Guidelines to Learning Outcomes in Modules

1.   Introduction

The requirement in Bangor University is that every module (and programme) will have learning outcomes. Such outcomes should govern the assessment of those outcomes. Once specified, learning outcomes will generate appropriate module content and the module's teaching and learning strategy.

The design of a module involves specifying learning outcomes, assessment of the attainment of those outcomes, subject content, learning and teaching strategies and evaluation of the module. Learning outcomes are expected to be the initial consideration in module 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:

QAA Subject Benchmark Statements	https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
QAA Master's Degree Characteristics Statement (Sept 2015)	https://www.qaa.ac.uk/docs/qaa/quality-code/master's-degree-characteristics-statement.pdf?sfvrsn=6ca2f981_10
QAA Framework for Higher Education Qualifications	https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf

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'.

* A module is not assessment-led. Assessment is based on learning outcomes. It then becomes easier to judge whether the assessment methods of the course/module are appropriate and sufficient i.e. Do they provide evidence that the learning outcomes have been met? This also aids evaluation and quality assurance i.e. Are the students on this course achieving the learning outcomes intended?

* 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, learning outcomes may be about:

knowledge, understanding, application, analysis, interpretation, synthesis, evaluation, concepts, abilities, skills, transferable skills, attitudes, etc.

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 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 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, are very important - not just outcomes and products.

(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.

(iv)   The structure of any University programme is highly complex, valued and debated. Learning outcomes need critically re-assessing on an annual basis so that module enhancement occurs.

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