Initiative for Learning Innovation and Teaching Excellence

Learning Outcomes

What are learning outcomes?

Learning outcomes are the *why* of your course design and planning. They spell out the critical *knowledge* and *skills* that the students will acquire in a course, and in each class. They provide the rationale for including any material or content in your class, choose any teaching method, and integrate tasks and assignments for students to complete.

Why do we need them?

Because they help us plan purposefully for every session, and deliver more useful and compelling classes. Writing learning outcomes takes time in the beginning, in order to save you time later. Without an aim and rationale, you are left with iterating many times what it is you want students to learn. Importantly, learning outcomes frame your course design from the perspective of deep and relevant student learning: what students should be able to do and be able to transfer to their future roles.

What is an easy way of thinking about them?

Whether you want students to master a set of techniques or broaden their thinking, a course with deep learning teaches the step-by-step thought processes that someone with “expertise” in that domain naturally follows. For instance, a basic science course should teach developing hypotheses, testing them, and drawing conclusions based on observable evidence. Those basic steps are the foundation of the scientific method and scientific thinking. In your subject, what is “the foundational way of thinking?” “How is information interrogated?” “How are individuals or groups approached?” Try to answer these questions to help you articulate your course level learning outcomes.

What should they look like?

Example 1 (“Finance”)
After completing the course, you will be able to:

- Define project finance and its application across industries today
- Discuss and negotiate with financial specialists
- Explain common valuation methods used to address valuation issues
- Analyse issues in relation to project finance
- Evaluate project finance securitisation and its implications for investors

Example 2 (“Accounting”)
After completing the course, you will be able to:

- Identify how accountants accumulate and report information in financial statements
- Interpret managerial assumptions, policy choices, and soft estimates used in making decisions Outline clear links between accounting numbers and corporate valuation
- Assess the implications for how recorded items are measured and (not) presented in financial statements

Example 3 (“OB”)
After completing the course, you will be able to:

- Recognise the social structures that heighten or diminish power and influence in the workplace Map out the political landscape, different stakeholders’ perspectives and power bases in an organization
- Examine personal power bases
- Formulate strategies to enhance personal influencing tactics to lead effectively in different contexts and situations

How do I write my own?

The table below is taken directly from Bloom’s taxonomy[1]. It is used as a guide by many educators to write learning outcomes. It is no means comprehensive. Rather, a useful list of verbs that roughly represents different ways of thinking during learning.

Ideally, you should aim to:
Write up to 4 learning outcomes at the course level.
Write up to 2 learning outcomes for each session.

Create a learning outcome map so that you see the entire logic of the course (see Backwards Design).

Categories & Cognitive Processes	Alternative Names	Definitions & Examples
REMEMBER – Retrieve relevant knowledge from long-term memory		
RECOGNISING	Identifying	Locating knowledge in long-term memory that is consistent with presented material (e.g., Recognise the dates of important events in U.S. history)
RECALLING	Retrieving	Retrieving relevant knowledge from long-term memory (e.g., Recall the dates of important events in U.S. history)
UNDERSTAND – Construct meaning from instructional messages, including oral, written and graphic communication		
INTERPRETING	Clarifying, paraphrasing, representing, translating	Changing from one form of representation (e.g., numerical) to another (e.g., verbal) (e.g., Paraphrase important speeches and documents)
EXEMPLIFYING	Illustrating, instantiating	Finding a specific example or illustration of a concept or principle (e.g., Give examples of various artistic painting styles)
CLASSIFYING	Categorising, subsuming	Determining that something belongs to a category (e.g., concept or principle) (e.g., Classify observed or described cases of mental disorders)
SUMMARISING	Abstracting, generalising	Abstracting a general theme or major point(s) (e.g., Write a short summary of the events portrayed)

Categories & Cognitive Processes	Alternative Names	Definitions & Examples
INFERRING	Concluding, extrapolating, interpolating, predicting	Drawing a logical conclusion from presented information (e.g., In learning a foreign language, infer grammatical principles from examples)
COMPARING	Contrasting, mapping, matching	Detecting correspondences between two ideas, objects, and the like (e.g., Compare historical events to contemporary situations)
EXPLAINING	Constructing models	Constructing a cause-and-effect model of a system (e.g., Explain the causes of important 18th-century events in France)
APPLY – Carry out or use a procedure in a given situation		
EXECUTING	Carrying out	Applying a procedure to a familiar task (e.g., Divide one whole number by another whole number, both with multiple digits)
IMPLEMENTING	Using	Applying a procedure to an unfamiliar task (e.g., Use Newton's Second Law in situations in which it is appropriate)
ANALYSE – Break material into its constituent parts and determine how the parts relate to one another and to an overall structure and purpose		
DIFFERENTIATING	Discriminating, distinguishing, focusing, selecting	Distinguishing relevant from irrelevant parts or important from unimportant parts of presented material (e.g., Distinguish between relevant and irrelevant numbers in a mathematical word problem)
ORGANISING	Finding coherence, integrating, outlining, parsing, structuring	Determining how elements fit or function within a structure (e.g., Structure evidence in a historical description into evidence for and against a particular historical explanation)
ATTRIBUTING	Deconstructing	Determine a point of view, bias, values, or intent underlying presented material (e.g., Determine the point of view of the author or an essay in terms of his or her political perspective)
EVALUATE – Make judgements based on criteria and standards		
CHECKING	Coordinating, detecting, monitoring, testing	Detecting consistencies or fallacies in a process or product; determining whether a process or product has internal consistency; detecting the effectiveness of a procedure as it is being implemented (e.g., Determine if a scientist's conclusions follow from observed data)
CRITIQUING	Judging	Detecting inconsistencies between a product and external criteria, whether a product has external consistency;

Categories & Cognitive Processes	Alternative Names	Definitions & Examples
		detecting the appropriateness of a procedure for a given problem (e.g., judging best method to solve a problem).
CREATE – Put elements together to form a coherent or functional whole; reorganise elements into a new pattern or structure		
GENERATING	Hypothesising	Coming up with alternative hypotheses based on criteria (e.g., Generate hypotheses to account for an observed phenomenon)
PLANNING	Designing	Devising a procedure for accomplishing some task (e.g., Plan a research paper on a given historical topic)
PRODUCING	Constructing	Inventing a product (e.g., Build habitats for a specific purpose)

[1]Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., . . . Wittrock, M. C. (2001). *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* New York: Addison Wesley Longman, Inc.