



Guide to Writing Module Learning Outcomes at DCU

**Learning Innovation Unit,
Dublin City University**

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Introduction and Foreword

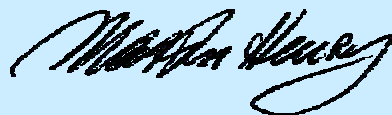
Higher Education institutions are obliged under the Bologna Agreement to adopt a *learning outcomes* approach by 2010. At DCU, learning improvement rather than compliance is the motivation for the Academic Framework for Innovation (AFI), the project under which the Bologna requirements are being met. If you wish to learn more about the context of Bologna and what it means to DCU you should read the accompanying document *Setting the Scene for Learning Outcomes in DCU*.

A learning outcomes approach puts the focus on what the student will know, understand or be able to demonstrate on completion of a programme of study, and uses this as the determinant for course content, learning activities and assessment.

The purpose of these guidelines is to assist Module Co-ordinators in DCU in the writing of module learning outcomes. Each DCU school has appointed one or more AFI Fellows, who will also act as a point of contact in relation to any questions or concerns you have when writing your module learning outcomes. I would like to thank the Fellows for their work in this process to date and Morag Munro and Margaret Keane in the Learning Innovation Unit for their work on the guidelines and other resources. The input of the Associate Deans for Education / Teaching and Learning to the work is also highly appreciated.

Identifying and selecting your desired learning outcomes for a module presents the perfect opportunity to influence learning at DCU and your participation in this process is very much valued.

Martin Henry,

A handwritten signature in black ink, appearing to read 'Martin Henry', written in a cursive style.

WHAT ARE LEARNING OUTCOMES?

“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.” *Source: ECTS Users’ Guide, 2005.*

What is the difference between module learning outcomes and programme learning outcomes?

While learning outcomes at programme or award level are broad, module learning outcomes are more specific in describing what the student will be able to do. They determine the content, delivery and assessment of each module and along with other modules meet the programme outcomes.

Module learning outcomes serve the following purposes:

- To inform students of what is expected of them.
- To guide the lecturer in his or her approach to delivery of content and assessment that focuses on what the student will be able to do as a result of the learning.
- To influence the domain and level of learning required of the delivery and assessment.
- To fulfil the requirements of one or more programme outcomes.

Example of a Programme Learning Outcome:

Upon successful completion of the programme a student will be able to critically evaluate problems and alternative solutions in a wide variety of business and organisational contexts in different socio-cultural and political environments.

Example of a Module Learning Outcome:

On successful completion of the module students will be able to discuss how information technology can be used to help business organisations to succeed in their objectives.

What is the difference between module learning outcomes and objectives?

Objectives are statements of what the lecturer intends for the students and are generally part of a teacher-centred approach.

Learning outcomes are statements of what the student will be able to do or demonstrate as a result of their learning and hence are part of a student-centred approach.

Example of an Objective:

Students will be taught the basic principles of database searching.

Example of a Learning Outcome:

Students will be able to apply the principles of database searching in a review of literature.

General Guidelines for Writing Module Learning Outcomes

The guidelines below are based on commonly accepted guidelines for writing module learning outcomes. It is important to note that this is not a set of steadfast rules and there will be exceptions where individual guidelines may not be appropriate. The section on *Addressing Common Problems Associated with Module Learning Outcomes* (p7) refers to some exceptions.

In DCU, Learning Outcomes describe the knowledge, skills and competencies that a typical learner is expected to demonstrate upon successful completion of a process of learning.

As a general guide learning outcomes should:

- Be preceded with:
On successful completion of this module, students will be able to ...
- Begin with an action verb and describe something (knowledge, skill or attitude) that is observable or measurable.
- Use one action verb for each learning outcome.
- Focus on what you expect students to be able to demonstrate upon completion of the module.
- Be addressed in some way by the assessment for the module.
- Be written in clear short sentences.
- Be written to be understood by students, colleagues and external bodies.
- Be free of ambiguous words and phrases.
- Be neither too broad nor too specific - broad is at programme level, specific at lecture level.

A Step-by-step Guide to Writing Module Learning Outcomes

To begin, take the list of current outcomes for the module from the existing module descriptor (or any other document if you have revised them). If you do not have an existing set of outcomes follow the instruction for writing a new set below. Also, have with you a copy of current assessments for the module that contribute to the final mark (examination paper, assignment briefs etc).

If you **DO** have an existing set of outcomes begin here

If you **DO NOT** have an existing set of outcomes begin here

Step 1 Write 4 to 6 Statements

1. In language comprehensible to a typical student, write 4 to 6 statements of what it is a student would be expected to be able to demonstrate as a consequence of the learning associated with the module.
2. Use this new set of statements (outcomes) as your basis.

Step 1 Rephrase existing as statements

1. Take the existing set of outcomes/objectives.
2. Write, in language comprehensible to a typical student, what it is the student would be expected to be able to demonstrate as a consequence of the learning associated with each.
3. Use this new set of statements (outcomes) as your basis.

Step 2 Check all demonstrable elements of assessments are included

1. Check through the current assessment instruments (continuous and terminal) for the module and list broadly what the assessment is asking students to demonstrate as a result of their learning on the module.
2. Revise your new list of outcomes to reflect any changes as a result of checking the assessment or to add a new statement for any element that is missing.

Step 3 Rewrite outcomes as Learning Outcomes

Choose an action verb for each outcome that will best reflect what students are required to demonstrate. Be careful to choose a verb that reflects the *type* and *level* of learning you wish the student to be able to demonstrate.

You may find it useful here to read the following section on *Domains of Learning and Choosing Action Verbs* (page 10).

Step 4 Critique your set of Learning Outcomes

Use the General Guidelines on page 5 to critique your set of learning outcomes and make final revisions.

You may find it useful here also to use the section on *Addressing Common Problems* on page 7.

Addressing Common Problems Associated with Writing Module Learning Outcomes

One approach to writing learning outcomes is to recognise and understand common problems. This section takes you through an explanation of common problems associated with the writing of learning outcomes and offers examples and solutions. It also demonstrates how to critique a set of learning outcomes for common problems as a means to preparing you to write your own.

Common Problems:

1. Language is too vague or too specific for module level
2. Use of ambiguous words and phrases
3. There are too many learning outcomes
4. There are too many verbs in one learning outcome
5. Overuse of the same verb
6. Inappropriate cognitive level
7. Use of progression
8. Learning outcomes are not realistic
9. Learning outcomes that are not, or cannot be, assessed

You may find it useful to use the *Critiquing Exercise* on page 14 to identify these common problems in a module before you begin work on your own learning module learning outcomes.

1. Language is too vague or too specific for module level

This is where learning outcomes are either written at a broad level more suitable for a programme or where the language is too prescriptive describing actions of a student that may be achievable at the end of a specific lecture rather than an entire module.

Example of an outcome that is too broad:

Students will be able to identify and demonstrate the dynamic nature of the environment in which marketing decisions are taken.

Example of an outcome that is too specific:

Students will be able to outline the functions of marketing within a financial institution.

2. Use of ambiguous words and phrases

This refers to the use of vague terms like *know*, *understand*, *learn*, *be familiar with*, *be exposed to*, *be acquainted with*, *be aware of*, *appreciate*, etc.

The main problem with using these verbs/phrases is that they are not universally understood so students or another lecturer may interpret them differently.

Questions to consider are: how can you be sure that the students know or understand? and how can they demonstrate that they know or understand?

Example of an outcome with ambiguous words:

Students will be able to understand the function, structure and components of the musculoskeletal system.

Suggested alternative:

Students will be able to explain the function, structure and components of the musculoskeletal system.

Tips:

- Focus on what the student will actually be able to demonstrate.
- Look at the verbs used in the relating element of the assessment as a guide.
- Use the verbs list at the back of the guidelines for alternative verbs.

Addressing Common Problems contd.

3. There are too many learning outcomes

It is recommended at module level to have between four and six learning outcomes.

Tips:

- If you have too many outcomes you may want to consider whether some of the learning outcomes could be combined.
- You may decide that a particular outcome is more relevant to a specific lecture than the entire module in which case you may wish to remove it.
- Use your assessment and what it is measuring to prompt you.

4. Too many verbs in one learning outcome

Too many action verbs in one learning outcome can be confusing as it may not be clear which action is the most important for the student to be required to demonstrate.

In the example opposite, consider if the focus for this outcome is on whether students can *work in groups* or whether they can *apply basic principles* and how this outcome is, or should be, assessed.

NOTE:

There may be instances, where two verbs are co-dependent and consequently relevant to one learning outcome as seen in the example below:

Students will be able to recognise and solve problems relating to the basic concepts of chemical reactions.

Example of outcome with too many verbs:

Students will have worked in small groups and considered the application of basic principles to different industrial processes.

Tips:

- You may want to question whether some of the outcomes could be combined.
- You may decide that a particular outcome is more relevant to an individual lecture than the entire module and remove it.
- Use your assessment and what it is measuring to lead you to the most relevant verb.

5. Overuse of the same verb

In some cases, particularly when finding an alternative for ambiguous words/phrases such as *know*, *understand* or *be familiar with*, there can be a tendency to find a solution for one learning outcome and repeat it for others.

NOTE:

In some disciplines such as maths there may be a need for repetitive use of words such as 'solve' or 'calculate' where there is no alternative required or possible.

Tips:

- Ask what the learning outcome requires the student to demonstrate to ensure that what is required of the student determines the chosen verb.
- Use the verbs list at the back of the guidelines to suggest verbs for different learning domains.
- When you replace a verb reconsider the domain of learning it implies to ensure you do not alter the level of learning or alignment to the assessment.

Addressing Common Problems contd.

6. Inappropriate cognitive level

This is where there is an over use of verbs that require students to demonstrate knowledge where they may also be required to demonstrate a deeper learning such as analysis, synthesis and evaluation.

Tips:

- Choose the verb based on the relevant domain of learning (see Domains of Learning on p9).
- Use the verb list at the back to select a verb relevant to the level of learning required.

7. Use of progression in learning outcomes

This is where a learning outcome refers to improvement in learning or other phrases that imply progression.

Progression is difficult to measure as the student would need to demonstrate levels of learning at varying points of time. It may be best to remove the reference to progression.

Example of progression in a learning outcome:

Students will have an increased proficiency in presentation skills.

Suggested Alternative:

Students will be able to demonstrate a proficiency in presentation skills.

8. Learning outcomes that are not practical

This is where learning outcomes are not realisable due to constraints of time and/or resources.

For example a learning outcome might demand an assessment load too great for the students or for the lecturer.

Tip:

- Consider the workload and resources of both yourself and your students in relation to each learning outcome and the module learning outcomes as a set.

9. Outcomes that are not, or cannot, be assessed

As the traditional teacher-centred approach involved writing objectives from the point of view of what the lecturer intended to deliver, some learning outcomes can address the delivery of content only and are not covered anywhere in the assessment of the module.

Tips:

- Check that each learning outcome is addressed in some way by assessment.
- Check that all elements of the assessment have been included in the set of learning outcomes.

Domains of Learning and Choosing Action Verbs

When writing learning outcomes you will need to decide what type of learning students will be demonstrating by each learning outcome. Domains of learning are commonly used as a guide to writing learning outcomes as they encompass the various levels of learning; the *Cognitive* domain involving thought processes, the *Affective* domain involving attitudes and values, and the *Psychomotor* domain involving physical skills. (Bloom et al, 1956). These domains are commonly referred to as knowledge, skills and attitudes and are outlined in greater detail below.

The Cognitive Domain

If a learning outcome requires students to demonstrate thought processes, the six categories of the cognitive domain opposite will help you to decide what level of cognition is required.

Use the list of verbs on page 11 to help you choose an action verb relevant to this domain.

Knowledge	Student knows something and can recall information (list, recall, draw, write)
Comprehension	Student understands what they know (describe, report, recognise)
Application	Student can apply something in a different context (choose, find, show)
Analysis	Student can break something down into components (contrast, detect, separate)
Synthesis	Student can create something new through analysis (combine, create, plan)
Evaluation	Student can make judgements about something (Assess, argue, rate)

The Affective Domain

If a learning outcome requires students to demonstrate their attitudes or values or to integrate belief values, ideas and attitudes of others they will be demonstrating learning through the affective domain.

Choosing an action verb to demonstrate feelings and emotions is not always easy. Use the list of verbs on page 11 to help you choose an action verb relevant to this domain.

Sample of verbs for the affective domain:		
Adhere	Accept	Defend
Integrate	Judge	Share
Appraise	Practice	Support
Question	Value	Discuss

The Psychomotor Domain

If a learning outcome requires students to physically demonstrate skills such as to conduct laboratory experiments, music pieces, physical education techniques or microteaching skills.

Writing learning outcomes in this domain is simpler as it is easy to decide on an action verb for physical activities. The list of action verbs on page 11 might help when deciding on a relevant or alternative action verb in this domain.

Sample of verbs for the psychomotor domain:		
Adapt	Adjust	Build
Calibrate	Construct	Detect
Examine	Measure	Operate
Perform	Refine	Test

Action Verbs Categorised by Learning Domains

COGNITIVE DOMAIN:

Learning which involves thought processes, e.g. understanding, analysing, evaluating. There are six categories in the cognitive domain: knowledge, comprehension, application, analysis, synthesis and evaluation.

1. Knowledge:

Arrange	Enumerate	Name	Recite	Reproduce
Collect	Examine	Order	Recognise	Select
Count	Find	Outline	Recollect	Show
Define	Identify	Present	Record	State
Describe	Label	Point	Recount	Tabulate
Draw	List	Quote	Relate	Tell
Duplicate	Match	Recall	Repeat	Write

2. Comprehension:

Associate	Decode	Explain	Indicate	Restate
Change	Defend	Express	Infer	Rewrite
Clarify	Describe	Extend	Interpret	Review
Classify	Differentiate	Extrapolate	Locate	Select
Compute	Discriminate	Generalise	Paraphrase	Specify
Construct	Discuss	Give examples	Predict	Solve
Contrast	Distinguish	Identify	Recognise	Summarise
Convert	Estimate	Illustrate	Report	Translate

3. Application:

Add	Compute	Experiment	Operate	Select
Apply	Construct	Find	Organise	Show
Assess	Demonstrate	Graph	Plot	Simulate
Calculate	Develop	Illustrate	Practise	Sketch
Change	Discover	Interpret	Predict	Solve
Choose	Divide	Interview	Prepare	Subtract
Classify	Dramatise	Manipulate	Produce	Transfer
Collect	Employ	Map	Relate	Translate
Complete	Examine	Modify	Schedule	Use

Action Verbs Categorised by Learning Domains

COGNITIVE DOMAIN contd..

Learning which involves thought processes, e.g. understanding, analysing, evaluating.

4. Analysis:

Analyse	Connect	Differentiate	Group	Point out
Appraise	Contrast	Discover	Identify	Question
Arrange	Criticise	Discriminate	Illustrate	Relate
Break down	Debate	Distinguish	Infer	Recognise
Calculate	Deduce	Divide	Inspect	Separate
Categorise	Detect	Draw conclusions	Investigate	Simplify
Classify	Determine	Examine	Order	Subdivide
Compare	Develop	Experiment	Outline	Test

5. Synthesis:

Argue	Construct	Generalise	Order	Reconstruct
Arrange	Create	Generate	Organise	Relate
Assemble	Design	Group	Originate	Reorganise
Categorise	Develop	Integrate	Plan	Revise
Collect	Devise	Invent	Prepare	Rewrite
Combine	Establish	Make	Prescribe	Set up
Compile	Explain	Manage	Propose	Summarise
Compose	Formulate	Modify	Rearrange	Synthesise

6. Evaluation:

Appraise	Consider	Discriminate	Monitor	Score
Ascertain	Contrast	Estimate	Predict	Select
Argue	Convince	Explain	Persuade	Standardise
Assess	Criticise	Evaluate	Rank	Summarise
Attach	Critique	Grade	Rate	Support
Award	Decide	Interpret	Recommend	Test
Choose	Defend	Judge	Relate	Validate
Compare	Detect	Justify	Resolve	Value
Conclude	Determine	Measure	Revise	Verify

Action Verbs Categorised by Learning Domains

AFFECTIVE DOMAIN

Learning which involves attitudes, feelings and values, e.g. appreciating, accepting.

Acknowledge	Combine	Display	Justify	Relate
Act	Complete	Dispute	Listen	Report
Adhere	Conform	Embrace	Order	Resolve
Ask	Co-operate	Follow	Organise	Respond
Accept	Defend	Hold	Participate	Share
Answer	Demonstrate (a belief in or an appreciation of)	Initiate	Practise	Show
Assist		Integrate	Share	Support
Attempt	Differentiate	Join	Praise	Synthesise
Challenge	Discuss	Judge	Question	Value

PSYCHOMOTOR DOMAIN

Learning which involves physical skills, e.g. performing, assembling, dismantling

Adapt	Choreograph	Dismantle	Handle	Organise
Adjust	Combine	Display	Heat	Perform
Administer	Construct	Dissect	Manipulate	Present
Alter	Copy	Drive	Identify	Refine
Arrange	Design	Estimate	Measure	Shorten
Assemble	Deliver	Examine	Execute	Sketch
Balance	Detect	Execute	Mime	Stretch
Bend	Demonstrate	Fix	Mimic	React
Build	Differentiate (by touch)	Grasp	Mix	Test
Calibrate	Deconstruct	Grind	Operate	Use

Optional Critiquing Exercise:

Sample of Problematic Module Outcome for Critiquing

The following set of Module Outcomes have some of the common problems outlined on page 7 of these guidelines. Use this set of outcomes as an exercise to help you understand learning outcomes by critiquing against the list of common problems on page 8 and checking against the general guidelines on page 5.

Module Title: Marketing Management - Final Year Undergraduate

The module introduces and develops the concepts of marketing in a critical way and focuses on the application of marketing conceptual frameworks.

Module Learning Outcomes:

On successful completion of the module students will be able to:

- Understand the role and functions of marketing within a range of organisations.
- Understand key marketing concepts, theories and techniques for analysing a variety of marketing situations.
- Identify and demonstrate the dynamic nature of the environment in which marketing decisions are taken and appreciate the implications for marketing strategy determination and implementation.
- Use written formats to communicate marketing outcomes.
- Apply the introduced conceptual frameworks, theory and techniques to various marketing contexts.
- Analyse the relevance of marketing concepts and theories in evaluating the impacts of environmental changes on marketing planning, strategies and practices.
- Demonstrate the ability to carry out a research project that explores marketing planning and strategies for a specific marketing situation.
- Synthesise ideas into a marketing plan.
- Demonstrate the ability to justify marketing strategies and advocate a strategically informed position when considering marketing plan implementation.
- Manage themselves and members they work with in a team when undertaking independent management study.
- Access skills that enable them to target and secure work placements.

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Useful Websites:

The National Qualifications Authority of Ireland: <http://www.nqai.ie>

Ireland's National Information Site on the Bologna Process: <http://www.bologna.ie>