

Guide to Writing Learning Outcomes

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Introduction

This is a guidance document for writing programme and module learning outcomes. It explains what learning outcomes are, and their benefit to lecturers and students. It explains the difference between programme, stage and module learning outcomes and provides examples of each. It also offers advice on how to constructively align learning outcomes and assessment criteria.

Learning outcomes are the minimum intended set of knowledges, skills, and understandings that a student must have attained to reach a passing standard for modules, stages and final awards. For this reason they are referred to as:

- Minimum Intended Programme Learning Outcomes (MIPLOs)
- Minimum Intended Stage Learning Outcomes (MISLOs)
- Minimum Intended Module Learning Outcomes (MIMLOs)

What are Learning Outcomes?

Learning Outcomes are statements of the minimum of what is expected that the student will be able to do as a result of a learning activity (Jenkins and Unwin, 2001). They are an explicit description of what a learner should know, understand and be able to do as a result of learning (Bingham, 1999). And must focus on what the student needs to achieve to attain a passing standard. Rather than the content of what has been taught.

- **Programme learning outcomes** are statements of the minimum a learner is expected to *know, understand or be able to do* on successful completion of the entire programme. Quality and Qualifications Ireland (QQI) has published a national framework of qualifications in which they define a set of programme learning outcomes at each award level. As of 2004, all IADT programme learning outcomes must conform to these QQI standards (Details in Section 3).
- **Stage learning outcomes** are statements of the minimum a learner is expected to *know, understand or be able to do* on successful completion of a particular stage (or year) of the programme. Each year will have its own set of stage learning outcomes
- **Module learning outcomes** are statements of the minimum the learner is expected to be able to do on successful completion of the module in order to demonstrate their knowledge, understanding, skills and/or competences (Details in Section 4).

Learning outcomes inform potential candidates and employers about the programme and ensure consistency of outcomes across subjects and disciplines.

Learning outcomes:

- Guide students in their learning, in that they explain what is expected of them
- Are statements of what is expected that the student will be able to do as a result of a learning

- activity (Jenkins and Unwin, 2001)
- Are an **explicit description** of what a learner should **know, understand** and **be able to do** as a result of learning (Bingham, 1999)
- Must focus on what the student needs to achieve to attain a passing standard. Rather than the content of what has been taught.
- Assist in the design of appropriate learning, teaching and assessment strategies
- Focus on student behaviour and use specific action verbs to describe what students are expected to do

Programme Learning Outcomes

The QQI maintains the national framework of qualifications in order to bring coherence to the award system and relate all education and training awards to each other. It clearly defines standards about the quality of awards and about what a learner is expected to achieve for each award. All IADT programme learning outcomes must conform to QQI standards.

The NFQ has a structure of ten levels with each level based on specified standards of knowledge, skills and competence. These standards define the outcomes to be achieved by learners seeking to gain awards at each level. Levels 7 to 9 are relevant to IADT, as shown below in Table 1.

Level	Award
7	Ordinary Bachelor Degree
8	Honours Bachelor Degree / Higher Diploma
9	Postgraduate Diploma / Masters Degree

Each of these award levels is defined by a set of learning outcomes that are categorised into three strands (knowledge, know-how & skill, and competence). These are then divided into sub-strands, as shown in Table 2.

For example, at Level 8, under Knowledge – Kind, the QQI require that a successful graduate of an Honours Bachelor Degree programme should: “have a detailed knowledge and understanding in one or more specialised areas, some of it at the current boundaries of the field(s).”

Strand	Sub-strand	Description
	Breadth	How extensive is the learner's knowledge?
	Kind	What nature or quality of knowing has the learner engaged in?
	Range	How extensive are the physical, intellectual, social and other skills demonstrated by the learner?

Skill	Selectivity	How complicated are the problems that the learner can tackle using the skills acquired and how does a learner tackle them?
	Context	In what contexts is a learner able to apply their knowledge and skills?
Competence	Role	How much responsibility can the learner take, personally and in groups, for the application of his / her knowledge and skills?
	Learning to Learn	To what extent can the learner identify the gaps in their learning and take steps to fill those gaps?
	Insight	How far has the learner integrated the intellectual, emotional, physical and moral aspect of their learning into their self-identity and interaction with others?

When designing or reviewing an honours degree programme, it should be evident from the programme learning outcomes in the programme document that a successful graduate would achieve the required QQI learning outcomes. Therefore when writing learning outcomes for a programme, it is advisable to organise them into these strands and where possible into the sub-strands.

The relevant award standards as defined by the QQI are available on their website here:

<https://www.qqi.ie/Articles/Pages/Active-NFQ-Standards-for-HE.aspx>

It is crucial to note that different disciplines (i.e Art and Design or Business) have different Award standards appropriate to their discipline. For further detail on that see the relevant documents at the above link as maintained by the QQI.

Relationship to Module Aims

Each module will have a set of aims for learning. These have specific relationships to learning outcomes. Modules Aims are broad, general statements of the teaching intention for the module.

Examples of Programme Learning Outcomes

Some examples at Award Level 8 are provided here under the three QQI learning outcome strands.

Knowledge

On successful completion of this programme the graduate will:

- have detailed knowledge and understanding of a wide range of business disciplines and the manner in which these are combined in the overall process of business management
- have a good understanding of Mathematics, Statistics and their applications.

Know-how and skill

On successful completion of this programme the graduate will:

- be able to analyse business problems and propose solutions
- be able to confidently engage in and successfully resolve building services engineering projects in both the technical and managerial aspects and communicate effectively their resolution.

Competence

On successful completion of this programme the graduate will:

- have an appreciation of the necessity of national and global sustainable development
- be able to apply concepts and skills learnt in a variety of contexts be able to research management issues and solutions to issues
- appreciate the importance of professional development and of the resources available to keep up to date with new developments in business management
- be able to work independently
- be able to work effectively in a team
- be able to take responsibility for their own learning
- be able to learn from experiences gained in different contexts
- have insights into the dynamics of the management function in the business world
- demonstrate the ability to comprehend multiple perspectives

Module Learning Outcomes

Module learning outcomes focus on learning rather than teaching, and they do not specify what the lecturer or tutor provides but rather what the learner can demonstrate. It is crucial that all learning outcomes are assessable, and they should define what a student must be able to do in order to pass the module. Also, when writing module learning outcomes, it is important to give consideration to how the module fits into an overall programme.

Writing Module Learning Outcomes

Start module outcomes with the phrase: “On successful completion of the module, students will be able to...”

These phrases should then be followed by action verbs so that students are able to demonstrate that they have learned and hence achieved the outcomes. As much as possible you should avoid using the words such as ‘know’, ‘understand’ or ‘appreciate’ as these tend to be vague. Instead, think of what the students should be able to do in order to demonstrate they have gained the required knowledge, understanding or appreciation. When learning outcomes are devised which use words such as ‘know’ and ‘understand’, it is not clear to the students the level of understanding or the amount of knowledge required to successfully complete the module.

Different verbs can be used to demonstrate different levels of learning. For instance, in an introductory module where the aim for the student might be to gain knowledge and develop a basic understanding, the learning outcomes may require the students to be able to define, recall, list, describe, explain or discuss. For a more advanced module where the aim might be to develop a thorough understanding, the learning outcomes may require the students to be able to formulate, appraise, evaluate, estimate or construct. As students progress through a programme it would be expected that the learning outcomes would reflect the progressive nature of their learning.

Examples of module learning outcomes

- Identify a wide variety of learning and teaching methods that may be employed effectively in higher education
- Discuss the theories of learning that underpin their teaching approach
- Explain the role of accounting information in organisations
- Identify effective on-line marketing strategies and incorporate them into a marketing plan
- Identify and critically evaluate the strategic options available to enterprises
- Design an interactive website for use by undergraduates
- Apply theory critically to analyse professional experience
- Analyse key managerial issues in a particular industry or company and propose appropriate managerial solutions to the situation
- Outline a personal critical philosophy of curriculum development
- Derive a relationship between the period of oscillation and the spring constant for an oscillating spring
- Work as part of a team in analysing consumer issues in a commercial or non-commercial context
- Develop effective and efficient self-directed study skills
- Evaluate the impact of their clinical intervention in a case

The importance of verbs

Each programme relates to an award standard maintained by QQI. These are described as the Active NFQ Standards for Higher Education.¹ Each award type is broken down into a number of layers related to Knowledge, Know-how or Skills, Competences.

A level 8 Honours Degree has the following areas of learning:

- Knowledge – breadth
- Knowledge – kind
- Know-how and skill – range
- Know-how and skill – selectivity
- Competence – context
- Competence – role
- Competence – learning to learn
- Competence – insight

¹ See here: <https://www.qqi.ie/Articles/Pages/Active-NFQ-Standards-for-HE.aspx>

The programme, stage and module LOs must be mapped as appropriate to the NFQ award standards. Crucially the modules' assessment must be related to a demonstration of one or more of the above areas of learning.

The above uses the example of a level 8 award class. The awards for level 7 and level 9 (and for specific disciplines) differ and should always be checked to ensure the valid award standard is being used to design and benchmark a programme.

To meet these standards learning outcomes need to measure the appropriate kind of knowledge, skill or competence. Bloom's taxonomy has broken these down into a number of categories, each with a series of verbs.

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

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	

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	

Create/ 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

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

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

Affective domain

Acknowledge,	Combine,	Display,	Justify,	Relate
Complete,	Dispute,	Listen,	Report	
Adhere,	Conform,	Embrace,	Order,	Resolve
Ask,	Co-operate,	Follow,	Organise,	Respond
Accept,	Defend,	Participate,		
Answer,	Demonstrate			
Initiate,	Practise,	Show		
Assist,	Integrate,	Share,		
Attempt,	Differentiate,	Synthesise		
Challenge,	Discuss,	Judge,	Question/Query	

Psychomotor domain

Adapt	Choreograph	Dismantle	Handle	Organise	
Adjust	Combine	Display	Heat	Perform	
Administer	Construct	Dissect	Manipulate	Present	record
Alter	Copy	Drive	Identify	Refine	
Arrange	Design	Estimate	Measure	Shorten	
Assemble	Deliver	Examine	Execute	Sketch	
Balance	Detect	Execute	Mime	Stretch	
Blend	Demonstrate	Fix	Mimic	React	
Build	Differentiate	Grasp	Mix	Test	

Other Taxonomies

While the list above is based upon Bloom's Taxonomy this is not the only taxonomy that could be used. Others such as Fink's Taxonomy and the Structure of Observed Learning Outcomes (SOLO) Taxonomy can be useful. For more information on various taxonomies see Geraldine O'Neil and Feargal Murphy's Guide to Taxonomies of Learning Outcomes (2010) available here:

<http://www.ucd.ie/t4cms/taxonomies3.pdf>

General guidelines²

- Begin each LO with an active verb.
- Use one verb per LO.
- Avoid vague terms – know, understand, learn, be familiar with, be exposed to, be acquainted with, and be aware of.
- Avoid complicated sentences.
- Map LO to PLO.
- The LO must be assessed.
- The LO must be observable and measurable.
- Bear in mind timescales – what is achievable within the length of the module.
- Pilot them with students and colleagues.
- Work upwards using Blooms taxonomy, avoid drawing from the bottom.
- Module Learning Outcomes Criteria.
- They must be aligned to teaching, learning and assessment activities.
- They must be visible and available to students.
- Bear in mind the skills that students will already have. LOs should not mirror competencies or skills required for the entry to a module or programme.
- MLOs are not a briefing paper. They should describe an outcome rather than a process.
- At a programme level teams should avoid the over use of certain verbs across modules.
- It is not necessary to measure all skills that will be used in any given module.
- It is ok for some LO's or modules to require or specify lower-level skills so long as the full assessment rationale for the programme is appropriate to the level.

² Adapted from Baume, 2009.

Some useful questions while creating los

- Do they describe what students will be able to do?
- Will the student want to achieve them?
- Will students/employers understand them?
- Are the verbs appropriate to the level of learning and domain for the stage of learning?
- Will most students meet them with reasonable effort?
- Can you observe whether the learning outcomes have been achieved?

How many?

- Programme Learning Outcomes:
 - 8 - 10 as per the appropriate NFQ award standard
- Module Learning Outcomes:
 - 3-4 max for 5 credits modules
 - 4-5 max for 10 credit modules
 - 5 max for 15 credit modules

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