PRIFYSGOL
BANGOR
UNIVERSITY

Guidelines to Developing Learning Outcomes

1. Introduction

Bangor University requires that each programme and module has learning outcomes. Assessments test all module learning outcomes and do not address issues outside them. Materials and teaching strategies must ensure those learning outcomes are sufficiently addressed. Learning outcomes are expected to be the initial consideration in module and programme design. Once they have been agreed, then other decisions about student assessment, content and learning strategies are expected to follow.

Learning outcomes should link to relevant required professional outcomes (e.g. Nursing, Social Work, ITET) and to QAA Subject Benchmarking statements. They should also align to the European Qualification Framework:

QAA Subject Benchmark Statements
QAA Master's Degree Characteristics Statement
QAA Framework for Higher Education Qualifications
Description of the eight EQF levels | Europass

2. What are learning outcomes?

Writing learning outcomes is part of an approach to course design that:

* takes the description of what is expected of a successful student as the starting point when designing a **programme or module**;
* describes a degree programme or module in terms of what a student is expected to know, understand and be able to do at the end of a module **(outcome)** instead of a general description of what the lecturer intends **(aims)**;
* requires the assessment of individual students to know whether the learning outcomes **have been attained**;
* leads to, or integrates with decisions about appropriate course content and teaching and learning strategies and activities;
* requires monitoring to review the appropriateness of the learning outcomes. Learning outcomes should be **re-evaluated** each year.

3. What are the educational justifications claimed for learning outcomes?

* Students will be clear about what is expected of them. They will be able to make better informed choices about taking particular programmes/modules. Learning outcomes encourage a student-centered approach.

* Students will be able to monitor their own learning progress more effectively.
* Employers will also know what students have achieved. Where there is credit transfer, previous learning will be 'up-front'.
* Where assessment is based on learning outcomes determinations of students' success are clearer as the criteria for success are clearly set out in modules.
* There may be an increased consistency of standard (but not standardization) across modules.
* The specification and justification of learning outcomes in a course or module encourages lecturers to think reflectively.

4. Learning Outcomes should:

* be written as **threshold** targets i.e. every student passing the module will be expected to have achieved the outcomes described;
* be written in a **student-friendly** manner and be easily comprehensible to employers etc;
* be based on a particular **level** (e.g. different outcomes expected at levels 4,5,6 and 7 Masters);
* reveal progression through the levels by subsequent levels having more exacting and challenging learning outcomes, and/or extra learning outcomes;
* lead to decisions about **assessment** methods;
* lead to decisions about **subject content, resources, learning** and **teaching strategies** and activities (seminars, lectures, and laboratory work, giving an oral presentation).

Criteria for judging performance above the threshold, such as allocation to 1st class, 2i, 2ii and 3rd class standard, will be separate from learning outcomes.

Depending on the module and its level, learning outcomes may focus on a range of learning processes such as:

> **knowledge, understanding (only at level 4 unless specialized), application, analysis, interpretation, synthesis, evaluation, and the development of professional and professional skills.**

Some learning outcomes will be subject-specific, some may be generic outcomes (e.g. expected of all graduates), some may be life skills / transferable skills / personal skills (e.g. communication skills, teamwork, self-evaluation, problem solving, numeracy, literacy, ICT etc.).

Modules may have some overlapping learning outcomes.

Modules should be seen as creating an integrative whole such that a course results in overall 'macro' learning outcomes for students. Such 'macro' leaning outcomes will be expressed in the Programme Specification.

5. Some Examples of Learning Outcomes

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

* Critically evaluate a specified author's use of imagery.
* Analyze the nature and limitations of market segmentation.
* Demonstrate an understanding of why religious explanations of evolution have been criticised.
* Assess positive and negative aspects of the government's policy on pensions for OAPs.
* Confidently and competently present a 10 minute talk.

- Demonstrate knowledge of how to harmonize a hymn tune.
- Apply knowledge of x in a given experiment.
- Measure a patient's blood pressure, oxygen uptake, heart rate.
- Demonstrate skills in the summary and presentation of business data from a large-scale company.

6. How to write learning outcomes

(i) One suggestion is that learning outcomes **start with the phrase: "On successful completion of the module, students will be able to:"**

(ii) Then decide what **outcomes** in terms of student knowledge, demonstrating understanding, competence or ability, and transferable skills that all students should achieve by completion of the module. What will be developed in students in this module? How will they have changed as a result of this module?

What threshold **level of performance** is expected so as to pass the module/programme?

Be clear about the **level** of the outcome (e.g. 4,5,6, 7 Masters), as it will be important to show **progression** from one level to another

A learning outcome often starts with a verb. **Typical opening verbs** in writing learning outcomes include:

assess, evaluate, critically evaluate, analyse, argue, interpret, examine, understand, discuss, deduce, think critically, show balanced judgement, appreciate, differentiate, judge, explain, appraise, demonstrate, summarise, utilise, distinguish, inquire, solve, estimate, apply, compare, contrast, predict, calculate, develop, design, test, determine, generate, create, discriminate, discover, become competent, infer.

Often we need to add the **context** in which a learning outcome is achieved. For example, 'demonstrates team skills' would need to specify teamwork in a biology laboratory, forestry fieldwork or archaeological project.

(iii) Then explicitly link each learning outcome with **assessment**. Sometimes various learning outcomes will be assessed together (e.g. by a project or dissertation). Occasionally, a learning outcome may be assessed more than once (e.g. 'critical thinking' by essay and examination).

Ask yourself how you will know that students have achieved those outcomes. Are the assessment devices appropriate?

(iv) Ensure that the subject content and learning and teaching strategies of the module are designed to help deliver those learning outcomes. When possible show the links in module documentation between learning outcomes and subject content and learning and teaching strategies.

7. Using module aims and objectives to write learning outcomes.

Modules will often have both general aims and more specific learning outcomes. Modules with **learning outcomes** differ from those with **aims** in two main ways. Firstly, aims tend to be expressed in rather general, generic 'macro' terms (e.g. to develop a love of Shakespeare; to appreciate the concept of evolution). Learning outcomes state more specifically what is required of the student. Typical examples:

Aim: to understand questionnaire design and construction

Outcomes: to be able to:

analyse critically a given questionnaire;

compose a questionnaire without major design faults;

demonstrate an understanding of the sequence of questionnaire construction.

Aim: to acquire a range of core biochemical practical skills

Outcomes: to be able to:

measure the rate of an enzyme catalysed reaction;

assay protein and glucose concentrations;

construct and use calibration curves;

distinguish between good and bad analytical practice.

8. Educational Health Warnings:

(i) Beware of trivialising learning outcomes to make assessment easy. Creativity, originality, the ability to synthesise complex material and critical thinking, for example, may be important outcomes of a module. We must not over-value the highly measurable and more exactly definable.

(ii) The **process** of a module, the voyages of discovery undertaken by students, are very important - and the focus on outcomes should not detract from that.

(iii) Module experience is **not** always **predictable**. We can't always forecast what individual students will gain from a module. Spontaneity and serendipity are important in quality learning experiences.

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