

Writing and Using Learning Outcomes: Guidance Note

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1. Introduction

This guidance note replaces that previously published in the 'Addendum to the Academic Quality Handbook' (pp. 204-208). It has been revised to both reflect changes to Cardiff's policy on learning outcomes, and to include information about the position of learning outcomes in relation to the QAA's process of Subject Review. Support and advice for staff on writing and using learning outcomes is available from the University's Learning Policy Support Officer (tel. ext. 76979)

2. What is a learning outcome?

A learning outcome is a statement of what a learner should know, understand and / or be able to do at the end of a defined unit of learning (normally, a module, a scheme or a defined part thereof). It will normally include an indication of the evidence required to show that the learning has been achieved and how that evidence is to be obtained.

For a scheme:

University policy requires that the overall learning outcomes for any particular scheme of study should identify the learning to be achieved by a 'typical' or 'modal' student. They should be written in the context of the appropriate national subject benchmark statements produced by the Quality Assurance Agency. The learning outcomes for a scheme should therefore reflect how this level is defined in the appropriate subject benchmark statements. Typically this has been defined as representing "graduates straddling the boundary between a Lower and Upper Second class honours degree", or as "the level of attainment reached by the typical student whose results fall into the main cluster".

For a module:

Learning outcomes for an individual should be **written to identify the learning to be achieved by a 'typical' or 'modal' student**. They should be written in the context of the assigned level (i.e. level 1,2,3,4,S or M) of the module/unit of study, and should demonstrate that there is general progression within schemes of study. Taken together, the learning

outcomes for all of the modules available within a scheme of study should reflect the outcomes for that scheme as a whole.

It should be clear how the outcomes for both individual modules and schemes of study match with relevant teaching, learning and assessment strategies, as well as the scheme aims, curriculum content and criteria used for assessment.

3. Learning outcomes and their relationship with aims and objectives

Since the University adopted the modular structure in 1995, schemes and modules have been described in terms of aims and objectives. Some objectives are often written more in terms of teaching intentions and typically indicate the subject content that the teacher(s) intends to cover. Learning outcomes, on the other hand, are more student-centered and describe what it is that the learner should learn.

Modules will henceforth be written in terms of an aim, as currently, and learning outcomes. Learning outcomes replace objectives.

The aim is a statement of general intention, or broad purpose, of the module.

Learning outcomes are formulated in the context of the stated aim and are descriptions of what a learner should know, understand and / or be able to do at the end of a defined unit of learning. For both schemes of study and individual modules, learning outcomes should therefore be written in relation to knowledge, understanding and skills.

To illustrate these points examples are given below.

Example 1 (Geology)

Current aim of module (which may be retained)

To develop knowledge, understanding and skills related to the recognition and interpretation of igneous and metamorphic rocks.

One of the current objectives of the module

To explain the different magma geochemistries derived from partial melting of the mantle in different tectonic regimes.

How this current objective might be reformulated as a learning outcome

Students should be able to demonstrate how magma geochemistry relates to partial melting of the mantle by contrasting the outcomes of this process in different tectonic regimes through the critical analysis of specific case studies.

Example 2 (Biochemistry)

Current aim of module (which may be retained)

To explain the biochemical basis of drug design and development.

One of the current objectives of the module

To demonstrate the application of molecular graphics to drug design.

How this current objective might be reformulated as a learning outcome

Students should be able to apply the principles underpinning the use of molecular graphics in the design of drugs to illustrate general and specific cases through a computer-based presentation.

4. Essential points about learning outcomes

a. Learning outcomes should be developed with reference to specific higher education levels.

i.e. Learning outcomes are written for the levels specified in Senate Regulations for Undergraduate and Postgraduate Modular Schemes of Study (i.e. 1,2,3,4,S or M).

b. Learning outcomes should include an indication of the evidence that will show that the learning has been attained.

While learning outcomes do not need to explicitly refer to particular methods of assessment, they should include an indication of the standard of the performance that will demonstrate that the defined learning has been achieved. It should therefore be clear what a student needs to learn/do to attain that learning outcome.

c. Learning outcomes are statements of essential learning in relation to specified levels of achievement.

The learning described in learning outcomes is the learning that must be attained for the student:

in a scheme to attain the main modal level of award; and

in a module to achieve the typical level of achievement for the module concerned.

d. Learning outcomes must relate to the criteria used for assessment.

Learning outcomes define the learning that should be achieved by the 'typical' or 'modal' student. It therefore follows that they should equate with the assessment criteria that apply to this level. If for example the benchmark statements describe the typical level equivalent to the 50-60% band, then the assessment criteria for the 50-60% band should reflect the general attainment of learning outcomes. The assessment criteria either side of the 40% mark should also be used to differentiate between work that represents a 'minimum pass', and that which falls short of this mark.

e. The target audience

Learning outcomes are explicit statements of expectations in relation to identified standards of

attainment aimed at a wide variety of audiences who need information on, and understanding of, the University's requirements. The audience will include students who might choose the module, External Examiners, employers and others who are interested in what the student has studied and is therefore expected to have learnt, and, not least, staff teaching on the module so that they can know what is expected of them. Learning outcomes therefore have a major role in the establishment, maintenance and, importantly, articulation and communication of standards.

5. Vocabulary for Writing Learning Outcomes.

It is important to find the right words when writing learning outcomes. The following list of words and terms is provided as an aid in the familiarisation process.

Activities giving evidence of knowing may be described in terms of:

Define, describe, identify, label, list, name, outline, reproduce, recall, select, state, present, be aware of, extract, organise, recount, write, recognise, measure, underline, repeat, relate, know, match.

Activities giving evidence of comprehension may be described in terms of:

Interpret, translate, estimate, justify, comprehend, convert, clarify, defend, distinguish, explain, extend, generalise, exemplify, give examples of, infer, paraphrase, predict, rewrite, summarise, discuss, perform, report, present, restate, identify, illustrate, indicate, find, select, understand, represent, name, formulate, judge, contrast, translate, classify, express, compare.

Activities giving evidence of knowledge / understanding may be described in terms of:

Apply, solve, construct, demonstrate, change, compute, discover, manipulate, modify, operate, predict, prepare, produce, relate, show, use, give examples, exemplify, draw (up), select, explain how, find, choose, assess, practice, operate, illustrate, verify.

Activities giving evidence of analysis may be described in terms of:

Recognise, distinguish between, evaluate, analyse, break down, differentiate, identify, illustrate how, infer, outline, point out, relate, select, separate, divide, subdivide, compare, contrast, justify, resolve, devote, examine, conclude, criticise, question, diagnose, identify, categorise, point out, elucidate.

Activities giving evidence of synthesis may be described in terms of:

Propose, present, structure, integrate, formulate, teach, develop, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, re-arrange, reconstruct, relate, re-organise, revise, write, summarise, tell, account for, restate, report, alter, argue, order, select, manage, generalise, précis, derive, conclude, build up, engender, synthesise, put together, suggest, enlarge.

Activities giving evidence of evaluation may be described in terms of:

Judge, appraise, assess, conclude, compare, contrast, describe how, criticise, discriminate, justify, defend, evaluate, rate, determine, choose, value, question

