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DCU Guide to Writing Learning Outcomes

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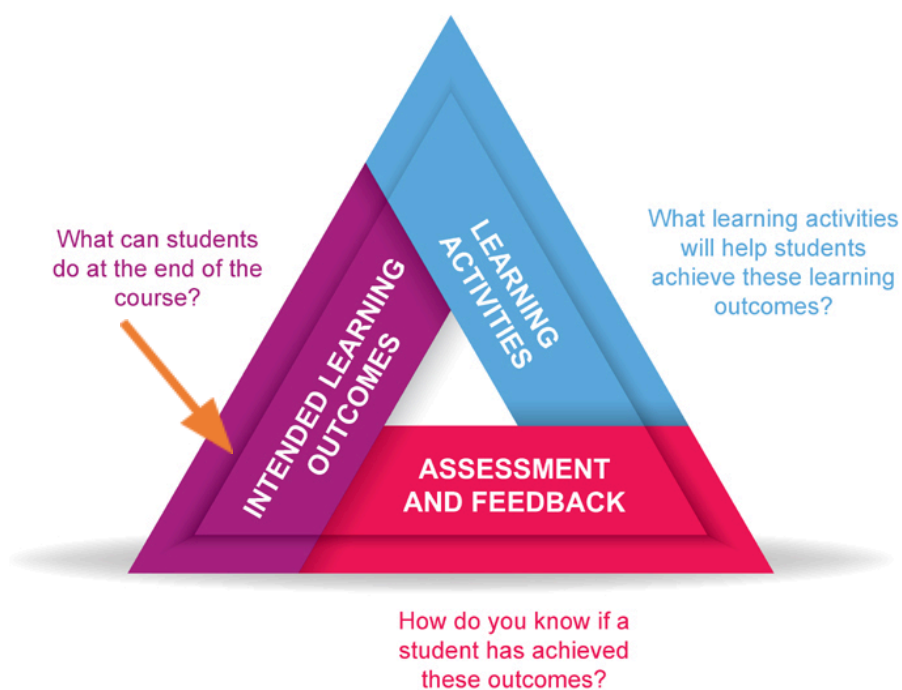


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What are learning outcomes?

Learning outcomes are statements that specify what a learner is expected to know and be able to do with that knowledge upon successful completion of a course of learning. They are an essential component of contemporary, learner-centred and constructively aligned higher education modules and programmes of learning.



The Three Interdependent Elements of Constructive Alignment

Although knowledge often underlies their achievement, learning outcomes do not focus attention on what students 'know'. Instead, they focus on what students are able to *do* with the knowledge they have acquired. For example, learners might undertake a task that requires them to define, apply, analyse, explain, justify, evaluate, summarise, communicate, persuade, construct, create or perform.

Learning outcomes can be written at:

- the programme level, where they articulate in broad terms the capabilities of the student at the end of a programme.
- the module level, where they describe more specifically what the student should know and be able to do upon completion of a particular module.

Why do learning outcomes matter?

Learning outcomes focus our attention and energies first and foremost on what the learner is (working toward) being able to do. In this way, learning outcomes place the learner at the centre of the learning process.

Used correctly, they bring clarity, transparency and accountability to higher education practice for learners, teachers and other stakeholders.

Learning outcomes have been adopted widely in higher education as a result of the European Bologna process. Jenkins and Unwin, cited in Kennedy (2006), describe the benefits of this approach, stating that learning outcomes can:

- Help to inform and clarify what is expected of students.
- Increase teaching transparency by making the curriculum more visible to students and other lecturers.
- Help educators select appropriate teaching strategies for the intended learning outcome e.g., lecture, group work, laboratory practical.
- Ensure that appropriate assessment strategies are employed and assist in setting exams.

It's important to be aware that learning outcomes are also an important tool for facilitating learner access, transfer and progression in the higher education system. They may be used to inform future admissions processes for further studies your learners wish to pursue, including the recognition of prior learning.

Finally, it's important to be aware that in higher education in Ireland, learning outcomes-based approaches to new programme development and the assessment of learners have a statutory basis. They are explicitly embedded within Quality and Qualifications Ireland (QQI)'s [Core Statutory Quality Assurance Guidelines](#).

How should programme learning outcomes be written?

At programme level, learning outcomes typically start with the statement:

“Upon successful completion of the programme, a student will be able to....”

Programme outcomes should align with the National Framework of Qualifications (NFQ). This is particularly important to ensure that learning outcomes are appropriate for undergraduate, masters, and doctoral students. An important reference point for this is the [NFQ grid of level indicators](#).

The following sample programme outcomes may provide useful exemplars. They have been extracted from an excellent resource, [Writing and Using Learning Outcomes: A Practical Guide](#) (Kennedy, 2006).

Table 3.7 Example of programme learning outcomes for a postgraduate computer science degree

On completion of this programme, it is expected that the students will be able to:

- Perform problem solving in academic and industrial environments.
- Use, manipulate and create large computational systems.
- Work effectively as a team member.
- Organise and pursue a scientific or industrial research project.
- Write theses and reports to a professional standard, equivalent in presentational qualities to that of publishable papers.
- Prepare and present seminars to a professional standard.
- Perform independent and efficient time management.
- Use a full range of IT skills and display a mature computer literacy.

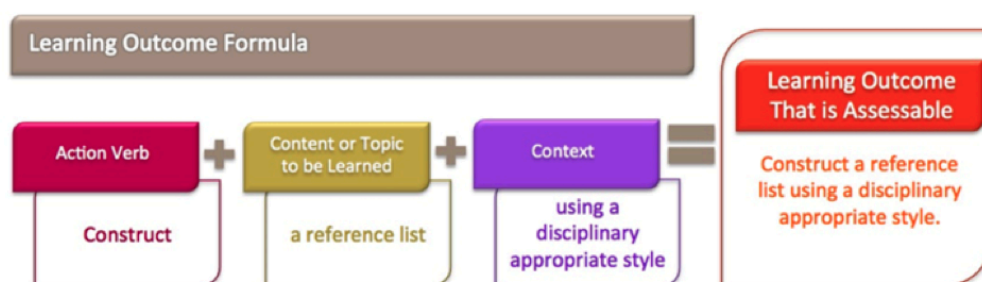
What is particularly notable about these programme outcomes is their relative simplicity and clarity. They follow the principles of writing [‘VASCULAR Learning Outcomes’](#) described by Brown (2015). Learning outcomes should be comprehensible to someone who is not familiar with the language of the discipline. It is also worth noting that there are 8 programme outcomes in this case, which is a recommended number (10 is the recommended maximum.)

How should module learning outcomes be written?

At module level, a learning outcome is an observable statement of what the learner is expected to be able to do on successful completion of the module in order to demonstrate their knowledge, understanding, and skills. They are more specific than programme outcomes and usually start with the statement:

“Upon successful completion of the module, students will be able to...”


Macquarie University, Australia, have identified a helpful generic formula (with an example) for writing learning outcomes:



Learning Outcome formula, ©Macquarie University, Australia, FILT, 2015

Examples using the Macquarie formula:

Action Verb	Content or Topic to be Learned	Context
Identify	ethical issues	in home care settings
Evaluate	alternative solutions to	specified marketing problems
Apply	the core concepts of X and Y theories	to economic analyses
Write	logical and concise reports	appropriate to accounting practice
Demonstrate	effective communication and presentation skills to convey	technical information to a non-expert audience



The following “golden rules” describe how module learning outcomes should typically be written. Learning outcomes should:

- Always start with an action verb.
- Use one verb for each learning outcome.
- Be observable and/or measurable.
- Be expressed clearly in plain English so that they can be understood by students, colleagues and external organisations.
- Describe the kind of performance/standard expected.
- Be appropriate for the level of learning (e.g., undergraduate 1st year, postgraduate).
- Be limited in number (ideally 4-6 per module) while including all significant elements of the module.

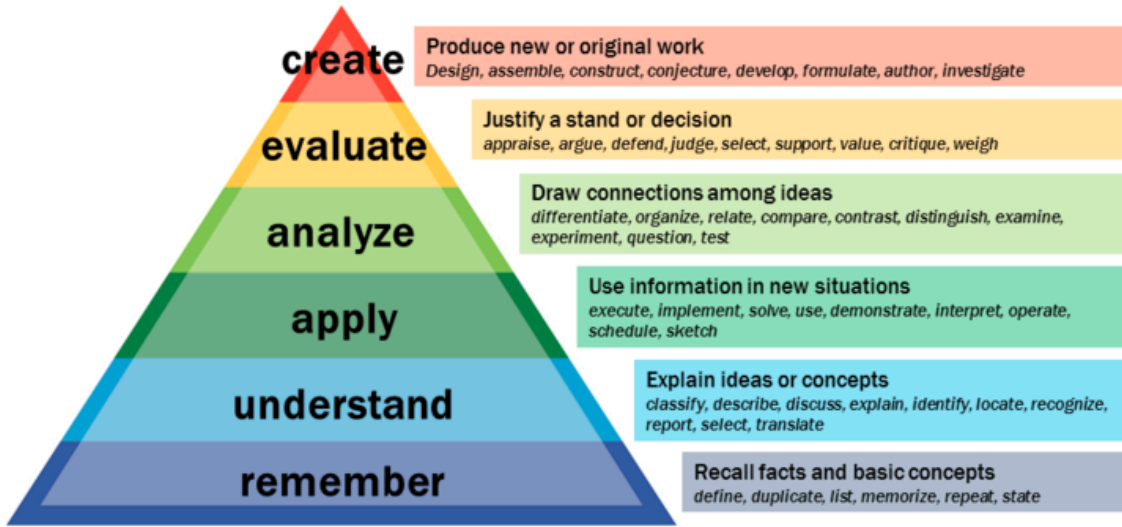
Common problems with learning outcomes

Try to avoid these common pitfalls when writing your learning outcomes:

- Use of the verb ‘Understand’ – this is not an observable or measurable output so is not appropriate for module learning outcomes in particular.
- Learning outcomes do not align with assessment – for example group work may be a major feature of the course assessment but it might not even be mentioned in the learning outcomes.
- Overuse of lower-level action verbs such as ‘identify’, ‘describe’ and ‘explain’. In a higher education setting there should be a mix of Bloom’s levels of learning evident¹ that are appropriate to the NFQ level of the module or programme. These may range from basic knowledge recall activities to more demanding higher-order thinking skills that involve such things as creating, evaluating, and synthesizing learning (see diagram below).
- Overly wordy/unclear learning outcomes – try to keep them as short and succinct as possible.

¹ Note: Bloom’s Taxonomy (see graphic overleaf) is a common but somewhat contested verb-based framework which suggests that certain verbs correspond to specific “levels” of cognitive skill. While useful as a reference tool and thesaurus, we do not recommend exclusive use of this taxonomy when writing learning outcomes as the precise context of each verb has an important bearing on cognitive demands (Stanny, 2016).

Bloom's Taxonomy

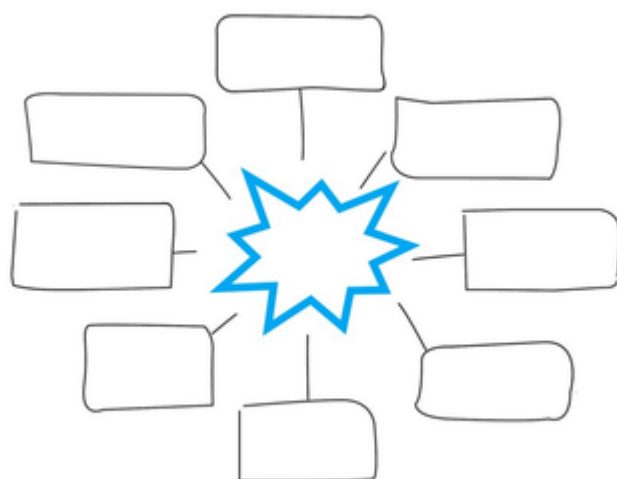


 Vanderbilt University Center for Teaching

Image of Bloom's Taxonomy by Vanderbilt University Center for Teaching, CC BY 2.0, via Flickr

Where should you start?

If you are starting completely from scratch, mind mapping your intended learning outcomes can be a productive way to get out of the starting blocks. Try to think of the essential skills or knowledge that you want the student to achieve by the end of the course and map those out on paper or online. At this stage don't worry about verbs – just try to get the essential points down in as plain and clear a language as possible.



Assess@dcu.ie

Once you've got draft items down, think about how you are going to design your assessment(s) to measure the students' achievement of the learning outcomes. Is an essay the right assessment instrument? How about an individual or collaborative presentation? Or an in-depth quiz? What is going to 'prove' that a particular learning outcome has been met? Having thought about potential assessment methods, you can refine your learning outcomes more fully, modify the language used, and try to align them closely with your assessment choice.

Once you have a good idea of the outcomes and assessment strategy, it's time to devise teaching & learning activities (which should include formative assessment) that are likely to help your students complete the assessment tasks. For example, if you ultimately want students to write a scholarly output, you might include an activity that asks them to write a

short piece of academic text and submit it for feedback that can be applied to the final assignment. After deciding on the most appropriate teaching activities, you may need to revise/tweak the learning outcomes again to ensure all aspects of the curriculum are in alignment. Above all, it's important to recognize that writing 'good' learning outcomes is very much an iterative process which benefits from revisitation, collaboration, and adjustment over time.

When are your learning outcomes ready to publish?


It's important to remember that learning outcomes should not be 'set in stone' and should be revisited and revised following future iterations of a course or programme of study. It can be very useful to share learning outcomes (and indeed any aspects of teaching practice) with colleagues.

To help you self-assess your intended learning outcomes, the UCD checklist below is a helpful tool:

Learning Outcomes Checklist

- Does each begin with an action verb?*
- Have they been stated in observable and measurable terms?*
- Are words such as "know", "understand" avoided?*
- Do they address a variety of cognitive levels?*
- Are outcomes at the appropriate level?*
- Do all the outcomes fit within the aims and content of the module?*
- Are they realistic and achievable in context?*
- Are they clear to staff and students?*
- Do they align with the programme outcomes?*

Learning Outcomes Checklist (Surgenor, 2010 via UCD T&L Resources <https://www.ucd.ie/t4cms/ucdtlt0027.pdf>)



This guide has been created to provide some pointers for your consideration when writing or rewriting learning outcomes. Another more detailed [interactive resource on writing learning outcomes](#) is available from the TEU to help you think through the phrasing of potential learning outcomes. You are invited to respond to the various questions posed within the resource. At the end of the activity, you can click the **Export Text** button to export your responses to a Word document.



References

Donnelly, R. & Fitzmaurice, M. 2005. Designing Modules for Learning. In: *Emerging Issues in the Practice of University Learning and Teaching*, O'Neill, G et al. Dublin: AISHE.

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Stanny, C.J., 2016. Reevaluating Bloom's Taxonomy: What Measurable Verbs Can and Cannot Say about Student Learning. *Education Sciences*, 6(4), p.37.