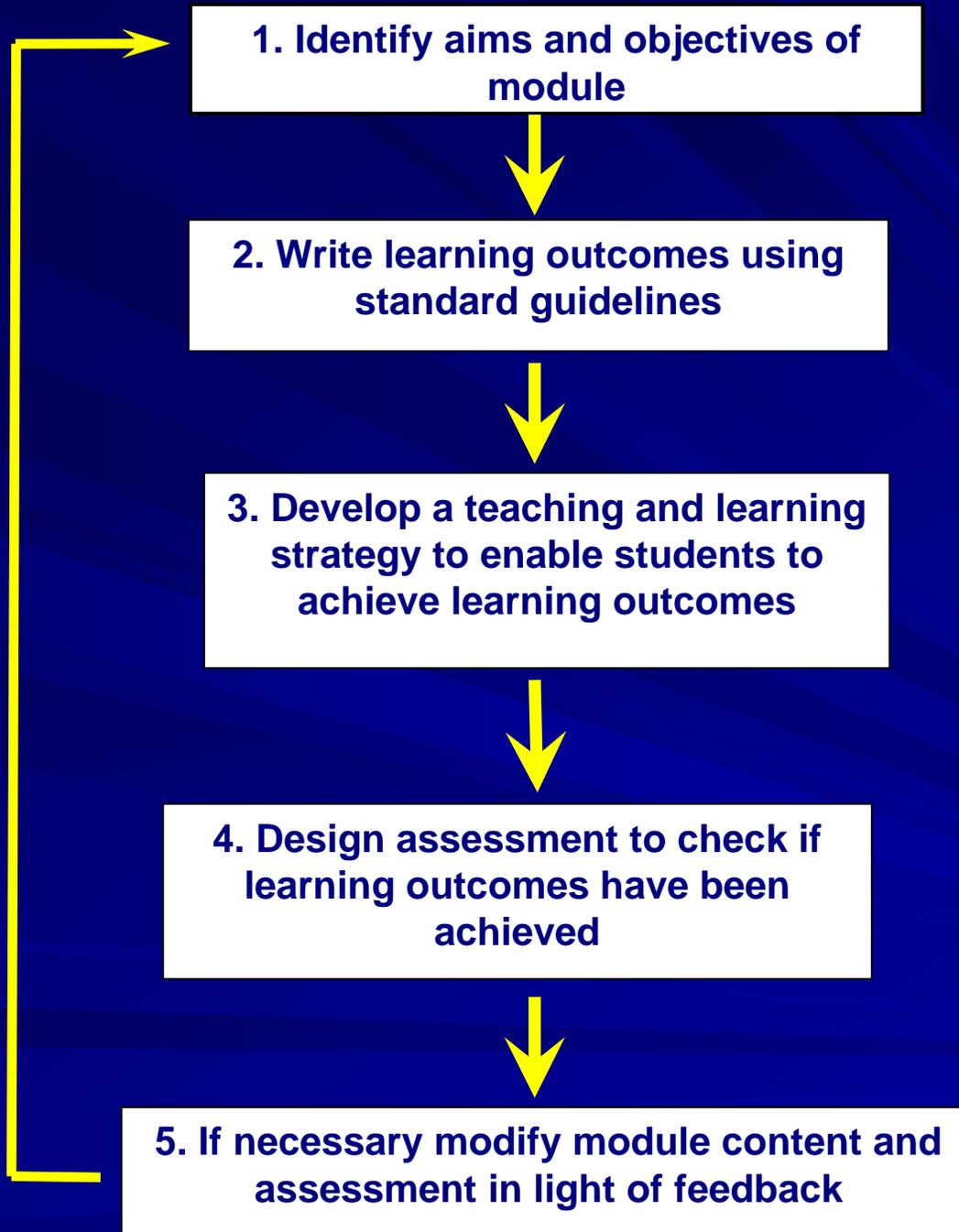


Postgraduate Certificate in Teaching & Learning in Higher Education

The aim of the Accredited Programme is to enable teachers in higher education to research and develop their teaching from the perspective of their students' learning and its disciplinary context. Over the course of the programme, which includes a Certificate, Diploma and Masters, participants will have the opportunity to interact with colleagues from across the disciplines, to foster communities of practice, to develop portfolios of practice, to peer review their teaching, to present conference papers and posters and, ultimately to publish their research findings.

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**Ms Mary Clohessy, Executive Assistant,
m.clohessy@ucc.ie, 021 4902919**



“Writing Learning Outcomes is a Process not an Event”



Issues raised when introducing Learning Outcomes

- **Opposition to Bloom's Taxonomy.** This should not present a problem to the writing of Learning Outcomes AS mentioned already, Bloom's Taxonomy is simply a very useful toolkit to assist us in writing learning outcomes. If staff members do not wish to use Bloom's Taxonomy, they can use other taxonomies or use their own system to write learning outcomes. As long as staff members write learning outcomes that are correctly written, that is all that is important.
- **Preference to write competences.** It is not a problem if people like to describe their courses in terms of competences. However, the Bologna Agreement specifies that modules and programmes must be written in Learning Outcomes. If staff members wish to write competences as well as Learning Outcomes, that is not a problem. Learning outcomes bring clarity to competences.

A Venn diagram consisting of three overlapping circles. The top-left circle is labeled 'SKILLS', the top-right circle is labeled 'KNOWLEDGE', and the bottom circle is labeled 'ATTITUDE'. The central area where all three circles overlap is labeled 'Competent'. The circles are filled with a blue grid pattern.

SKILLS

KNOWLEDGE

Competent

ATTITUDE

Some Advice

- Introducing learning outcomes at institutional level requires a carefully tailored strategy, whose primary goal should be quality enhancement rather than compliance with external directives;
- Learning outcomes must be capable of assessment and at the module level should be linked to assessment criteria, also expressed in terms of learning outcomes;
- The best learning outcomes are the product of sincere reflection about realistic and attainable combinations of knowledge and understanding, practical and cognitive skills, levels of autonomy, learning skills etc.
- Learning Outcomes are challenging but it is impossible to have a meaningful European Higher Education area without their widespread and consistent use

(Stephen Adams, 2008)

Some Recommendations from Porto Conference (19 – 20 June 2008)

- Develop and disseminate user-friendly documentation to explain to all stakeholders the benefits of learning outcomes and credits.
- Implement a holistic approach, developing learning outcomes as an integral part of teaching, learning and assessment methods within an aligned curriculum.
- Offer incentives to encourage staff to engage in new approaches to teaching, learning and assessment.

Concluding Points

- Momentum generated by
 - European University Association project.
 - International Bologna conferences.
 - Setting up of Teaching and Learning Centre (Ionad Bairre).
 - Postgraduate Cert/Diploma and MA in Teaching and Learning in Higher Education
 - Lunchtime seminars for staff.
- Keep it simple.
- Provide support to staff.
- Staff training is the key.
- Setting up of expertise within each Department – Postgraduate Cert/Diploma course.
- The UCC Quality Promotion Unit - the driving force.
- A team effort.

