Introduction to SEEC's 'How to' Series

This series is designed to offer practical advice to lecturers and course designers in higher education. The books in this series all address different aspects of operating a credit-based system but do not restrict themselves to issues directly relating to the award of credit. We shall be looking at a variety of matters which will be of particular relevance in the context of the implementation of the two Framework for Higher Education Qualifications published by QAAHE.

All the authors in the series are from SEEC institutions and the topics have been chosen from workshops or meetings of the SEEC Networks which have proved to be popular and address participants' immediate concerns. As relatively short and practical guides to good practice, they are based on the experience of the authors, SEEC and relevant research findings. Whilst each publication will include a set of references and suggestions for further reading, they are not intended to be discussions of the research literature. Rather we hope to encapsulate in a relatively brief and simple format what staff will find most useful in their day-to-day work. Hence all the titles begin with the phrase 'How to …' This is the third edition of the first title in this series and takes account of recent changes in the quality assurance processes managed by the Quality Assurance Agency (QAA). There are two other published books in the 'How to' series. How to use Level Descriptors, by Jenny Moon and How to do AP(E)L by Tony Wailey. Both are recommended as 'companion volumes' to this one because both shed further light on issues introduced in this booklet. Further books in the series are being prepared, one on international credit and another on work-related learning.

The series is published by SEEC, a consortium of institutions undertaking teaching at higher education level. Its aim is to promote the use of credit accumulation and transfer in order to improve accessibility and flexibility in HE. SEEC is the oldest and largest higher education consortium for credit accumulation and transfer (CATS) in the United Kingdom. Further information about SEEC and its publications can be obtained by consulting its web-site, www.seec-office.org.uk.

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How to Use Learning Outcomes and Assessment Criteria

David Gosling
& Jenny Moon

Contents

Introduction

Much of the work on learning outcomes and level descriptors originated from the DfEE projects (1996 and 1998) in which SEEC (the Southern England Consortium for Credit Accumulation and Transfer) played a major part. Learning outcomes and level descriptors are important components of a credit system as we explain below. In the last five years the outcomes-based approach to curriculum design has become the main way in which learning in higher education is described and there has been more development work to align the approach to the requirements of teaching, learning and quality assurance specifically within the context of higher education.

Framework for Higher Education Qualifications (FHEQ), one for England Wales and Northern Ireland and one for Scotland, published in January 2001 by the Quality Assurance Agency (QAA), along with Subject Benchmarking, Programme Specification and Academic Review, form the context within which course design takes place in higher education institutions in the UK. These guidelines comment on some of the implications of the outcomes-based approach to curriculum design and assessment which underpins the QAA's documents.

We have written this guide in association with a series of workshops that we have delivered on behalf of SEEC. It constitutes a practical 'how to do it' booklet to be used by practitioners in higher education, for example, all those who manage and construct modules, teach and assess programmes at higher education levels, whether in educational institutions, professional development or the workplace.

Definition of terms

Institutions of higher education use a variety of terms to refer to 'elements' within a programme of study. In these guidelines we use the term 'module' to refer to a separately assessed block of learning which earns credit when successfully completed. We use 'programme' to refer to study leading to an award, normally made-up of a number of modules. However, institutions vary in their use of terminology and you may need to 'transcribe' our terms to the ones in use in your institution.

Aims of the guidelines

There are no absolutely 'correct' ways of writing learning outcomes and assessment criteria and the perfect assessment tool has not yet been invented. What we would like to do through these guidelines is to help you improve your current course design and assessment practices.

We aim to help you achieve clarity and good communication with students, who, not surprisingly, expect to know where their learning is leading them and how they will be assessed.

Quality assurance processes also increasingly expect clearer specification of the outcomes and the methods of assessment of each module and each programme of study. We hope these guidelines will help you meet the requirements of your validation/approval processes.

The authors

This booklet has resulted from the writers' experience of teaching in higher education, educational and staff development, professional development in the health service and participation in the credit development projects of the mid 1990's funded by the Department of Education and Employment (DfEE). Both are experienced in educational development and have published widely on a variety of topics in higher education. Jenny Moon is Learning and Teaching Advisor at Exeter University. David Gosling is Co-Director of the Teaching Quality Enhancement Fund (TQEF) National Co-ordination Team (NCT) based at the Centre for Higher Education Practice at the Open University.

Part One: The Outcomes-based Approach

Designing a programme of learning

Two approaches to curriculum design

There are a number of possible places to start when you are designing a programme of learning (D'Andrea, 1999). Traditionally many teachers in higher education have started from the content of the course they intend to teach. Typically the tutor determines the content to be covered in the course and then decides how the content is to be taught and subsequently how it is to be assessed. This approach centres on the tutor's intended input and how a student's absorption or mastery of the content is assessed. The criticism mounted against this approach is that it is too teacher-centred and makes it difficult to tell what the student has to be able to do in order to pass.

The alternative 'outcome-based' model focuses on what the student is expected to be able to do by the end of the module or programme and utilises statements of learning outcomes in order to express expectations of outcome. Linked to the learning outcomes are specifications of how these outcomes will be assessed through assessment criteria. The outcome-based approach is the one which we shall be describing in this booklet.

The outcome-based approach to curriculum planning has its origins in the behavioural objectives movement in the United States in the 60's and 70's (e.g. Mager, 1975). But whereas that literature led to ever more detailed specification of measurable behaviours or 'competencies', we shall be arguing for an outcomes-based approach which is more suitable to higher education. This allows for, indeed advocates, a greater variety of possible outcomes – including process outcomes, those concerning higher level skills, knowledge and understanding.

The outcome-based approach has been increasingly adopted within credit frameworks (see SEEC, 1996, InCCA, 1998), and by national quality and qualifications authorities such as the QAA in the UK, the Australian, New Zealand and South African Qualification Authorities.

An outcomes-based approach to qualification frameworks is intended to increase flexibility of provision – for example to include work-based learning , widen access – for example by allowing for the Accreditation of Prior Learning*, facilitate a variety of progression routes to qualifications, and increase transparency of awards by enabling employers and others to understand the achievements and attributes of students who have successfully completed a programme of study.

*This topic is explored in more detail in How to use AP(E)L by Tony Wailey (SEEC 2002)

Principles

1. All learning at whatever level can be expressed in terms of outcomes to be demonstrated.
2. Modules of learning are described in terms of their learning outcomes and assessment criteria.
3. These, rather than the mode of delivery, form the basis upon which they are assigned a specified number of credits at a given level.
4. Learning outcomes must be placed within the hierarchy of the five levels of the QHFE in Higher Education in England (six in Scotland).
5. Any given module can be assigned to only one level.
6. Learning outcomes should be as clear and unambiguous as possible.
7. Learning outcomes identify the essential learning to be achieved to merit the award of credit.
8. Assessment criteria should specify how satisfactory performance of the module's learning outcomes are to be demonstrated.
9. Assessment criteria should encourage learning at the appropriate level.
10. Learning outcomes should enable employers, schools, parents, prospective students and others to understand the achievements and attributes of students who have successfully completed a given programme of study.
11. An outcomes-based approach should contribute to international mobility of students by facilitating comparability of standards between qualifications framework for higher education.
12. An outcomes-based approach should facilitate student and graduate mobility and help identify potential progression routes, particularly in the context of lifelong learning.
13. Identifying learning outcomes should assist higher education institutions, their external examiners, and QAA reviewers to assure quality and standards, by providing an important point of reference for setting and assessing standards.

Module or programme descriptors

Each module is a defined element within a programme of study. Within a credit-based modular framework each module must specify the volume of credits which will be awarded on its successful completion. This is done by identifying the learning which will be assessed (the learning outcomes) and the notional study hours expected to be required to achieve those outcomes. These are specified along with the level at which the module is offered (see below). Module descriptors also typically include the content, the learning and teaching strategies to be used, the assessment method(s) and indicative reading.

Generic level descriptors

When tutors design modules, including specifications for the assessment of students' achievement of the outcomes, they must determine the level at which the learning outcomes are to be assessed.

Level: an indicator of relative demand; complexity; depth of study and learner autonomy

Generic level descriptors are a set of agreed verbal descriptions of the characteristics of students' outcomes at each level which can be applied to any learning in any subject.

Levels descriptors: Generic statements describing the characteristics and context of learning expected at each level, against which specific learning outcomes and assessment criteria can be reviewed in order to develop modules and units and assign credit at the appropriate level.

The award of credit, if is to be meaningful, must be at an identified level. Generic level descriptors therefore contribute to curriculum design, the transparency of the award, achieving consistency in assessment, the identification of measures of progression and they help to ensure comparability between programmes of learning.

As part of the Framework for Higher Education Qualifications (FHEQ), the QAA has developed 'Qualification Descriptors' which are brief descriptions of the qualities of learning that will be evident in learners with named academic awards. They are mainly for the use of employers and others outside higher education. The FHEQ has identified 'qualification descriptors' for each of five levels.

From the FHEQ for England, Wales and Northern Ireland

The framework has five levels; three of which are undergraduate and two are postgraduate.

In common parlance, each stage within any framework of qualifications, be it school, vocational or higher education, is referred to as a 'level'. In practice, most such levels represent bands of qualifications sharing similar outcomes.

To convey the relative position of these levels it is convenient to refer to them by the numbers 1 to 5. To avoid confusion with the numbering of levels in the framework of school and vocational qualifications managed by the Qualification and Curriculum Authority (QCA), and with the numbered levels of the Scottish Credit and Qualifications Framework, the levels will normally be referred to by the initial letter of the descriptive title:

Certificate	**C level**	Certificates of Higher Education
Intermediate	**I level**	Foundation degrees, Ordinary (Bachelors) degrees, Diplomas of Higher Education
Honours	**H level**	Bachelors degrees with honours, Graduate Certificates and Graduate Diplomas
Masters	**M level**	Masters degrees, Postgraduate Certificates and Postgraduate Diplomas
Doctoral	**D level**	Doctorates

(QAA 2001a)

Subject benchmarks

The Dearing Report (NCIHE, 1996) suggested the need to provide descriptions of the subject-specific learning that could be expected by successful graduates. Subsequently the QAA has begun the process of publishing benchmark statements for 42 subjects. The benchmarks are, in effect, statement of learning outcomes that may be anticipated on programmes with named awards in the subject areas, although they vary in style and approach from one subject to another. They are written (currently) for honours degree only. The original requirement of the development groups was to describe threshold attainment only, but more recently there has been description of modal and sometimes excellent attainment. There is no formal requirement that a programme should reflect the relevant benchmark statement, but in the guidelines on Academic Review, being implemented from 2002, it is stated that 'Reviewers will use relevant benchmark statements as a means of determining whether the intended learning outcomes of individual programmes are appropriate'. Subject benchmark statements also feature as 'authoritative reference points' for institutional audit.

Programme specification

Programme specification is another QAA process, designed to describe the important features of a programme of study for the purposes of quality assurance and as provision of information to students, employers and other stakeholders. Programme outcomes appear to be similar to learning outcomes for modules but are the intended outcomes of following the complete programme of study and may include some indication of more general anticipated learning opportunities that may or may not be assessed in the programme. They are likely to be written in relationship to subject benchmarks, utilising similar vocabulary. Whilst the idea of programme specification operates within the framework of an outcomes-based approach, the notion of outcomes is somewhat different when applied to a whole programme of learning.

Benchmarks, programme outcomes and learning outcomes for modules within a programme may be influenced by other information about standards. Another important source of information of this kind is that issued by professional bodies. The standards they specify may regulate professional licence to practice.

Hierarchy of contexts for course design

One way of understanding the process of approaching course design within the broader context of national frameworks is to think of it in terms of a hierarchy. At the highest level there is the on-going debate about the philosophy of curriculum design and the justifications of an outcomes-based approach, which influences practice at every level. At a national level the philosophy adopted becomes encapsulated into a particular Qualifications Framework. The differences in philosophy at this level can be seen by comparing the approach in Scotland and in England Wales and Northern Ireland. Institutional policy is clearly guided by the national framework, but will also reflect the specific approach to quality assurance adopted by each institution – and these can vary widely reflecting tradition, mission and management style.

Most lecturers work at the subject level, influenced by the norms of their discipline, in some cases by professional bodies or subject associations and also by the Subject Benchmarking Statements. Programmes of study may be within a subject area, but may also be inter-disciplinary or multi-disciplinary. The outcomes of each award are described in the Programme Specification. Modules, units or courses are nested within this structure and must reflect the programme outcomes

and meet the requirements of the subject and institutional policy. Finally students must achieve the outcomes specified in order to be awarded credit for the unit or module on which they are registered.

This hierarchy can be summarised as follows:

context	influences
Curriculum design philosophy	Political, social, educational debate
Framework for Higher Education Qualifications	QAA
Institutional policy	Registry/quality assurance department, credit consortia, learning and teaching strategy
Subject/professional area	Subject associations, professional bodies, subject benchmarking statements
Programme of study/award	Professional bodies, programme specification, peer review
Module	Validation/approval requirements, level descriptors
Student learning	Learning and teaching strategies

Why use learning outcomes and assessment criteria?

Coherence in curriculum design

By linking learning outcomes with assessment criteria and assessment practice, greater coherence in curriculum design can be achieved. Teaching strategies need to be developed which will enable the student to achieve the learning outcomes and meet the requirements of the assessment criteria. In this way 'constructive alignment' can be achieved (Biggs, 2000). When they are written in relation to level descriptors as well, they provide a coherent picture of where a module fits in the hierarchy of modules that make up a programme.

Well written learning outcomes provide a means of mapping the content of a curriculum – for example, to see how they reflect benchmark statements, which of the key skills are acquired, where the same skill or content is appearing more than once in the a programme, the capabilities the students acquire as they progress through the levels in the programme of study.

For the award of credit and credit transfer

In the context of a credit-based higher education system, learning outcomes are part of the definition of credit. Since learning outcomes provide information about what the learner is expected to have achieved, they are a kind of transcript that can be used to inform others such as an institution to which the student wishes to transfer, or potential employers. They make an essential contribution to a system of credit accumulation and transfer by facilitating access to higher education, progression through it and by ensuring flexibility of learning opportunities. The value of having a transparent framework is that it can be understood by all and is not dependent on less reliable information such as reputation or gaining 'insider' information about what a student can be expected to know and do.

Quality assurance and standards

Learning outcomes enable internal and external quality assurance processes to determine the appropriateness of the curriculum. They are also the means by which QAA benchmark statements can be reflected in the curriculum. The clear statement of learning outcomes and assessment criteria indicate to students, staff, examiners, employers, and the QAA, the standards that are being demanded of students.

Consistency

The use of learning outcomes provides a means of judging and attaining consistency of volumes and standards of learning within and across institutions. The same piece of student work can be given widely varying marks by different staff. One of the reasons for this is that staff are paying attention to different learning outcomes, or using different criteria. Or if they are using the same criteria, they are giving different weightings to them. Unless learning outcomes and criteria are made explicit these factors affecting the marks awarded remain hidden to students and staff.

If a number of different staff members are involved in teaching and marking a piece of work, clearly stated outcomes and criteria should help to create coherence among the teaching team and bring closer the standards to be applied. Such clear statements also provide a basis for discussion of any disagreements either between staff or between students and staff.

Transparency to the student

By being explicit about what learning you expect students to attain and how that learning is to be assessed, the course content and the assessment requirements are made more transparent. Students have a right to know what they should be learning and the basis on which their work will be judged. Such statements are a good way of communicating the learning purpose that the module is intended to fulfil and obviate the need for students to be left guessing the basis of their assessment and therefore what they should learn

Writing learning outcomes and assessment criteria does not mean that you are telling the student exactly what s/he will have to do to pass the assessment but learning outcomes give the general direction in which students must study and what they must demonstrate in their assessments. Students can be disadvantaged by concentrating their learning on the wrong things or simply not paying enough attention to the things which the teacher/assessor thinks are important. Learning outcomes help students to understand the aspects of learning on which you wish them to focus. If you are looking to see how students can apply a theory to a particular set of 'real-life' circumstances, then this can be made clear by specifying this in the learning outcomes and in the assessment criteria. Similarly you might indicate that you are interested in the process by which a student has arrived at their conclusion or their design product rather than the product itself.

To combat plagiarism

This represents only one of many strategies to combat plagiarism. You can, through the learning outcomes and assessment criteria, make it clear that you expect originality of thought and appropriate referencing of ideas taken from texts consulted by the student. You might state that using appropriate citation and referencing is a learning outcome for a first level course or for a dissertation in particular.

Hint for good practice

To help avoid plagiarism include something like the following:

Learning outcome

– students are expected to demonstrate the origins of their ideas by referencing sources used in the project/essay.

Assessment criteria

– accurate use of the standard referencing styles within the text for all texts used.

– precise and accurate bibliography using the Harvard style.

To support students' self or peer assessment

If students are to become more autonomous it is essential that they acquire the capacity to self-assess or self-evaluate their work. In order to do this they need – and need to be able to use - learning outcomes and assessment criteria.

Hint for good practice

The points above all relate to situations in which learning outcomes and assessment criteria are written reasonably clearly and with sufficient detail. If a single learning outcome is written to describe a programme, it will fulfil few of the purposes above.

Points for Discussion

Issue: An assumption of the learning outcome model is a rationalistic one, which assumes that the teacher can pre-plan what students will learn. But in many subjects it is desirable to allow students to determine for themselves the direction they wish to travel. This applies in subjects where students are reflecting on their own experience or in creative subjects such as art and design, music, architecture.
Response: It is true that outcome-based approaches to curriculum design are based on a rational planning model, but it is possible to have higher level skill or process outcomes which do not predetermine the content of what students will learn.

Example

Learning outcomes which do not imply a closed or pre-specified outcome.

Students will be expected to be able to:

– apply theory critically to analyse their professional experience

– evaluate the impact of their clinical intervention

– write a research proposal to the grant awarding committee of the professional body

– draw creatively on experience to devise work which integrates art forms

– use a self-reflective approach to devising, developing and delivering project work

Issue: Isn't the use of learning outcomes a very reductionist process? Learning is something that cannot always be defined or captured by short descriptions of outcomes. It can be unpredictable and indefinable.
Response: The problem with this view is that if learning is indefinable it becomes impossible to assess it and do so fairly. Although it is often difficult to draft learning outcomes which are at the right level, it is important that we try to capture what we expect students to learn, so that students know the basis on which they will be assessed.

Issue: When you've gone to the trouble of putting all the learning outcomes and assessment criteria in the student handbooks, student still don't read them or, if they do, they don't understand them.
Response: An important part of the process of learning is ensuring that students acquire a clear view of what it is they are expected to be able to do. This means discussing the learning outcomes and referring back to them throughout the course. The tutor needs to be active in explaining what the words in the handbook mean.

A sequence for programme and module development

This booklet provides a coherent approach to the design of modules in higher education. The main components of this are:

level descriptors
learning outcomes
assessment criteria
assessment procedures
teaching strategies.

The model represents an ideal sequence for module development. The sequence may rarely be followed during actual development because, as we have suggested earlier, there is a tendency to start with curriculum aims or existing areas of teaching, however it provides a means of ensuring the existence of a logical relationship between level, learning outcomes, assessment criteria, assessment and teaching methodologies for quality assurance processes.

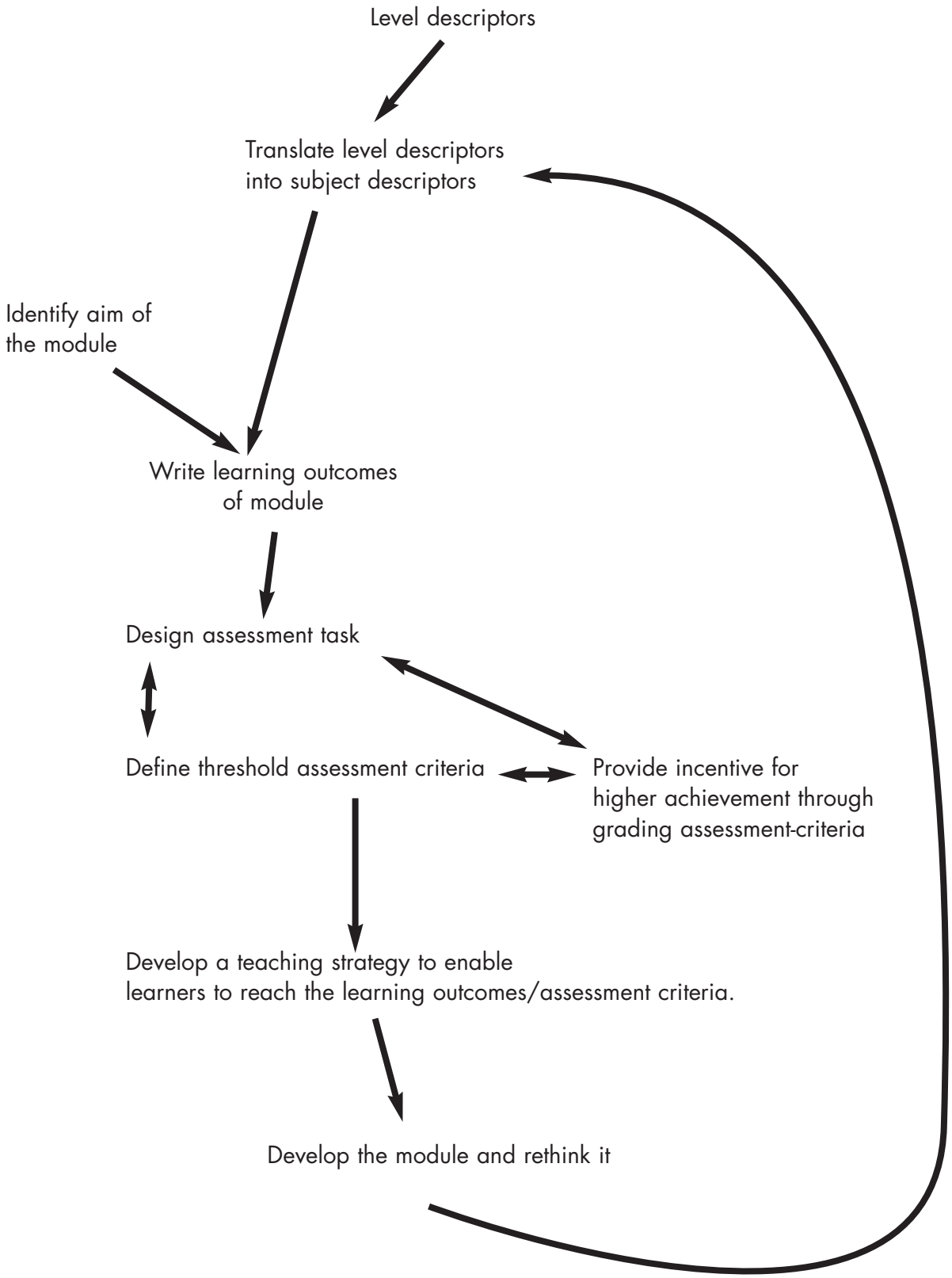
While an aim tends to provide a direction for the content of a module (see below), level descriptors guide the standards(see Appendix 2). Either directly or in a translated form, the level descriptors ensure that learning outcome statements are clearly related to a particular higher education level.

Learning outcomes are written to represent essential learning. In other words, students must demonstrate achievement of the learning outcomes in order to pass the module by meeting the assessment criteria at threshold standard.

Both learning outcome statements and the nature of the assessment task may guide the writing of threshold assessment criteria. Grade related assessment criteria provide a graded measure of student achievement.

Developing or checking a module using learning outcomes is an iterative process and it should be reviewed several times, preferably by different teaching staff. It may well be that once the teaching strategy has been developed, the aim, learning outcomes, assessment criteria or assessment will need to be adjusted. Only the level descriptors are fixed.

Fig 1 map of module development



Part Two: How to Use Learning Outcomes

What are the features of good learning outcomes?

Learning outcome: a statement of what a learner is expected to know, understand and / or be able to demonstrate at the end of a period of learning. It is written in association with level descriptors.

Achievable

Learning outcomes must be achievable by students within the time available and at the level of learning which the students are at. Generally, learning outcome statements are couched in terms of 'At the end of a module, the learner will be expected to be able to…..' Sometimes the definition of a learning outcome is written in terms of 'the learner will (be able to do something)…' In these days of litigation, it is safer to use the notion of 'expected to be able…' A teacher has no real control over a student's learning. An alternative is to use the term 'intended learning outcomes'.

General

Learning outcomes do not usually specify curriculum, but more general areas of learning. However, they should not be so general that they are difficult to interpret. In some subjects, such as science (see below) it may be necessary to be more specific.

Hint for good practice

It is unlikely that there will be more than 10 learning outcomes per module – more usually between 5 and 8. If there are more than 10, they are probably specifying too much curricular detail and will be unmanageable in the process of assessment. There is also a tendency to treat large numbers of learning outcomes in a tick-box manner. If you have written more than 10 learning outcomes, you may have detailed material that can be written as assessment criteria.

Unambiguous

The learning outcome should be expressed in language that is understood by all and, as far as is possible, not liable to be misinterpreted.

Significant

Each learning outcome should represent a major achievement expected of students on completion of the module. Each represents a significant capability, task, or process that the student should be expected to have or be able to do.

Assessable

Learning outcomes must be assessable by some reasonable and manageable form of assessment within the time frame allowed by the course regulations.

Hint for good practice

Any longer term learning outcomes, the achievement of which may not be apparent until the student has completed the whole of programme of study, or even later in a vocational context, should be stated as a programme outcomes not as a module outcome.

Essential

Achievement of each learning outcome is essential to pass the module.

Example

Level 2 BEd programme

At the end of the module the learner is expected to be able to -

- explain the more common reasons for difficult behaviour in primary school children in class situations, indicating standard techniques for ameliorating that behaviour.

or - within the context of a class situation, demonstrate and evaluate the use of appropriate examples of positive reinforcement for the purpose of the improvement of behaviour.

Level 3 English Literature

At the end of the module, the learner is expected to be able to -

- demonstrate detailed understanding of the influences of the historical and social context within which the chosen text is set, both from the study of the text itself and from the study of other contemporary literature.

  (Comment: this learning outcome could mention the text by name, but by focusing on the skills to be acquired, one avoids being tied to the same text in the future).

Level 2 Physics

At the end of the module, the learner is expected to be able to -

- perform correctly calculations on wave functions and in the solution of the Schroedinger equation for a range of one-dimensional problems.

Level 3 Physics

At the end of the module the learner is expected to be able to –

- describe and explain the function of the basic devices of optoelectronics; optical fibres; liquid crystal displays; bi-polar and surface field effect transistors and MOS light emitting diodes.

Learning outcomes, aims and objectives

The difference between learning outcomes and aims is that aims are written in terms of teaching intention and indicate what it is that the teacher intends to cover, or the learning that s/he intends to manage in the block of learning. In contrast, learning outcomes are descriptions of what the learner is expected to learn in the period of learning defined and alongside this they imply the standard of learning expected. Aims and learning outcomes, in effect, refer to the quite separate activities of teaching and learning.

The statement of 'objectives' often complicates the situation. Objectives are sometimes written in the terms of teaching intention and at other times they are written in terms of expected learning outcome. Objectives that are called 'behavioural' or 'learning' objectives are more likely to be written in learning outcome format. The confusion about writing objectives justifies the abandonment of the term 'objective' for the purposes of the description of modules or programmes.

Since learning outcomes and aims have different functions, it is useful to write an aim for a module in addition to learning outcomes. An aim can be a statement of general teaching intention and of direction and coverage as well as indicating content and its relationship to other learning and so on.

How to write learning outcomes

Some useful vocabulary for writing learning outcome and assessment criterion statements is included in Appendix 1

A well-written learning outcome is likely to contain the following components:

- A verb that indicates what the learner is expected to be able to do at the end of the period of learning.
- Word(s) that indicate on what or with what the learner is acting. If the outcome is about skills then the word(s) may describe the way the skill is performed (e.g. jump up and down competently).
- Word(s) that indicate the nature (in context or in terms of standard) of the performance required as evidence that the learning was achieved.

Example

Learning outcome: 'demonstrate detailed understanding of the influences of the historical and social context within which the chosen text is set, both from the study of the text itself and of the study of other contemporary literature'.

The verb is 'be able to demonstrate' (what the learner has to do).

The words that indicate on what or with what the learner is acting – 'the influences of the historical and social context in which the chosen text is set'.

The words that describe the nature of the performance are 'detailed understanding' and 'the study of the text' and 'the study of other contemporary literature'.

The components of a learning outcome usually, but not always, follow the sequence as above. The third component of the learning outcome usually provides the main links to assessment criteria and level descriptors. Learning outcomes written for science may differ, because of the hierarchical arrangement of knowledge. In science subjects, the level may be implied in the nature and generally understood complexity of the learning required – as, for example, in the physics learning outcomes (examples 3 and 4).

Hint for good practice

Keep learning outcomes simple, normally use only one sentence with one verb in each outcome and avoid unnecessary jargon.
Occasionally more than one sentence may be used for clarity.

Points to remember

There are some important points to remember about writing learning outcomes.

Learning outcomes should be developed with reference to the learning expected at one identified higher education level (defined by level descriptors)

It is not appropriate to design a module with the same set of learning outcomes for two levels. The teaching content may be the same, but the learning outcomes and assessment criteria should differ.

Learning outcomes are statements of essential learning

As essential learning, they are written at minimum acceptable or threshold (pass / fail) standard.

Grading students' performance is a separate operation from judging that students are meeting, or failing to meet, a learning outcome

A learner attains or fails to attain a learning outcome. If s/he attains some learning outcomes and fails to attain others and then, technically, s/he fails the module (since learning outcomes represent essential learning). The criteria for attaining a learning outcome will be specified in the assessment criteria and will define the pass / fail point . Further grade assessment criteria may grade above or below this point. (see Part Three below)

It is possible to write 'desirable learning outcomes' for learning that is desirable but not mandatory

You may wish to distinguish between essential and desirable learning outcomes. Meeting desirable outcomes can be used in the grading scheme.

In principle all learning outcomes should be assessed

Since learning outcomes specify essential learning, they should all be assessed, but, in practice, assessment methods sample student achievement and cannot always test every outcome fully. It is important that students know that they are intended to learn the material specified in each learning outcome – so they should usually expect to be tested on any learning outcome.

Any learning can be described in terms of a learning outcome

If you are asking the learner to explore some subject matter in an open-ended manner, the learning outcomes can specify that students should demonstrate the skills of independent learning. Where students negotiate their learning with a tutor, learning contracts can be used to specify the outcomes which it is agreed the student will demonstrate.

Not all anticipated learning is specified in learning outcomes

There are many aspects of learning that we might consider essential to a module, that are not specified in terms of learning outcomes. For example, the student may be required to learn the skills of applying him/herself to a task, turning up punctually to classes, learning to be tolerant of other students' views different to his/her own. These are desirable outcomes, but unless they are to be assessed would not normally be specified. They should be described in other parts of the course literature for example in the overall aims of the course or in the programme specification.

Consider the audience for learning outcomes

The audience will usually be students who might choose the module at the same or at the next level, other teaching staff, employers and others who are interested in what the learner has studied. Very technical language should, therefore, be avoided, where possible.

Be realistic about what students can achieve within a module

We often tend to be over optimistic in our expectations and write what we would ideally like the best students to achieve. Learning outcomes must identify the passing standard which all students must achieve to be awarded credit.

General points about learning outcomes

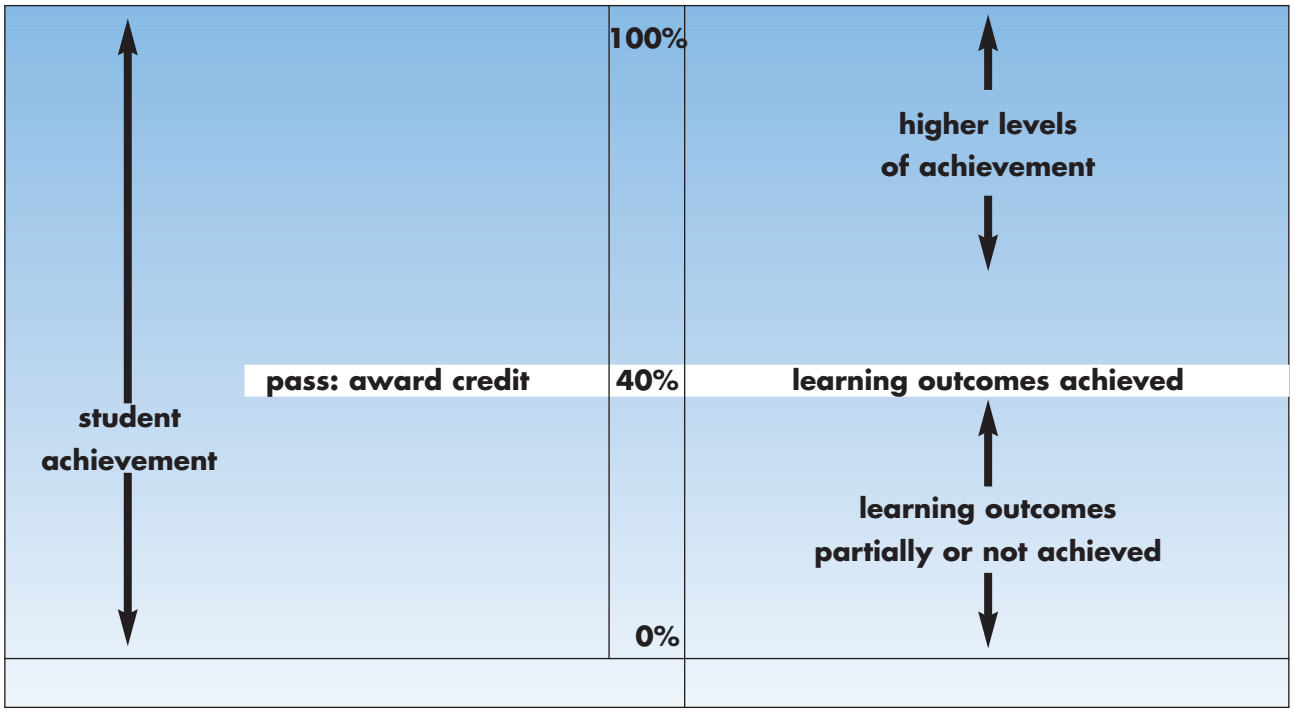
Learning outcomes and the accreditation of prior learning.

The use of learning outcomes and associated threshold assessment criteria provide a mechanism for describing learning either in prospective terms - to be achieved, or in retrospective terms - learning that has been achieved already for accreditation of prior learning purposes. In this context, learning outcomes are relatively general statements, related to assessment criteria that focus more precisely on the standards of achievement required in assessment of that learning.

The significance of writing learning outcomes at threshold standard

Surprise is sometimes expressed that learning outcome statements are written at threshold standard. The argument is put that specifying learning outcomes at **threshold standard** prevents staff and students exploring unanticipated avenues of learning. Since it is often the most exciting, creative and innovative students who push their teachers to consider new aspects to the subject, the specification of learning outcomes is likely to have the overall effect of 'dumbing-down' the teaching. Writing learning outcomes at threshold standard is justified above in terms of creating a clear relationship between learning outcomes, assessment and level, but there are other reasons that concern the essential qualities of higher education learning. These are illustrated in Fig 2.

Fig 2 Learning outcomes and the qualities of higher education learning



The figure above represents a notional view of student achievement, from 0 to 100%. A learning outcome drawn at a pass / fail point of 40% can be said to 'tie down' in description, only the lowest 40% of achievement. It tells the student what s/he must do in order to pass the module. In this way it forms a sort of contract between the teacher and the student – 'If you pass this, I will let you pass the module'. It seems completely fair to tell a student what s/he must do to pass.

The important point that is made by this model is that the 60% of learning above the learning outcome does not have to be 'tied down' in description though it may be described in (optional) grading assessment criteria. It is 'space' in which the essential qualities of higher education learning can be expressed either in the teaching process or in the student's learning – exploration of ideas, reflective thinking, creative expression and so on. Seen in this way, the writing of learning outcomes is fair to students. It provides accountability and a form of liberation of learning.

Ironically, it is often the same people who say that learning outcomes should be written for the average (modal) student who also complain that learning outcomes 'tie down' learning. When learning outcomes are written at modal level, they tie down more learning. But another issue that arises here is the actual location of 'modal' on this diagram – is it at 55%, 60% or 65% standard of achievement? In order to relate modal learning outcomes to assessment we would have to know where 'modal' is located on a grading scale. There are therefore a number of reasons why learning outcomes should be written at threshold and not modal standard.

Issues of control in aims and outcomes

It is worth thinking about the issue of control in aims and learning outcomes and this has implications for the kinds of outcomes that are written. Because statements of aim are teaching intentions, they are within the control of those who teach. Teachers decide what material is to be covered and they teach it. Learning outcomes are less within their control because they do not determine how a student achieves the outcome. It may be via taught course, but it may equally be achieved through, for example, work-based learning, or it may be recognised as something the student has already achieved through AP(E)L. Whereas a student is required to engage with a teacher in order that teaching aims are met, learning outcomes may be achieved independently of a teacher.

Learning outcomes in vocational programmes or short courses

Most learning outcomes in higher education are written for testing at the end of a module. However, in vocational education or in most short courses, the learner's demonstration of learning at the end of a block of learning is of little use. S/he will need to demonstrate that that learning has affected her/his practice in the workplace at a later stage. While longer term learning outcomes are less under the control of those designing or teaching the initial programme and may be difficult to assess in the real world, they are of much greater significance. There is nothing to prevent the writing of both types of learning outcome for a course, programme or module. The longer term outcomes may only be assessed when the student is in a work situation, for example during a probationary year, or in subsequent professional practice. Some longer term aims may not be formally assessed. There can still be a value in writing longer term learning outcomes, even when they are not formally assessed, because they can provide a focus for the course and help guide learners towards longer term goals.

The place of grading

Most modules are not just passed or failed, but are graded as well. While the matter of deciding that the learning has or has not been achieved is critical, grading could be said to provide the motivation and / or reward for students to work towards higher than threshold achievement. We discuss grading criteria in Part Three.

Part Three: How to Use Assessment Criteria

What are assessment criteria?

Definitions

The term 'assessment criteria' has, as we shall see, a variety of uses. In general terms they specify how student performance in respect of the module's learning outcomes are to be recognised. They are statements which specify the standards that must be met and what evidence will be taken to show achievement of learning outcomes. Within a credit framework assessment criteria have to be understood relative to the definition of the level of the module and the learning outcomes of the unit.

Here are two definitions of assessment criteria from recent publications:

> 'Assessment (or performance) criteria provide clear indications of how achievement may be demonstrated' (InCCA, 1998:36)

Another set of guidelines suggest that:

> 'The purpose of assessment criteria is to establish clear and unambiguous standards of achievement in respect to each learning outcome. They should describe what the learner is expected to do, in order to demonstrate that the learning outcome has been achieved.'(NICATS 1998:37)

The assessment criteria are not to be confused with the assessment tasks themselves, e.g. to design x, or write an essay about y. The assessment criteria specify how the task e.g. the design, the essay, the project, the dissertation will be judged.

Example

The three elements:

Learning outcome:
- By the end of the module students will be expected to be able to design a page layout to a given brief.

Method of assessment:
- Lay out the information attached as a book cover using the following publisher's brief.

Assessment criteria:
- clarity of chosen font
- appropriate colour combinations
- attractiveness of the design
- match with publisher's brief within stated budget

Assessment criteria: Descriptions of what the learner is expected to do, in order to demonstrate that a learning outcome has been achieved.

(CREDIT GUIDELINES 2001)

Three ways of using assessment criteria

Assessment criteria may be used in three ways. They may specify:

1. **threshold standards:** Description of what the learner is expected to do, in order to demonstrate satisfactory achievement of learning outcomes.
2. **grading criteria:** what is required for achievement of each of the grades being awarded e.g. for a pass, a third class, lower second, upper second and a first.
3. **general criteria:** a template of characteristics or qualities against which the students performance of the assessment task will be judged.

Threshold criteria

In this case the assessment criteria make it clear to the learner what s/he has to do to demonstrate to the assessor that s/he has achieved the learning outcomes of the unit. This is essentially a statement of the threshold standard required for the achievement of credit.

Example

Learning outcome

At the end of the unit, the student will be able to:

– summarise the skills and knowledge necessary for competent advice giving.

Assessment criteria

The student will demonstrate achievement of this learning outcome by being able to:

– outline the main roles and responsibilities of the advice given.
– identify the skills and knowledge necessary for competent advice giving.
– evaluate the impact of adviser skills/knowledge on the provision of advice.
– explain the purpose and importance of a referral policy.

(NICATS 1998: 38)

Grading criteria

In the second sense, assessment criteria are used to differentiate between student performance at each class of degree classification, or other differentiated grades, bands of marks or percentages. That is to say, they indicate to the learner what s/he needs to do to achieve a grade A, or a mark of 70% or more for a first class award, what would lead to grade B, a mark of 60 - 69% or a 2:1 award and so on.

When used in this way the criteria can describe, for example, the typical performance for each classification point of an award. For some awards it may be necessary only to define the threshold or pass level and what is needed to gain a distinction.

Grading criteria provide a general description of the standard required for the award of each grade, class or percentage.

Example

Classification	Percentage	Description
Upper second	60 - 69	Work of good quality showing strong grasp of subject matter and appreciation of dominant issues though not necessarily the finer points; arguments clearly developed; relevant literature referenced accurately; clear critical judgement; solid intellectual work.

Classification	Percentage	Description
Pass	40 - 49	Work which covers the basic subject matter of the assignment adequately and which is appropriately organised and presented but which too descriptive, or derivative and insufficiently analytical. Understanding of key concepts is limited; there may be some omissions and irrelevancies. There will be evidence of appropriate reading and research, but narrowly focused or misdirected.

Or the description can be provided for each learning outcome, as in the following example:

Learning outcome

By the end of the unit students will be expected to be able to use evidence appropriately in support of an argument

Assessment criteria

Fail	**third**	**lower second**	**upper second**	**first**
Unsubstantiated/ invalid conclusion, based on anecdotes and generalisations only	Limited evidence of findings and conclusions supported by the literature and theory.	Evidence of findings and conclusion grounded in theory or literature.	Good development shown in arguments based on theory or literature and beginnings of synthesis.	Analytical and clear conclusions well grounded in theory and literature, showing development of new concepts.

General criteria

A third use of assessment criteria is to provide general outcome descriptors that can be achieved more or less well. Students' work is then judged to fall at a given point within the range of possible performance - from outstanding to very poor - and marks are allocated accordingly.

Typical general criteria of this kind concern such qualities as:

the quality of argument,

use of referencing,

accuracy of English,

use of evidence to support conclusions,

imagination and originality.

Any one of these may be achieved with varying degrees of success. Thus the quality of argument might be judged to be very weak, satisfactory or excellent.

Thus we can put together a characteristic and judgement to arrive at a mark for that general criterion. For example, based on the degree classification, with a median mark of 55:

Characteristic of performance	**Mark**	**Grade**
outstanding	80 – 100	A+
excellent	70 -79	A
good, some excellent	65 - 69	B+
consistently good	60 - 64	B
satisfactory, some good	55 - 59	C+
satisfactory, some weaknesses	50 - 54	C
satisfactory with significant weaknesses	45 - 49	D+
weak, but meeting threshold standard	40 - 44	D
poor, marginally below threshold	35 - 39	E+
poor/ clear fail	0 - 35	E

There might be some disagreement over these simplified descriptors, and we must accept that assessment of higher level learning is not a precise science. Broadly this describes a typical marking scheme in the UK. Thus for any given general criterion (such as accuracy of English or use of evidence to support arguments) a mark is allocated on the basis of whether the student's achievement of the criterion is outstanding, excellent, good, satisfactory, etc.

A variation on this approach uses different descriptors for each criterion (Kuisma, 1999).

For example:

'coverage of the topic' ..... deep – superficial,

'development of the argument'..... logical – illogical,

'use of references' ..... relevant – irrelevant.

On each parameter the marker indicates the merits of the assignment on a four or five point scale.

e.g. 'introduction: definition of terms' clear ___I___I___I___I___unclear

Analytic or holistic marking

Practice can vary between allocating marks separately for each criterion, or allocating them collectively, based on an overall judgement of quality of achievement on all the criteria.

The former will tend to produce greater consistency, whereas the latter, being a more holistic judgement, will tend to lead to greater variation, since different markers will 'weight' criteria differently. For example some markers regard quality of English as a very significant criterion, whereas others think that it is more important to mark the content and almost ignore the quality of English.

When marking each criterion separately it is also necessary to specify the relative weighting of each.

Learning outcomes

By the end of the unit students will be able to:

– Plan and structure a major piece of written work

– Use referencing appropriate to a published paper

Assessment task

In week 9 you are required to submit a plan for the dissertation.

The plan should include the following:

– Summary of main argument of the dissertation (max. 200 words)

– Indication of structure, section headings and outline of content of each section (500 words)

– Indication of texts consulted and texts to be discussed in the personal statement

Assessment criteria

– evidence of study/reading in preparation of the plan (20%)

– articulation of a clear idea/theme to be discussed in the dissertation (30%)

– design of workable and defensible structure for the dissertation (30%)

– identification of texts to which the dissertation will make reference using Harvard referencing (20%)

How to write assessment criteria

When writing assessment criteria many of the points to be kept in mind are the same as for writing learning outcomes (see pages 11-15 above). Clarity and brevity are important and as far as possible, ambiguity should be avoided. The language too should be clear to all those who will use the criteria – students and staff. The criteria must be capable of being measured or assessed in a valid and reliable way. The criteria are concerned with essential aspects of performance for the achievement of a pass or the specified grade.

Steps in writing assessment criteria:

Step one: consider the learning outcome being tested (for example: demonstrate a critical awareness of Third World urban development)

Step two: consider the assessment task set (for example: make a presentation to the group of a case study of a real-life Third World urban issue)

Step three: brainstorm requirements for, or attributes of, successful performance of the assessment task (for example: requirements for a satisfactory presentation clarity, fluency, appropriate to audience etc.; requirements for satisfactory demonstration of 'critical awareness' for example, knowledge of different theories, application of theory to the case study, evidence of personal argument….)

Step four: if necessary specify the range to clarify contextual factors and the level (for example: which theories students are expected to refer to, which types of urban issues they can be expected to deal with).

Step five: focus on what is essential and categorise the requirements or attributes into clearly worded criteria.

Step six: check that the criteria are measurable or assessable in valid and reliable ways and that the criteria are clear and unambiguous (for example: have another colleague read the criteria to see if s/he interprets them in the same way as you do).

Step seven: repeat steps 3, 4, 5 until you are fully satisfied

Some key points to keep in mind

Assessment criteria should be written with the following factors in mind:

the published aims of a programme,

learning outcomes for the module,

the level at which the criteria will apply,

the nature of the discipline or subject area,

comparability of standards with equivalent awards elsewhere in the UK,

the nature of the assessment task.

All of these are important, so let us examine each in a little more detail.

The criteria should reflect what has been published about the overall aims of the programme

If it has been said, for example, that the course will 'enable students to achieve video production at broadcast standards.' then the criteria within relevant modules will need to indicate what will constitute 'broadcast standards'. If the course claims to prepare students for a particular profession then the achievement of the entry requirements for that profession will be specified in the assessment criteria.

The criteria should be informed by the published learning outcomes of the module

If, for example, the module has a learning outcome, that students will be able to 'apply economic theory to the analysis of small and medium size enterprises (SME's)' then the criteria should make it clear that application of theory to SME's will be expected and reflected in the marking scheme. However, note that the assessment criteria should expand on the information provided in the learning outcome and not be repetitious (InCCA, 1998:36).

Assessment criteria should reflect the level of the module (see page 9)

Thus, because level one of higher education is less demanding than level two, the assessment criteria will need to reflect this fact. Higher level learning will be reflected in the words chosen to describe appropriate performance – for level two, rather than descriptive words such as 'outline' or 'define' use 'evaluate', 'integrate', 'criticise' (see Appendix One)

Each subject or discipline has distinctive epistemological characteristics, which will be reflected in the kinds of criteria written for that subject / discipline

Such characteristics might be demonstrated in the type of enquiry in which students are engaged, the type of evidence on which they will draw and the type of activities on which they will be assessed. The criteria for a good essay in law is therefore different from an essay in, say psychology.

It is important that the assessment criteria are comparable to standards expected elsewhere in the UK on similar programmes

Whilst each programme will have its own distinctive characteristics the overall standard should be comparable with other degree or diploma or postgraduate awards in other UK institutions. Reference to the qualification descriptors, level descriptors and subject benchmarks will help here.

The assessment criteria need to relate to the specific requirements of the assessment task

For example, the criteria for a good oral presentation are different from those for a written assignment and the criteria for a good lab report will differ from those for an essay. Equally the criteria for a group task will need to be different in some respects from the criteria for an individual piece of work. Make sure the criteria describe the performance required for the task set.

Example

Assessment criteria for an oral presentation	Assessment criteria for an essay
Clarity and accuracy of speech	Appropriate structure
Engagement with audience	Development of argument with recognition of alternative points of view
Accurate timing	Use of required referencing scheme to acknowledge sources
Use of visual aids	Evidence of research relevant to the topic
Accurate content	Accurate and appropriate use English

Part Four: Using Learning Outcomes and Assessment Criteria with Students and Staff

Using learning outcomes and assessment criteria with students

One of the justifications for using learning outcomes and assessment criteria is that they help students to focus their learning more effectively and make the assessment process more transparent and fair. These benefits only occur if students are fully aware of the purpose of learning outcomes and assessment criteria.

It is therefore important that students:

> Understand what learning outcomes and assessment criteria are and what functions they have,
>
> Know where they can refer to them easily,
>
> Understand the meaning of the words used in learning outcomes and assessment criteria.

These are some of the ways in which learning outcomes and assessment criteria, can be introduced to and used with students.

Student guides

First of all it is essential to specify both learning outcomes and more general assessment criteria in the published information about programmes and modules. When, for example, there are standard criteria that apply to all essays these can be specified in subject or programme guides whether on web-pages or printed text should include the expected outcomes of each module.

Hint for good practice

In student guides or handbooks, ensure there is consistency across a subject area, or programme, in criteria used for similar assessment tasks at each level.

Provide examples to illustrate how the assessment criteria will be applied.

Provide assessment criteria when the assignment is set.

Specific assessment criteria which relate to particular pieces of assessment will be more appropriately announced with the assessment task rather than in a general handbook or guide.

Introductions and conclusions of lectures

The outcomes of the learning which students are expected to achieve need to be re-iterated regularly, explained and discussed. For example, at the outset of a lecture, laboratory or studio session, the tutor can remind students of the overall outcomes of the module and how the outcomes of the session contribute to those. These can be returned to at the conclusion as way of summing up the session.

Discussions with students

It is always useful, some would say essential, to spend some time discussing the outcomes and criteria with students. Simply having outcomes and criteria in the written module or programme descriptions is never enough. Students may not read the material, or even if they do, they might not understand or share the same meanings of the words used. This is particularly important at level one when students are new to higher education and will not necessarily understand what being 'critical' or 'analytic' mean.

Discussion of the expected outcomes is a good way to introduce the module and to clarify its aims and structure. When it comes to announcing the assessment the discussion of assessment criteria is a chance for the tutor to explain how the assignment will be marked and what the assessment criteria mean. It is also an opportunity for students to ask questions about the criteria and clarify what they need to do to pass and to achieve good marks in the assignment.

Negotiated outcomes

In some areas of learning it is necessary to negotiate some elements of the learning outcomes. When students are undertaking a major project, or undertaking an artistic endeavour where there can be wide differences in interpretation of the task, it may be necessary to negotiate the learning outcomes and assessment criteria with each student in order to reflect what is distinctive about her / his project. However in order to maintain comparability, and to ensure that the level of the outcomes is appropriate, it is desirable to have some common or 'core' criteria which will apply to all students.

This approach can also be used whenever the responsibility for determining the learning outcomes lies partly with the learner, for example in work-based and other experiential learning.

Hint for good practice

If students, individually or collectively, are asked to self-identify criteria this must be with adequate back-up and agreement with the tutor. The 'contract' needs to emerge after adequate discussion and the agreed criteria should be in accordance with level descriptors.

Negotiation of assessment criteria can be used in other circumstances. Although the learning outcomes will be predetermined, assessment criteria can be negotiated with students either individually or in groups. This has the advantage of engaging students in discussion of what constitutes good quality performance relative to the learning outcomes of the module and for particular assessments. 'Negotiation' implies however that it is the tutors ultimate responsibility to ensure that the criteria agreed are clear, appropriate to the level and fair.

Example
Assessment of oral presentations

A useful way of helping students appreciate what makes a good presentation is to discuss and negotiate the assessment criteria rather than using pre-prepared criteria. It assists students to reflect on their current attainment and the standard for which they would like to aim.

Possible misunderstandings

Students are likely to have less understanding of the meaning of the words used in learning outcomes and assessment criteria than staff. This can lead to confusion unless addressed. Words such as 'critical thinking' are open to multiple interpretations – first year students may think it means simply 'being critical of others'. International students can also easily misunderstand the words used if the culture of their education system is different from that of the UK. Phrases such as 'evidence of analysis' and 'flair for the subject' do not make good criteria because they are too vague in meaning for students or other staff.

Reiteration

Opportunities need to be found to remind students about the learning outcomes of the module and to illustrate how particularly learning and teaching practices are designed to help them achieve those outcomes. It is rarely sufficient to simply inform students at the introduction to the module what the learning outcomes are. Some of the outcomes will only become meaningful when learning undertaken within the module has been completed.

Hint for good practice

Begin and conclude the lecture/session by illustrating how the outcomes for the session relate to the overall learning outcomes of the module.

Introducing learning outcomes and assessment criteria to teaching staff

When teaching staff are unused to using learning outcomes and assessment criteria, their introduction needs to be handled with care.

Staff Development

Thought needs to be addressed to staff development. Many staff are unfamiliar with the terminology of the outcomes based approach. When they have been concerned mainly with teaching and researching in their own subject fields, it cannot be assumed that they will have come across the literature on curriculum design, quality assurance or credit accumulation and transfer and the idea of generic level descriptors, for example, may need explanation.

It is important that the rationale for the outcomes-based approach is explained and that there is plenty of opportunity for staff to express their anxieties and ask questions. Debate and discussion is essential since it is not the case that an outcomes based approach is always the best, or the only, approach to curriculum design. However, because it is expected within qualification and credit frameworks, staff need to know how to use them and why they have been promoted.

Hint for good practice

A useful start for a levels, learning outcomes and assessment criteria workshop is to ask staff working on a common programme, or working with a common subject area, to 'translate' the generic learning outcomes into their programme or subject discourse. This process, as we have suggested earlier, creates 'ownership' of the level descriptors and develops a resource that can have use for supporting current work and the development of new modules.

Practice makes perfect

As with learning any skill, there needs to be opportunities for staff to practice using the methods of the outcomes-based approach and receiving feedback on early drafts. Writing learning outcomes and assessment criteria is a skill which becomes easier when there have been several attempts at re-drafting documentation for validation processes or for student handbooks. It is also easier when staff work together in teams, so that there is full discussion of early drafts. This is one of the best ways of promoting a more common understanding of the aims of a programme and the assessment practices within a subject area.

Hints for good practice

Staff within subject teams to work in pairs or small groups to draft a set of learning outcomes. Each pair then swaps their draft for those drafted by colleagues. The pair / group then discuss their respective drafts and agree a form of wording that incorporates the strengths of each of the drafts. This exercise helps staff to recognise the ease with which words can be construed differently and that there are alternative words that can be used to express expected learning in learning outcomes and assessment criteria.

If the staff involved in a staff development session come from different subject areas or are involved in different programmes, they can practice writing learning outcomes for an hypothetical module which has generic application such as 'writing skills for level 1 students'. Removing the focus from subject matter and content of their own disciplines can help staff to understand better the processes of writing learning outcomes and assessment criteria.

Achieving clarity and fairness for students

It is important to make the point that both learning outcomes and assessment criteria are open to multiple interpretations. No language is ever so precise that it will remove all ambiguities. As a result staff can misunderstand what is meant by the words used in validation documents. For example, Jenkins, Pepper and Webster (2000) found that staff gave widely varying interpretations to terms like 'critical thinking', 'analysis' and 'creativity'. There need to be opportunities for discussion among teams of staff in order to come to an agreed understanding of how key terms are being used. This is important to achieve a fair assessment process for students.

Some Other Issues for staff

Assessment policy: Some staff argue that assessment is a matter of holistic judgement and they resist the use of assessment criteria because they view the process as making assessment atomistic and reductionist. There needs to be an agreed policy within subject teams about the protocol for assessment criteria – whether, for example, criteria are to be used to form an overall judgement of the work or whether marks are to be allocated against each weighted criterion. (Hand and Clewes, 2000)

Aggregation of marks: When marks awarded for the achievement of different outcomes are then added together to make an aggregate percentage, the distinctions between the different levels of achievement become lost. It does not make much sense to add or average marks awarded for different achievements, but often degree classifications and other marking schemes require this.

However, an outcomes-based approach provides the opportunity to create more descriptive 'profiles' of students achievements. The introduction of 'progress files' will be facilitated by using an outcomes based approach to assessment (QAA, 2000).

Assessment-led learning: One reaction to an outcomes-based approach is that it appears to be 'assessment-led'. This is because students tend to focus on what they need to know for assessment purposes. However, the alternative is to keep students in the dark about what they will be assessed on, leading to question-spotting. This creates an element of luck for students depending on 'whether the question came up' which undermines the validity of the assessment. Better to be clear about what will be assessed, but ensure that the broader learning outcomes are not neglected in favour of what can be easily measured.

Over Assessment: There is a danger of over-assessing students in an outcomes based approach because it may look as if different assessment tasks have to be devised to test every outcome. It is important that staff remain alert to the dangers of over-assessment and devise assessment tasks in which a broad range of outcomes can be tested. Some core skills can be assessed in some modules but not in others to prevent repetition of assessments.

And finally….good luck with writing your learning outcomes and assessment criteria. It takes time to improve skills in course design and assessment practice. We will never get it all right all the time. There is always a need for reflection, enquiry and evaluation in order to find new ways to improve what was less successful last time.

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Appendices

Appendix 1: Some vocabulary for writing learning outcomes and assessment criteria

Finding the right words for use in writing learning outcomes / assessment criteria can be difficult, particularly when the statements must mesh with the generic level descriptors. The following list is provided as an aid in this process. The words are organised for convenience under headings that might be seen to accord with those from Bloom's taxonomy. However, no hierarchy is intended.

The words are simply a vocabulary list gleaned from a variety of sources to help you write learning outcomes and assessment criteria.

Verbs which require evidence of knowing:

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.

Verbs which require evidence of comprehension:

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.

Verbs which require evidence of knowledge/understanding:

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.

Verbs which require evidence of analysis:

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.

Verbs which require evidence of synthesis:

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

Verbs which require evidence of evaluation:

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

Appendix 2: Glossary of acronyms

CQFW	Credits and Qualifications Framework for Wales Project
DfEE	Department for Education and Employment
FHEQ	Framework Qualification for Higher Education (previously known as the National Qualification Framework or NQF)
HECIW	Higher Education Credit Initiative for Wales
InCCA	Inter-Consortium Credit Agreement
NICATS	Northern Ireland Credit Accumulation and Transfer System
NUCCAT	Northern Universities Consortium for Credit Accumulation and Transfer
QAA (or QAAHE)	Quality Assurance Agency (for Higher education)
SCOTCAT	Scottish Credit Accumulation and Transfer
SEEC	Southern England Consortium for Credit Accumulation and Transfer

Appendix 3: Generic level descriptors (including Master's and Taught Doctorate Levels)

A level in higher education is defined in the InCCA Report as 'an indicator of relative demand; complexity; depth of study and learner autonomy'. Level descriptors are generic outcome statements of what a learner is expected to know, understand and be able to do at the end of a level of learning-like generic learning outcomes. We have suggested earlier that they are of particular value as a means of guiding the writing of learning outcomes and assessment criteria and they enable modules to be ascribed to a particular higher education level, a process that is essential within a credit framework. Level descriptors have become a basis also for the organisation of a modular system which have become increasingly common in higher education institutions.

The descriptors used in this paper are those developed together in two major credit accumulation and transfer projects funded by DfEE in the mid 1990's SEEC and HECIW (Higher Education Credit Initiative Wales). Together, the projects involved over 50 universities. The SEEC/HECIW descriptors are now widely used. In a recent survey of higher education institutions (Johnson and Walsh, 2000), SEEC/HECIW descriptors were found to be used in 67% of the 33 pre-1992 universities surveyed, 81% of 26 'new' universities and 81% of the 21 colleges of FE/HE colleges.

There are other sets of level descriptors in use in the UK. The Scottish Credit Accumulation and Transfer (SCOTCAT) descriptors were developed to take account of Scottish degrees. The Northern Ireland Credit Accumulation and Transfer Scheme (NICATS) descriptors were developed for Northern Ireland and include all levels of learning for use in FE and HE. The brief version of the NICAT descriptors was adopted by the Inter-consortium Credit Agreement project (InCCA) which proposed a credit framework across the UK (InCCA, 1998).

The QAA's Qualifications Framework for Higher Education has followed the credit consortia in establishing three undergraduate 'qualification levels'. QAA accepts the use of any appropriate system of level descriptors by institutions (QAA, 2000) Annex 1 para. 1.

Format of the descriptors

The descriptors, as originally developed, consisted of three areas of description – operational contexts, cognitive descriptors and other transferable skills. These defined four levels – 1, 2 and 3 at undergraduate level and, at the time, 'M' to cover all postgraduate provision. At a recent review in Wales a decision was made to develop descriptors for masters and taught doctorate levels as a replacement for 'M'. The Qualifications Framework for Higher Education also has two post-graduate levels. While the new descriptors did not undergo institutional consultation in Wales, they have been evaluated favourably in many workshops and are published in the revised HECIW Handbook (1999). The new descriptors are expected to be adopted by SEEC and hence are included here as a replacement for level M.

Using the descriptors

Not all descriptors are relevant to all degrees, though most are relevant to most degrees. For example, psychomotor skills may not be relevant to some humanities degrees. Using the descriptors for any one programme is a matter, therefore, of picking out of the framework those sections that are relevant.

The descriptors can be used directly to guide learning outcomes. However, it has been found helpful for groups of staff to 'translate' the generic descriptors into subject or programme descriptors. They then become more 'owned' and can guide more easily the writing of learning outcomes. The process, that might only take an hour, is valuable as staff development, requiring a group to consider in depth the expected outcomes of student work – and the nature of their work with students.

NOTE: Copies of the SEEC level descriptors need to be obtained from the SEEC office. They can also be found for down-loading at the SEEC website www.seec-office.org.uk.

A full discussion of the use of level descriptors and their relationship to the Qualifications Framework for Higher Education is to be found in another book in this series: *How to Use Level Descriptors*, by Jenny Moon, published by SEEC.

SEEC Generic levels descriptors

These descriptors differ from the original SEEC / HECIW descriptors mainly in the lay-out, in the inclusion of reference to key skills and in the inclusion of the two levels for post graduate study (currently under consultation at the time of writing).

The level descriptors: some important notes

- Areas of learning differ according to the extent to which the knowledge or skills developed are **generic** or more **subject specific**. The areas of learning are labelled accordingly.

- In general, progression is characterised by two important related factors –
  - the **autonomy** of the learner
  - the increasing **responsibility** that is expected of the learner in the guidance given and the tasks set

- Under the heading Practical skills (subject specific) some, or all, of the following skills will be identified by subject specialists at any level. It will be useful for subject specialists to develop more detailed descriptors of these skills, where relevant) to determine achievement at each level.

  a) Investigative skills/methods of enquiry;

  b) Laboratory skills/fieldcraft;

  c) Data and information processing/IT;

  d) Content/textual analysis;

  e) Performance skills;

  f) Product development;

  g) Professional skills;

  h) Spatial awareness;

  i) Management of resources.

HE Level 1

Development of Knowledge and Understanding (subject specific)

The learner:

- **Knowledge base**: has a given factual and/or conceptual knowledge base with emphasis on the nature of the field of study and appropriate terminology
- **Ethical issues**: can demonstrate awareness of ethical issues in current areas of study and is able to discuss these in relation to personal beliefs and values.

Cognitive/Intellectual skills (generic)

The learner:

- **Analysis**: can analyse with guidance using given classifications/principles
- **Synthesis**: can collect and categorise ideas and information in a predictable and standard format
- **Evaluation**: can evaluate the reliability of data using defined techniques and/or tutor guidance
- **Application**: can apply given tools/methods accurately and carefully to a well defined problem and begin to appreciate the complexity of the issues

Key/transferable skills (generic)

The learner:

- **Group working**: can work effectively with others as a member of a group and meet obligations to others (for example, tutors, peers, and colleagues)
- **Learning resources**: can work within an appropriate ethos and can use and access a range of learning resources
- **Self evaluation**: can evaluate own strengths and weakness within criteria largely set by others
- **Management of information**: can manage information, collect appropriate data from a range of sources and undertake simple research tasks with external guidance
- **Autonomy**: can take responsibility for own learning with appropriate support
- **Communications**: can communicate effectively in a format appropriate to the discipline(s) and report practical procedures in a clear and concise manner
- **Problem solving**: can apply given tools/methods accurately and carefully to a well defined problem and begins to appreciate the complexity of the issues in the discipline

Practical skills (subject specific)

The learner:

- **Application of skills:** can operate in predictable, defined contexts that require use of a specified range of standard techniques
- **Autonomy in skill use**: is able to act with limited autonomy, under direction or supervision, within defined guidelines

HE Level 2

Development of Knowledge and Understanding (subject specific)

The learner:

- **Knowledge base**: has a detailed knowledge of major theories of the discipline(s) and an awareness of a variety of ideas, contexts and frameworks
- **Ethical issues**: is aware of the wider social and environmental implications of area(s) of study and is able to debate issues in relation to more general ethical perspectives

Cognitive/Intellectual skills (generic)

The learner:

- **Analysis**: can analyse a range of information with minimum guidance using given classifications/principles and can compare alternative methods and techniques for obtaining data
- **Synthesis**: can reformat a range of ideas and information towards a given purpose
- **Evaluation**: can select appropriate techniques of evaluation and can evaluate the relevance and significance of the data collected
- **Application**: can identify key elements of problems and choose appropriate methods for their resolution in a considered manner

Key/transferable skills (generic)

The learner:

- **Group working**: can interact effectively within a team / learning group, giving and receiving information and ideas and modifying responses where appropriate
- **Learning resources**: can manage learning using resources for the discipline. Can develop working relationships of a professional nature within the discipline(s)
- **Self evaluation**: can evaluate own strengths and weakness, challenge received opinion and develop own criteria and judgement
- **Management of information**: can manage information. Can select appropriate data from a range of sources and develop appropriate research strategies
- **Autonomy**: can take responsibility for own learning with minimum direction
- **Communications**: can communicate effectively in a manner appropriate to the discipline(s) and report practical procedures in a clear and concise manner in a variety of formats
- **Problem-solving**: can identify key areas of problems and choose appropriate tools / methods for their resolution in a considered manner

Practical skills (subject specific)

The learner:

- **Application of skills**: can operate in situations of varying complexity and predictability requiring application of a wide range of techniques
- **Autonomy in skill use**: able to act with increasing autonomy, with reduced need for supervision and direction, within defined guidelines

HE Level 3

Development of Knowledge and Understanding (subject specific)

The learner:

- **Knowledge base**: has a comprehensive/detailed knowledge of a major discipline(s) with areas of specialisation in depth and an awareness of the provisional nature of knowledge
- **Ethical issues**: is aware of personal responsibility and professional codes of conduct and can incorporate a critical ethical dimension into a major piece of work

Cognitive/Intellectual skills (generic)

The learner:

- **Analysis:** can analyse new and/or abstract data and situations without guidance, using a range of techniques appropriate to the subject
- **Synthesis**: with minimum guidance can transform abstract data and concepts towards a given purpose and can design novel solutions
- **Evaluation**: can critically evaluate evidence to support conclusions/recommendations, reviewing its reliability, validity and significance. Can investigate contradictory information/identify reasons for contradictions
- **Application**: is confident and flexible in identifying and defining complex problems and can apply appropriate knowledge and skills to their solution

Key/transferable skills (generic)

The learner:

- **Group working**: can interact effectively within a team / learning / professional group, recognise, support or be proactive in leadership, negotiate in a professional context and manage conflict
- **Learning resources**: with minimum guidance can manage own learning using full range of resources for the discipline(s). Can work professionally within the discipline
- **Self evaluation**: is confident in application of own criteria of judgement and can challenge received opinion and reflect on action. Can seek and make use of feedback
- **Management of information**: can select and manage information, competently undertake reasonably straight-forward research tasks with minimum guidance
- **Autonomy**: can take responsibility for own work and can criticise it
- **Communications**: can engage effectively in debate in a professional manner and produce detailed and coherent project reports
- **Problem solving**: is confident and flexible in identifying and defining complex problems and the application of appropriate knowledge, tools / methods to their solution

Practical skills (subject specific)

The learner:

- **Application of skills**: can operate in complex and unpredictable contexts, requiring selection and application from a wide range of innovative or standard techniques
- **Autonomy in skill use**: able to act autonomously, with minimal supervision or direction, within agreed guidelines

Masters Level

Development of Knowledge and Understanding (subject specific)

The learner:

- **Knowledge base**: has depth and systematic understanding of knowledge in specialised / applied areas and / across areas and can work with theoretical / research-based knowledge at the forefront of their academic discipline
- **Ethical issues**: has the awareness and ability to manage the implications of ethical dilemmas and work pro-actively with others to formulate solutions
- **Disciplinary methodologies**: has a comprehensive understanding of techniques / methodologies applicable to their own work (theory or research-based)

Cognitive/Intellectual skills (generic)

The learner:

- **Analysis**: with critical awareness can undertake analysis of complex, incomplete or contradictory areas of knowledge communicating the outcome effectively
- **Synthesis**: with critical awareness, can synthesise information in a manner that may be innovative, utilising knowledge or processes from the forefront of their discipline / practice
- **Evaluation**: has a level of conceptual understanding that will allow her/him critically to evaluate research, advanced scholarship and methodologies and argue alternative approaches
- **Application**: can demonstrate self direction and originality in problem solving. Can act autonomously in planning and implementing tasks at a professional or equivalent level

Key/transferable skills (generic)

The learner:

- **Group working**: can work effectively with a group as leader or member. Can clarify task and make appropriate use of the capacities of group members. Is able to negotiate and handle conflict with confidence
- **Learning resources**: is able to use full range of learning resources
- **Self evaluation**: is reflective on own and others' functioning in order to improve practice
- **Management of information**: can competently undertake research tasks with minimum guidance
- **Autonomy**: is independent and self critical learner, guiding the learning of others
- **Communications**: can engage confidently in academic and professional communication with others, reporting on action clearly, autonomously and competently
- **Problem solving**: has independent learning ability required for continuing professional study, making professional use of others where appropriate

Practical skills (subject specific)

The learner:

- **Application of skills**: can operate in complex and unpredictable, possibly specialised contexts, and has an overview of the issues governing good practice
- **Autonomy in skill use**: is able to exercise initiative and personal responsibility in professional practice
- **Technical expertise**: has technical expertise, performs smoothly with precision and effectiveness; can adapt skills and design or develop new skills or procedures for new situations

Taught Doctorate

Development of Knowledge and Understanding (subject specific)

The learner:

- **Knowledge base**: has great depth and systematic understanding of a substantial body of knowledge. Can work with theoretical / research knowledge at the forefront of the discipline at publication-quality / peer reviewed standards
- **Ethical issues**: can analyse and manage the implications of ethical dilemmas and work pro-actively with others to formulate solutions
- **Disciplinary methodologies**: has a comprehensive understanding of techniques / methodologies applicable to the discipline (theory or research-based)

Cognitive/Intellectual skills (generic)

The learner:

- **Analysis**: with critical awareness, can undertake analysis, managing complexity, incompleteness of data or contradiction in the areas of knowledge
- **Synthesis**: can undertake synthesis of new approaches, in a manner that can contribute to the development of methodology or understanding in that discipline or practice
- **Evaluation**: has a level of conceptual understanding and critical capacities that will allow independent evaluation of research, advanced scholarship and methodologies. Can argue alternative approaches
- **Application**: can act independently and with originality in problem solving, is able to lead in planning and implementing tasks at a professional or equivalent level

Key/transferable skills (generic)

The learner:

- **Group working**: can lead /work effectively with group. Can clarify task, managing the capacities of group members, negotiating and handling conflict with confidence
- **Learning resources**: is able to use full range of learning resources
- **Self evaluation**: is reflective on own and others' functioning in order to improve practice
- **Management of information**: competently and independently can undertake innovative research tasks
- **Autonomy**: is independent and self-critical as learner; supports the learning of others
- **Communication**: can communicate complex or contentious information clearly and effectively to specialists / non-specialists, understands lack of understanding in others. Can act as a recognised and effective consultant
- **Problem solving**: independently can continue own professional study, professionally can make use of others within / outside the discipline.

Practical Skills (specific skills)

The learner:

- **Application of skills**: can operate in complex and unpredictable / specialised contexts that may be at the forefront of knowledge. Has overview of the issues governing good practice
- **Autonomy in skill use**: can act in a professional capacity for self / others, with responsibility and largely autonomously initiative in complex and unpredictable situations
- **Technical expertise**: has technical mastery, performs smoothly with precision and effectiveness; can adapt skills and design or develop new skills / procedures for new situations