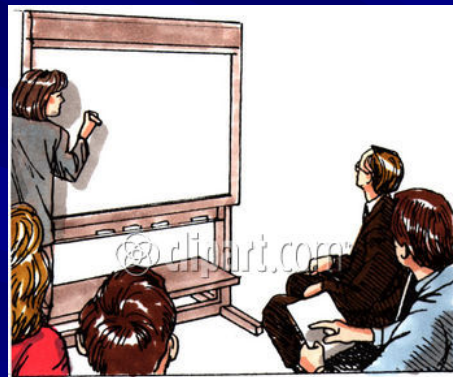


How do I link Learning Outcomes to Teaching and Learning Activities and to Assessment?



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Vytautas Magnus University
Lithuania.

Dr Declan Kennedy,
Department of Education,
University College Cork, Ireland

“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.
- How can we design our examination system so that it tests if learning outcomes have been achieved?



Misconceptions about Assessment

- “A view of teaching as the transmission of authoritative knowledge has little space to accommodate the idea that different methods of assessment may be appropriate for the evaluation of different parts of the subject matter or that assessment techniques themselves should be the subject of serious study and reflection. In such a conception, lecturers see teaching, learning and assessment as tenuously related in a simple linear sequence”.
- “Assessment is something that follows learning, so there is no need to consider its function as a means of helping students to learn through diagnosing their errors and misconceptions and reinforcing their correct understanding”.
- “Assessment, like teaching, is something done to studentsAssessment classifies the students on the criterion of how well they have absorbed the data thus transmitted. What could be simpler?”

(Ramsden, 2005)

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”*

Trends in assessment

Traditional

- Examinations
- Lecturer-led
- Product assessment
- Vague criteria
- Content
- Individual

Changing approaches

- Course work
- Student-led
- Explicit criteria
- Skills
- Group

Purposes of assessment

- *Educational* : feedback, diagnosis, motivation, guidance, learning support
- *Managerial* : selection, grading, certification, progression, professional recognition, maintaining standards.



Assessment principles: summary

- Student centred: inclusive, diversity
- Linked to learning outcomes
- “Performance of understanding”
- Process matches purpose
- Range of modes, techniques, formats
- Transparent, fair and equitable to all users
- Valid, authentic and reliable

Assessing learning outcomes: points to consider

- Learning outcomes: “statements of what a student will know, understand, and/or be able to do at the end of a learning experience”.
- Having described your courses in terms of learning outcomes, you now want to find out whether students have achieved them
- Specify the types of student performance that will provide evidence of learning

Assessment choices

- How best to measure the wide range of learning outcomes? Types of test items to include?
- Written, oral, practical, other techniques?
- Balance between formative and summative purposes?
- Continuous and/or terminal?



“Techniques” of assessment

- *Written*: tests, examinations, assignments
- *Practical*: skills testing; lab/workshop practice
- *Oral*: interviews, various formats
- *Aural*: listening tests
- *Project work*: individual/group; research/design
- *Field work*: data collection and reporting
- *Portfolio* : combination of techniques

Common assessment techniques in Higher Education

- Paper/thesis
- Project
- Product development
- Performance
- Exhibition
- Case study.
- Clinical evaluation
- Oral exam
- Interview
- Research assignment
- Portfolio
- Others??

Example of Matching the Assessment to the Learning Outcome

Learning outcomes

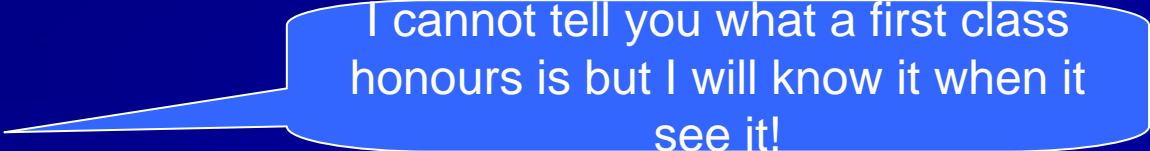
1. Demonstrate good presentation skills.
2. Formulate food product
3. Identify an area for research
4. Identify signs and symptoms of MS in a patient

Assessment?

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

Giving feedback to students

- Make it quick, clear and focussed
- Relate it to the assessment criteria and learning outcomes
- Use rubrics or formal marking schemes to show how well the requirements are met.
- Learning Outcomes are usually written at threshold level.
- Steps in feedback:
 - Affirm what is done well
 - Clarify: ask questions about specific aspects
 - Make suggestions for improvement
 - Give guidance about what the student needs to do next



I cannot tell you what a first class honours is but I will know it when I see it!

Assessing your assessment – is it doing the job you want it to do? Is it comprehensive?

	Assessment Task 1 e.g. Written Exam	Assessment Task 2 e.g. Project	Assessment Task 3 e.g. Presentation	Assessment Task 4 e.g. Lab work
Learning Outcome 1 Describe...				
Learning Outcome 2 Investigate..				
Learning Outcome 3 Demonstrate..				

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, earning outcomes do not involve a “paradigm shift”.



Teaching for understanding



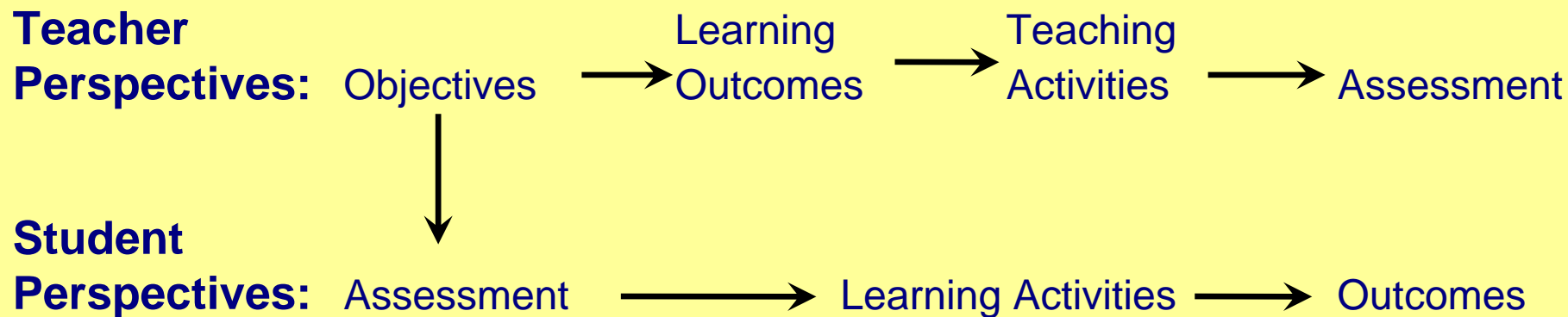
Learning outcomes



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. •Poster display.
<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"> •Fieldwork. •Clinical examination. •Presentation. •Portfolio. •Performance. •Project work.
<p>Psychomotor (Acquisition of physical skills)</p>	<p>Peer group presentation etc.</p>	<ul style="list-style-type: none"> •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)

Programme Accreditation

- Module descriptors with clearly written Learning Outcomes
- Framework for Accreditation e.g. Engineer's Ireland.
- Mapping of Programme Areas vs Programme Outcomes
- Mapping of Module Learning Outcomes vs Programme Learning Outcomes

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

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.

Learning Outcomes - Facilitating Transnational Mobility

- Traditional approach focuses on input (e.g. emphasis on just listing content of programmes) but Learning Outcomes provide a clear and comprehensive set of statements outlining what students have achieved after successfully completing a course of study.
- Greater participation in higher education in many countries has resulted in the need for clearer information about programmes, qualifications, clarity about standards and levels of qualifications, i.e. more precision in curriculum design.
- Internationally, statements of Learning Outcomes contribute to the mobility of students since recognition of qualifications is made easier due to the explicit nature of Learning Outcomes and the clarity associated with them. Hence, qualifications are made more transparent and this simplifies credit transfer.
- Learning outcomes provide a common language for describing different structures of teaching and learning, e.g. traditional formal teaching, distance education, part-time, full-time, etc.
- Learning Outcomes help to form a link at both national and international level between vocational/training courses and higher education enhancing the concept of lifelong learning.

Transnational Implications of Learning Outcomes

Learning Outcomes have applications at three levels:

1. **Local level** – individual third level institutions for describing modules and programmes.
2. **National level** – within each country for describing National Qualification Frameworks and systems for Quality Assurance.
3. **International Level** – facilitate clarity and transparency of qualifications and mutual recognition of qualifications.

Learning outcomes provide the common language in the clear description of programmes and modules. The ECTS system provides the common currency.

Concluding Points

- Vital importance of linking the Learning Outcomes to Teaching and Learning Activities and to Assessment.
- Importance of training the staff in our university.
- Importance of Quality Assurance within University.
- International collaboration and recognition.