

Learning outcomes

Project: “Supporting and Developing the Structures for the Quality Assurance at the Private Higher Education Providers”

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- The Bologna process spells out a number of “action lines” in which learning outcomes should play an important role (Adam, 2004, 2006)
 - By 2010, all programmes and significant constituent elements of programmes in third level institutions throughout the EHEA should be based on the concept of learning outcomes, and that curriculum should be redesigned to reflect this.
 - Berlin 2003: the development of national frameworks of qualifications – degrees (Bachelor and Masters) would also be described in terms of learning outcomes, rather than simply by number of credits and number of hours of study.
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Traditional way to design a module- teacher centered approach

- ❑ To start from the content of the course.
 - ❑ Teachers serve as the centre of epistemological knowledge, directing the learning process and controlling students' access to information
 - ❑ Teachers decided on the content, what to teach, how to teach (methodology) and how to assess
 - ❑ Teacher centered approach-passive students in the classroom
 - ❑ Was not defined what the students have to be able to do in order to pass the course or a programme.
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Teacher-centred education?

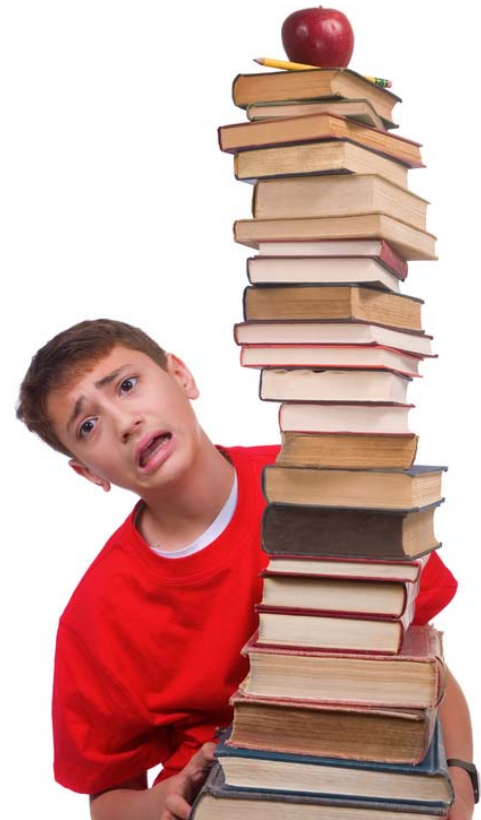


Be quiet and
write down
everything I
say!



International trends-student centered approach

- ❑ shift from the traditional “teacher centred” approach to a “student centred” approach.
- ❑ Students are not passive . They learn in different ways (Briggs-Myers, 1980; Kolb, 1984).
- ❑ Learning is an active dynamic process (Cross, 1991).
- ❑ Students construct their own meaning by talking, listening, writing, reading, and reflecting on content, ideas, issues and concerns (Meyers and Jones, 1993)
(Source: University
- ❑ Focus on what the learner has achieved rather than the intentions of the teacher
- ❑ What the students are expected to be able to do at the end of the module or a programme.



Definition of LO

They are explicit statements about the outcomes of learning – the results of learning.

They are usually defined in terms of a mixture of knowledge, skills, abilities, attitudes and understanding that an individual will attain as a result of his or her successful engagement in a particular course or programme.

In reality, they represent much more than this. They serve as a methodological approach for the expression and description of the curriculum (modules, units and qualifications) and levels, cycles, and the qualifications frameworks.

~~L.O are often expressed as: On the successful completion of this course/programme students will be able to.....~~

Some definitions of the term “learning outcomes”

1. Learning outcomes are statements that specify what learners will know or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills or attitudes. (American Association of Law Libraries⁴)
2. Learning outcomes are an explicit description of what a learner should know, understand and be able to do as a result of learning. (Bingham, 1999)
3. Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning. (ECTS Users Guide, 2005)
4. A learning outcome is a written statement of what the successful student/learner is expected to be ~~able to do at the end of the module/course unit or~~ qualification.

What is the difference between aims, objectives and learning outcomes?

- ~~The aim of a module indicates what the teacher intends~~ to cover in a block of learning. For example, the aim of a module could be “to introduce students to the basic principles of atomic structure” or “to provide a general introduction to the history of Germany”
- The objective of a module or programme is usually a specific statement of teaching intention, i.e. it indicates one of the specific areas that the teacher intends to cover in a block of learning. For example, one of the objectives of a module could be “students would understand the impacts and effects of human activity in biodiversity”
- ~~Objectives sometimes written as teaching intention and~~ other times they are written in terms of expected learning

How to write LO

- ❑ The learning outcome approach is, above all, a perspective and a mode of thinking in order to develop valid programmes.
 - ❑ Bloom-carried out research on the development of a classification of levels of thinking during the learning process.
 - ❑ Bloom identified three domains of
 - ❑ learning – cognitive, affective and psycho-motor
 - ❑ *Taxonomy of Educational Objectives: Handbook 1, the Cognitive Domain* (Bloom et al., 1956) widely used in the world to help in curriculum development
 - ❑ Bloom's Taxonomy provides a framework in which one can build upon prior learning to develop more complex levels of understanding.
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Cognitive or knowing domain

- ❑ Bloom proposed that the cognitive or knowing domain is composed of six successive levels arranged in a hierarchy as:
 - ❑ **1. Knowledge**
 - ❑ **2. Comprehension**
 - ❑ **3. Application**
 - ❑ **4. Analysis**
 - ❑ **5. Synthesis**
 - ❑ **6. Evaluation**
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The use of verbs to write L.O.

- the use of the correct verbs is the key to the successful writing of learning outcomes
 - Since learning outcomes are concerned with what the students can **do** at the end of the learning activity, all of these verbs are action (active) verbs
 - *Arrange, collect, define, describe, duplicate, enumerate, examine, find, identify, label, list, memorise, name, order, outline, present, quote, recall, recognise, recollect, record, recount, relate, repeat, reproduce, show, state, tabulate, tell, Associate, change, clarify, classify, construct, contrast, convert, decode, defend, describe, differentiate, discriminate, discuss, distinguish, estimate, explain, express, extend*
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Writing learning outcomes in the affective domain

- ❑ **affective** (“attitudes”, “feelings”, “values”)
 - ❑ This domain is concerned with issues relating to the emotional component of learning and ranges from basic willingness to receive information to the integration of beliefs, ideas and attitudes.
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Hierarchy of affective domain

5. Characterisation

3. Valuing

4. Organisation

2. Responding

1. Receiving

commonly used when writing learning outcomes for this domain are:

act, adhere, appreciate, ask, accept, answer, assist,
attempt, challenge, combine, complete, conform,
cooperate, defend, demonstrate (a belief in),
differentiate, discuss, display, dispute,
embrace, follow, hold, initiate, integrate, justify, listen,
order, organise, participate, practice, join, share,
judge, praise, question, relate, report, resolve, share,
support, synthesise, value

Writing learning outcomes in the psychomotor domain

- ❑ The psychomotor domain mainly emphasises physical skills involving co-ordination of the brain and muscular activity.
 - ❑ **Hierarchy of psychomotor domain**
 - ❑ **1. Imitation**
 - ❑ **2. Manipulation**
 - ❑ **3. Precision**
 - ❑ **4. Articulation**
 - ❑ **5. Naturalisation**
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Action verbs for writing learning outcomes in the psychomotor domain

Adapt, adjust, administer, alter, arrange, assemble, balance, bend, build, calibrate, choreograph, combine, construct, copy, design, deliver, detect, demonstrate, differentiate (by touch), dismantle, display, dissect, drive, estimate, examine, execute, fix, grasp, grind, handle, heat, manipulate, identify, measure, mend, mime, mimic, mix, operate, organise, perform (skilfully), present, record, refine, sketch, react, use.

Good practice and the creation and implementation of learning outcomes

- ❑ Writing good learning outcomes takes time and reflection.
 - ❑ It is pointless to write them to fit existing, unmodified modules.
 - ❑ The creation of learning outcomes is not a precise science and they require considerable thought to write – it is easy to get them wrong and create a learning straitjacket.
 - ❑ Learning outcomes are commonly further divided into different categories of outcomes. The most common subject specific outcomes and generic (sometimes called transferable or transversal skills).
 - ❑ The best learning outcomes are the product of sincere reflection about realistic and attainable combinations of any of the following: knowledge and understanding, practical skills (including applying knowledge and understanding), subject specific and transversal/transferable skills, etc. (using BLOOM taxonomy: cognitive, affective and psychomotor domains).
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Learning outcomes should be fit for their purpose + appropriate for the user in question.

- ❑ Regular stakeholder input is important in the creation and review of learning outcomes.

The introduction of learning outcomes at an institutional level requires a carefully tailored strategy and the primary goal should be quality enhancement, never just compliance with outside (national, ministry or quality assurance agency) edicts.

- ❑ At the level of the module and individual qualifications learning outcomes must be written in the context of appropriate national and international external reference points.
 - ❑ Learning outcomes must be capable of assessment. Applied at the level of the individual module they should be linked to comprehensive assessment criteria, also expressed in terms of learning outcomes.
 - ❑ It is important to ensure that at the institutional level not only is assessment directly linked to learning outcomes but also firmly aligned with an appropriate delivery strategy. Teaching, learning and assessment are intimately linked in the process of curriculum development
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Examples of learning outcomes:

Exemplified from: Writing and using learning outcomes – a practical guide by Declan Kennedy (UCC 2007)

On successful completion of this module/programme the student will be able to:

MODULE IN RESTORATIVE DENTISTRY: (2/7)

- examine a patient extra-orally and intra-orally;
- Formulate an appropriate treatment plan based on an understanding of the disease process present and a prediction of the likely success;

MODULE IN ECONOMICS: (3/9)

- Interpret national income and expenditure accounts;
- Differentiate between monetary and fiscal policy;
- Criticise budgetary decisions using economic criteria;

PROGRAMME LEARNING OUTCOME FOR A SECOND CYCLE COMPUTER SCIENCE DEGREE: (3/8)

- Use, create and manipulate large computational systems;
- Work effectively as a team member;
- Write thesis/report to a professional published standard;

PROGRAMME LEARNING OUTCOME FOR A FIRST CYCLE ENGINEERING DEGREE: (2/5)

- Identify, formulate and solve engineering problems;
- Design a system component or process to meet specified needs and to design and conduct experiments to analyse and interpret data;



□ THANK YOU FOR YOUR ATTENTION!
