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Handbook for the Modular Curriculum Teaching Learning and Assessment Guides

Theme 1: Module and Programme Design

Guide 1: Writing Learning Outcomes

Contents

1	Introduction	3
1.1	What are Learning Outcomes?	3
1.2	Stating Learning Outcomes?	4
1.3	Writing Learning Outcomes: Some Practical Advice	5
1.4	Linking Learning Outcomes to Assessment	6
1.5	Further Sources of Information	6
	References	7
	Appendix 1	
	Additional Suggestions for Learning Outcome Verbs	8
	Appendix 2	
	Some Examples of Learning Outcomes From UCD Models	9



Theme 1: Module and Programme Design

Guide 1: Writing Learning Outcomes

1 Introduction

The introduction of modularisation at UCD is the ideal opportunity to move to a learning outcomes approach in stating the objectives of our educational activities and programmes. This document is a short guide to learning outcomes for staff who are responsible for developing modules. This guide covers:

1. What are learning outcomes?
2. Stating learning outcomes
3. Writing learning outcomes
4. Linking learning outcomes and assessment

It should be read in conjunction with the document “Guidelines for Preparing a Module Descriptor” which explains how to complete the module descriptor template available at: <http://www.ucd.ie/modularisation.htm>. At the end of this guide you will find information about further resources, which may be of interest to you on this topic. This guide draws on a more detailed theoretical document, which is available from the Centre for Teaching and Learning (ex 2839).

1.1 What are learning outcomes?

Until comparatively recently, published descriptions of university courses tended to refer mainly to content (i.e. what it was that the teacher would cover). The focus was on what the teacher did, and goals were expressed in terms of the content, which the teacher would transmit. Current models of higher education, however, place the learner at the centre of the teaching and learning process and require that modules be described in terms of what it is that *the students* should be able to do when they have completed that module (Lea *et al*, 2003). The statements, which describe what it is the students should be able to do after completing the module, are called *intended learning outcomes* or *learning outcomes* for short. They describe the achievements of learners in terms of the knowledge, understanding and skills attained on completion of a piece of learning.

1.2 Stating Learning Outcomes

Modern good practice is to state learning outcomes:

- from the point of view of the students
- in behaviourist language that describes what the student is expected to be able to do upon completion of the module.

Adopting the following formula will enable you to ensure both of the above characteristics:

**On completion of this module students should be able to
.....(list of assessable actions).**

Learning outcomes are commonly divided into:

- (i) **subject-specific** outcomes that relate specifically to the discipline and knowledge/skills particular to it;
- (ii) **generic** (sometimes called transferable) outcomes that relate to any or all disciplines – e.g. written, oral, problem-solving, information technology, and team working skills. (See <http://www.ucd.ie/teaching/good/gen.htm>)

Of course, these categories are not, necessarily, mutually exclusive.

Learning outcomes are the “middle ground” (D’Andrea, 2003, p28) between too loose or over-generalised “learning aims” and over-prescriptive “learning objectives”. Well-written learning outcomes should help students to understand what they are expected to achieve at the end of a module.

Consideration should be given, when stating the learning outcomes, to the cognitive level demanded of the student. The new revised Blooms Taxonomy links the learning outcomes verbs with the various cognitive levels, i.e. ranging from ‘remembering’ to ‘creating’.

Verbs appropriate to different levels of Bloom’s (Revised) Taxonomy (after Anderson et al 2001).	
Level	Examples of Appropriate Verbs
Synthesis / Creation	Hypothesise, Design, Construct, Plan, Invent, Devise.
Evaluation	Judge, Test, Monitor, Detect, Co-ordinate.
Analysis	Differentiate, Discriminate, Distinguish, Deconstruct
Application	Apply, Use, Demonstrate, Use.
Understanding	Clarify, Illustrate, Categorise, Predict, Compare, Contrast.
Remembering	Recognise, Identify, Define, Retrieve, Recall, Record.

1.3 Writing Learning Outcomes: Some Practical Advice

The UCD approach is that outcomes should be written as general performance indicators that can be achieved with different levels of competence and depth of understanding. The learning outcomes are stated as objectives, and the student may excel in achieving the outcome, satisfactorily achieve the outcome, or fail to achieve the outcome. Assessment criteria or grade descriptors, should usually indicate how these different levels of achievement relate to different grades and, in particular, how excellence will be measured. This approach is quite different to the common UK practice of writing outcomes that define the minimum acceptable or threshold standards.

Section 2, above, emphasised that learning outcomes have a subject focus as well as more generic outcomes. To ensure linkage between expected student achievement and the content of the module, a module should have no more than 5 learning outcomes. (see the Module Descriptor Template at: <http://www.ucd.ie/modularisation.htm>)

When writing learning outcomes it may be helpful to bear the following points in mind:

- Avoid the use of the verb 'understand' as it is not specific enough for student to know what it means (see Appendix 1 for other suggested verbs)
- Don't just write them, use them in class
- When using them with students in class refer to them as 'you should be able to'
- Make them self-explanatory
- Review them annually as modules change
- Where at all possible, learning outcomes should be assessable – capable of being assessed/examined

(Race, 1999; Gosling and Moon, 2001).

A helpful technique in writing learning outcomes can be to use the SMART approach, where the stated learning outcomes are:

- S Specified
- M Measurable
- A Achievable
- R Relevant
- T Time-restricted

If you want to review your module learning outcomes, some of the following questions may be useful:

- Are the learning outcomes student-centred?
- Are the learning outcomes written in terms of observable, behavioural outcomes?
- Are the learning outcomes expressed using effective, action verbs that specify the general level of performance?
- Are the learning outcomes measurable?
- Do the learning outcomes match teaching & learning activities and assessments?

For some examples of learning outcomes see Appendix 2.

1.4 Linking Learning Outcomes to Assessment

Having established learning outcomes for a module, it is good educational practice to align the learning outcomes with assessment and teaching/learning strategies (Biggs, 2004; 2003) (see Table 1).

Table 1: Alignment learning outcomes and assessment methods
(Adapted from Biggs 2004)

Learning Outcomes: <i>On completion of this module students should be able:</i>	Assessment Methods	*Teaching/Learning Activities
To identify the main signs and symptoms of multiple sclerosis.	Multiple Choice Questions	Lecture on various signs/symptoms, In-class exercises/quizzes on terminology.
To formulate end products using selected ingredients	Food Formulation Project	Lectures and problem-based laboratory exercise.
To develop and identify an area for research in the discipline	1,000 word research proposal	Presentation of examples of research questions, Student discussion groups on research areas.
To demonstrate effective presentations skills	In-class graded presentation	Practices sessions in the class, Peer assessment, using criteria, of others presenting in class.

*note: this level of detail of teaching/learning activities is not required in the UCD module descriptors, but it is good educational practice to be aware that this activity should also align with the learning outcomes and assessment.

It may be possible to measure several outcomes in one assessment (seminar presentation, or essay) or one learning outcome by a number of assessments.

1.5 Further Sources of Information

For further advice and resources on learning outcomes see the Centre for Teaching & Learning website at: <http://www.ucd.ie/teaching/>

For up to date advice on modularisation policy and regulations see the Modularisation website at: <http://www.ucd.ie/modularisation.htm>

References

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- Lea, S.J., Stephenson, D., and Troy, J. (2003) Higher Education Students' Attitudes to Student Centred Learning: Beyond 'educational bulimia'. *Studies in Higher Education*, 28 (3), 321-34.
- Race, P. (1999) *Enhancing Student Learning*. Birmingham, SEDA Special No 10.

Appendix 1

Additional Suggestions for Learning Outcome verbs

McNair, S. (2000, p239) Learner autonomy in a changing world. In, *Boundaries of Adult Education*. (Eds) Edwards, R., Hanson, A., & Raggatt, P. London, Routledge/OU Press.

Acquire	Determine	List
Advance	Devise	Measure
Analyse	Differentiate	Modify
Apply	Disclose	Name
Argue	Discover	Order
Arrange	Discriminate	Plan
Assess	Discuss	Predict
Associate	Distinguish	Prepare
Build	Divide	Produce
Calculate	Elaborate	Promote
Change	Estimate	Quote
Classify	Examine	Rank
Collect	Exhibit	Rearrange
Combine	Experiment	Reason
Compare	Explain	Recommend
Complete	Extend	Reflect
Compose	Forge	Relate
Conclude	Formulate	Rewrite
Connect	Generalise	Scrutinise
Consider	Grade	Select
Contrast	Identify	Separate
Convince	Illustrate	Show
Create	Improve	Solve
Debate	Incorporate	Substitute
Decide	Infer	Summarise
Define	Integrate	Support
Deliberate	Interpret	Tabulate
Demonstrate	Invent	Tell
Describe	Investigate	Test
Design	Judge	Weigh
Detail	Label	

Appendix 2

Some examples of learning outcomes from UCD modules

1. Agricultural Economics and Business

Indicative learning outcomes:

On successful completion of this module students should be able to:

- Specify the different roles and functions of the key economic institutions in Ireland and the EU;
- Identify the most important factors in the development of an economy and the operation of the inter-linkages between them;
- Identify the principal components of the agri-food sector in Ireland and how they interact with each other;
- Explain the role and importance of the agri-food sector in Ireland;
- Use basic tools of economic analysis to show how markets for goods and services in the agri-food sector operate.

2. Principles of Accounting and Financial Management

Indicative learning outcomes:

On successful completion of this module students should be able to:

- Define the main terms used in financial accounting
- Classify the various users of accounting information and how each user might use this information
- Prepare Trading, Profit and Loss and Balance Sheets
- Demonstrate knowledge and understanding of the major financial statements by being able to analyse and interpret a set of company accounts;
- Explain what is meant by corporate governance and be able to identify the issues involved in corporate governance.

3. Children's Literature

Indicative learning outcomes:

On successful completion of this module students should be able to:

- Demonstrate a critical understanding of children's literature as a literary genre;
- Examine children's literature in the context of traditional forms of literature;
- Assess children's literature in terms of national designations;
- Present ideas orally and engage in discussion;
- Write a scholarly essay which is appropriate for a First-Year student of English