



***Training Seminar for Bologna Experts: European
Qualifications Frameworks, Learning Outcomes
and Labels for ECTS and Diploma Supplement***

Reader

**Universidad Complutense de Madrid
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Title:

'Training Seminar for Bologna Experts: European Qualifications Frameworks, Learning Outcomes and Labels for ECTS and Diploma Supplement'

Chairs: Prof. Arthur Mettinger, *Vice-Rector University of Vienna* (1st day)
Prof. Jolanta Urbanik, *University of Warsaw* (2nd day)

Intro:

The aim of this training seminar hosted by Universidad Complutense de Madrid is threefold:

- a) The experts will attend two in-depth interactive training sessions dealing with both the writing and the use of Learning Outcomes. The sessions will be introduced with appropriate case studies, raise a series of targeted questions, include practical exercises and end with group reflection on the subject matter.
- b) The participants are equally invited to attend a training and information session on the ECTS and Diploma Supplement Labels.
- c) Finally, a time slot will be foreseen for a training session on how to register and how to make active use of the revised Virtual Community of Bologna Experts.

Target Public:

Bologna Experts and Higher Education Reform Experts

Location:

C/Jose Antonio Novais

Aulario Nuevo-Facultad de Farmacia UCM (New building)

Online Registration and Use of the Virtual Community

Facultad de Farmacia UCM (old bulding next to the new one)

This project has been funded with support from the European Commission. This publication reflects the views only of the author(s), and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**Training Workshops on Writing and Using Learning Outcomes, Training Material
provided by Mr Robert Wagenaar (University of Groningen - Bologna Expert)**

Writing Learning Outcomes

FORMAT OF WORKSHOPS

All workshops are co-chaired by one expert and a student.

Participants register for one workshop. The workshop is related to the subject area of Business Studies or History. These subject areas have been chosen because they can also be understood by non-specialists. The workshop consists of two sessions. The sessions cover two core stages of designing and preparing a degree programme, that is preparing a profile for a programme and writing the related learning outcomes, both at programme and course module / unit level.

For *each of the session* a timeframe has been set of 120 minutes. Each session consists of four parts.

1. Introduction of the topic of the session by the chair by presenting and discussing a case study. This case study is handed out beforehand on paper (15 minutes)
2. Targeting of the topic on the basis of a set of questions (30 minutes).
3. Preparation of a document in small groups (60 minutes)
4. Group reflection on the task(s) done by the different small groups (15 minutes).

The workshop sessions

Session 1:

From the identification of social and employability needs to profile definitions

1. Presentation of the example provided
2. Targeting the topic on the basis of the following key questions:
 - Why to start and how to start an academic programme?
 - Why and when should consultation of stakeholders take place?
 - How to choose the relevant stakeholders and about which issues should consultation take place?
 - Which methods of consultation might be applied?
3. Prepare a profile
Write a short profile of one of the bachelor study programmes in which you and you group members are involved. Make use of the material made available for this session. As an alternative approach the group could take the example provided to perfect it on the basis of the Tuning key elements identified below.
4. Group reflection on the task done by the small groups

According to the Tuning Project the following key elements can be distinguished when preparing a degree profile (professional and/or academic):

- Orientation: theoretical or applied
- Subject related knowledge/ know how (mono-, multi-, inter-disciplinary)
- Generic competences
- Subject specific skills
- Level of qualification (role of descriptor(s))
- Employability (regulated / non-regulated)
- Social and professional responsibility

- Particular focus / specialisation
- Approach(es) towards TLA
- Mission of the institution / faculty / department (if of relevance)

Note: A profile gives a general description of the study programme in terms of broader objectives. Every programme has its peculiarities based on a set of considerations which are inspired by the local situation and by national and international developments. Before starting to write a profile it is advised to have a look at the Tuning list of key questions for programme design and delivery (*Tuning Educational Structures in Europe; Universities' Contribution to the Bologna Process. An Introduction*, Second Edition, pp.135-139)

Session 2:

From profile description to identification of critical competences and learning outcomes for the degree programme

1. Presentation of the example provided
2. Targeting the topic on the basis of the following key questions:
 - Which methods can be applied to select the main generic and subject specific competences?
 - When of relevance, to what extent should particular professions play a role in this selection process?
 - Who should play a role in the selection of key competences? What should be their role?
 - How can progression of learning outcomes be secured regarding the competence development of students in degree design?
3. Prepare a set of learning outcomes
Write a set of learning outcomes for the study programme for which you have just prepared a profile. As a first step make a selection from the 2008 set of 31 Tuning generic competences (see annex). As a next step, phrase these competences in terms of learning outcome statements. Be sure that your learning outcomes are achievable, are accurate and can be assessed. The third step is writing learning outcomes which are subject specific. Subject specific learning outcomes include knowledge, understanding and skills.
As an alternative approach the (small) group(s) could take the example provided, to perfect it on the basis of the background material included in the reader.
4. Group reflection on the task done by the small groups

Note: Learning outcomes can be written for a study programme as well as for individual modules or course units. Normally learning outcomes on programme level are more general than those written for a module or unit. Learning outcomes should reflect the profile of a programme (for the Tuning definition of Learning Outcomes, see the Glossary in *Tuning Educational Structures in Europe; Universities' Contribution to the Bologna Process. An Introduction*, Second Edition, pp 154-155).

When preparing programme level learning outcomes a number of elements have to be taken into account: agreed international level descriptors (Dublin descriptors, EQF levels, see Tuning Glossary in *Tuning Educational Structures in Europe; Universities' Contribution to the Bologna Process. An Introduction*, Second Edition, pp.147-159), international benchmarks (Tuning subject area reference points, etc.).

Before starting to write a set of learning outcomes in terms of competences it is advised to have a look at the Tuning list of key questions. Tuning distinguishes subject specific and generic competences (for the definitions see *Tuning Educational Structures in Europe; Universities' Contribution to the Bologna Process. An Introduction*, Second Edition, pp.147-159). Generic competences are general academic

skills which should be included in every programme. Each programme has its own set of most relevant generic competences.

LIST OF TUNING 2008 GENERIC COMPETENCES

1. Ability for abstract thinking, analysis and synthesis
2. Ability to apply knowledge in practical situations
3. Ability to plan and manage time
4. Knowledge and understanding of the subject area and understanding of the profession
5. Ability to communicate both orally and through the written word in native language
6. Ability to communicate in a second language
7. Skills in the use of information and communications technologies
8. Ability to undertake research at an appropriate level
9. Capacity to learn and stay up-to-date with learning
10. Ability to search for, process and analyse information from a variety of sources
11. Ability to be critical and self-critical
12. Ability to adapt to and act in new situations
13. Capacity to generate new ideas (creativity)
14. Ability to identify, pose and resolve problems
15. Ability to make reasoned decisions
16. Ability to work in a team
17. Interpersonal and interaction skills
18. Ability to motivate people and move toward common goals
19. Ability to communicate with non-experts of one's field
20. Appreciation of and respect for diversity and multiculturalism
21. Ability to work in an international context
22. Ability to work autonomously
23. Ability to design and manage projects
24. Commitment to safety
25. Spirit of enterprise, ability to take initiative
26. Ability to act on the basis of ethical reasoning
27. Ability to evaluate and maintain the quality of work produced
28. Determination and perseverance in the tasks given and responsibilities taken
29. Commitment to the conservation of the environment
30. Ability to act with social responsibility and civic awareness
31. Ability to show awareness of equal opportunities and gender issues



Instructions for Writing Student Learning Outcomes

(From various sources)

Creating student learning outcomes for your degree or service program is a process. Some programs have found the following steps to be helpful:

Step 1
Start by having a faculty/staff meeting (including students and community members, ideally) and brainstorm about what an ideal graduate would know, understand, and be able to do...and/or

Consult the web site for your professional/disciplinary organization – many of them are developing student learning outcomes for degree or service programs at various levels.

Step 2
Agree on a first draft of a list of outcomes, understanding that they will be revised several times before becoming firm (or definitive) and that they will change over time for currency in the discipline or service area and changing needs and characteristics of students.

Step 3
List the student learning outcomes on every syllabus for the required courses in your degree program (or programs within your student service area), indicating which of them will be covered in each particular course (or service program).

Step 4
Gather feedback from students in each course or service program about how well they perceive that student learning outcomes were addressed.

Step 5
Assess student learning by designing assignments specifically geared to measure achievement of each of the outcomes that are designated for each course, degree program, or service area.

Step 6
In light of this data, meet (with faculty, staff, and students) at the end of each semester or academic year and revise the list of outcomes, teaching methods, curriculum, and/or program.

Step 7
Repeat the above steps regularly and as needed to improve student learning.

Bloom's Classification of Cognitive Skills

(From Ball State University)

- Bloom's levels of cognitive skills are provided in the table below, along with definitions for each skills, and related behaviors. The terms can be used to create student learning outcomes that tap into each of the ability levels.

Category	Definition	Related Behaviors
Knowledge	recalling or remembering something without necessarily understanding, using, or changing it	define, describe, identify, label, list, match, memorize, point to, recall, select, state
Comprehension	understanding something that has been communicated without necessarily relating it to anything else	alter, account for, annotate, calculate, change, convert, group, explain, generalize, give examples, infer, interpret, paraphrase, predict, review, summarize, translate
Application	using a general concept to solve problems in a particular situation; using learned material in new and concrete situations	apply, adopt, collect, construct, demonstrate, discover, illustrate, interview, make use of, manipulate, relate, show, solve, use
Analysis	breaking something down into its parts; may focus on identification of parts or analysis of relationships between parts, or recognition of organizational principles	analyze, compare, contrast, diagram, differentiate, dissect, distinguish, identify, illustrate, infer, outline, point out, select, separate, sort, subdivide
Synthesis	reating something new by putting parts of different ideas together to make a whole.	blend, build, change, combine, compile, compose, conceive, create, design, formulate, generate, hypothesize, plan, predict, produce, reorder, revise, tell, write
Evaluation	judging the value of material or methods as they might be applied in a particular situation; judging with the use of definite criteria	accept, appraise, assess, arbitrate, award, choose, conclude, criticize, defend, evaluate, grade, judge, prioritize, recommend, referee, reject, select, support

Additional Links Related to Bloom's Taxonomy

- <http://www.coun.uvic.ca/learn/program/hndouts/bloom.html>
- <http://faculty.washington.edu/krumme/guides/bloom.html>
- <http://www.utexas.edu/student/utlc/handouts/1414.html>
- http://www.apa.org/ed/new_blooms.html

Action Verb List – Suggested Verbs to Use in Each Level of Thinking Skills

- Below are terms (verbs) that can be used when creating student learning outcomes for a course or degree program.

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Count	Associate	Add	Analyze	Categorize	Appraise
Define	Compute	Apply	Arrange	Combine	Assess
Describe	Convert	Calculate	Breakdown	Compile	Compare
Draw	Defend	Change	Combine	Compose	Conclude
Identify	Discuss	Classify	Design	Create	Contrast
Labels	Distinguish	Complete	Detect	Drive	Criticize
List	Estimate	Compute	Develop	Design	Critique
Match	Explain	Demonstrate	Diagram	Devise	Determine

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Name	Extend	Discover	Differentiate	Explain	Grade
Outlines	Extrapolate	Divide	Discriminate	Generate	Interpret
Point	Generalize	Examine	Illustrate	Group	Judge
Quote	Give examples	Graph	Infer	Integrate	Justify
Read	Infer	Interpolate	Outline	Modify	Measure
Recall	Paraphrase	Manipulate	Point out	Order	Rank
Recite	Predict	Modify	Relate	Organize	Rate
Recognize	Rewrite	Operate	Select	Plan	Support
Record	Summarize	Prepare	Separate	Prescribe	Test
Repeat		Produce	Subdivide	Propose	
Reproduces		Show	Utilize	Rearrange	
Selects		Solve		Reconstruct	
State		Subtract		Related	
Write		Translate		Reorganize	
		Use		Revise	
				Rewrite	
				Summarize	
				Transform	
				Specify	

Verb List for Student Learning Outcomes – Six Levels of Learning

Student learning outcomes for a degree program will encompass several levels of learning, from the acquisition of facts to the ability to think critically and solve problems. Each statement of a student learning outcome should include a **VERB** that represents the level of learning that is expected.

Recommendation: Write questions that test skills other than recall. Research shows that most tests administered by faculty rely too heavily on students' recall of information (Milton, Pollio, and Eison, 1986). Bloom (1956) argues that it is important for tests to measure higher-learning as well. Fuhrmann and Grasha (1983, p. 170) have adapted **Bloom's taxonomy** for test development. According to Bloom's taxonomy, there are six levels of learning: knowledge, comprehension, application, analysis, synthesis, and evaluation.

The following is a list of verbs for use when creating student learning outcome statements:

To measure **knowledge** (common terms, facts, principles, procedures), ask these kinds of questions: Define, Describe, Identify, Label, List, Match, Name, Outline, Reproduce, Select, State. Example: "List the steps involved in titration."

To measure **comprehension** (understanding of facts and principles, interpretation of material), ask these kinds of questions: Convert, Defend, Distinguish, Estimate, Explain, Extend, Generalize, Give examples, Infer, Predict, Summarize. Example: "Summarize the basic tenets of deconstructionism."

To measure **application** (solving problems, applying concepts and principles to new situations), ask these kinds of questions: Demonstrate, Modify, Operate, Prepare, Produce, Relate, Show, Solve, Use. Example: "Calculate the deflection of a beam under uniform loading."

To measure **analysis** (recognition of unstated assumptions or logical fallacies, ability to distinguish between facts and inferences), ask these kinds of questions: Diagram, Differentiate, Distinguish, Illustrate, Infer, Point out, Relate, Select, Separate, Subdivide. Example: "In the president's State of the Union Address, which statements are based on facts and which are based on assumptions?"

To measure **synthesis** (integrate learning from different areas or solve problems by creative thinking), ask these kinds of questions: Categorize, Combine, Compile, Devise, Design, Explain, Generate, Organize, Plan, Rearrange, Reconstruct, Revise, Tell. Example: "How would you restructure the school day to reflect children's developmental needs?"

To measure **evaluation** (judging and assessing), ask these kinds of questions: Appraise, Compare, Conclude, Contrast, Criticize, Describe, Discriminate, Explain, Justify, Interpret, Support. Example: "Why is Bach's Mass in B Minor acknowledged as a classic?"

Many faculty members have found it difficult to apply this six-level taxonomy, and some educators have simplified and collapsed the taxonomy into three general levels (Crooks, 1988): The first category is knowledge (recall or recognition of specific information). The second category combines comprehension and application. The third category is described as "problem solving," transferring existing knowledge and skills to new situations.

Additional Resources on How to Write Learning Outcomes

From Ball State University

Getting Started

Before writing or revising departmental goals/objectives, you might try a few of the following.

- Have some open discussion sessions on one of the following topics or something similar.
 - Describe the ideal student in your program at various phases throughout your program. Be concrete and focus on those strengths, skills, and values that you feel are the result of, or at least supported and nurtured by, the program experience. Then ask:
 - What does this student know?
 - What can this student do?
 - What does this student care about?
 - List and briefly describe the program experiences that contribute most to the development of the ideal student.
 - List the achievements you implicitly expect of graduates in each major field?
 - Describe your alumni in terms of such achievements as career accomplishments, lifestyles, citizenship activities, and aesthetic and intellectual involvement?
- Collect and review instructional materials. Try sorting materials into 3 broad categories: recognition/recall, comprehension/simple application, critical thinking/problem-solving. Use any of the following:
 - syllabi and course outlines
 - course assignments and tests
 - textbooks (especially the tables of contents, introductions, and summaries)
- Collect and review documents that describe your department and its programs:
 - brochures and catalogue descriptions
 - accreditation reports
 - curriculum committee reports
 - mission statements
- Review and react to goals and objectives from another unit that is similar but external (ex. another department or college in the Mid-American Conference). Try grouping the statements into broad categories of student outcomes (i.e., knowledge, attitudinal, behavioral).
- Use the 25 percent problem to refine or reduce a set of goal statements. Imagine that you want to reduce program or course material by 25 percent. What goals would you keep and which would you discard?
- Administer a goals inventory or conduct an interview study. Involve a variety of groups (or "stakeholders") when possible.

- Use a Delphi technique or a modification. This involves administering a series of related questionnaires in which information from the initial form is provided so that respondents can use it to revise their responses on subsequent forms. The objective is to develop consensus before writing goals or objectives.
- Shaping Department Goals and Objectives for Assessment – Definitions, Q&A, Getting Started with writing learning outcomes.

Source:

<http://research.crc.losrios.edu/Instructions%20for%20Writing%20Student%20Learning%20Outcomes.htm>

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UCE Birmingham Guide to Learning Outcomes Background

[Download as PDF file](#)

[Download as Word document](#)

1. Introduction

This page is designed to help you write appropriate learning outcomes when developing and revising your modules and programmes, and when devising assessment tasks. It explains:

- what learning outcomes are
- the learning outcomes process
- the benefits of using learning outcomes
- how to use learning outcomes at programme level
- how to use learning outcomes at module level
- how to write learning outcomes
- how to link outcomes to assessment

sources

Appendix

1. A glossary of key terms
2. Bloom's Taxonomy (1956)
3. Examples of learning outcomes
4. Good practice in writing learning outcomes
5. Steps in writing assessment criteria
6. Motivating students using criteria

Hyperlinked terms are explained in the Glossary section of the Appendix.

We plan over time to expand this document so that it includes real examples of good learning outcomes from existing UCE Birmingham course documentation from a wide range

of disciplines at various levels. Click here for details.

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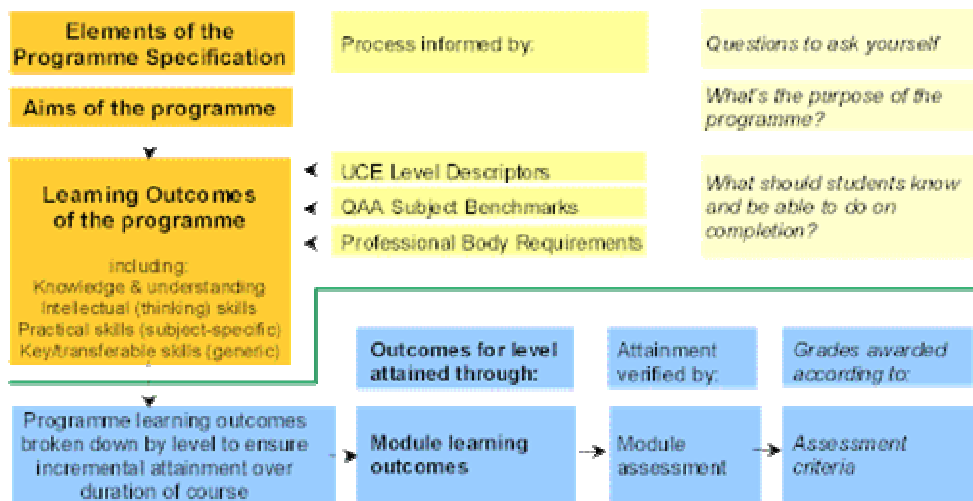
2. What are Learning Outcomes?

Learning outcomes are the specific intentions of a programme or module, written in specific terms. They describe what a student should know, understand, or be able to do at the end of that programme or module. Learning outcomes are written bearing in mind the UCE level descriptors for that level or award.

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3. The Learning Outcomes process

Click on the graphic below to link to relevant sections of this Guide.



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4. What are the benefits of Learning Outcomes

Designing your courses using learning outcomes leads to a more student-centred approach: it marks a shift from the content of a module or course (namely, what staff members teach) towards its outcome (in other words, what the student is able to do on successful completion of the course or module).

Learning outcomes can:

- help to guide students in their learning in that they explain what is expected of them, in turn helping them to succeed in their studies.
- help staff to focus on exactly what they want students to achieve in terms of both knowledge and skills.
- provide a useful guide to inform potential candidates and employers about the general knowledge and understanding that a graduate will possess.

Good, clear learning outcomes will also be useful when compiling information for student Progress Files, which will soon be required of all universities.

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5. The Learning Outcomes process at programmes level

When designing a new programme, the QAA requires you to produce a programme specification, for which you use the University template. This specification includes the aims of the programme and the learning outcomes for the programme. It is essential that these programme outcomes refer to the outcomes of the **entire** programme leading to the relevant award, and when writing them, you must take UCE's level descriptors, the QAA's subject benchmark statements and, where applicable, Professional Body requirements into consideration. You are required to categorize your programme outcomes in terms of:

- knowledge and understanding
- intellectual skills
- practical skills
- key/transferable skills

For an explanation of these four categories, look in the Appendix under **Level descriptors**

Once you have devised your programme outcomes, you need to make sure that their attainment is clearly achievable through the module outcomes on the programme. If your programme covers more than one level (such as a Bachelor's degree) you may find it useful to break down the aims of the programme over the levels so that you can verify that students are progressively working towards the programme outcomes throughout the course.

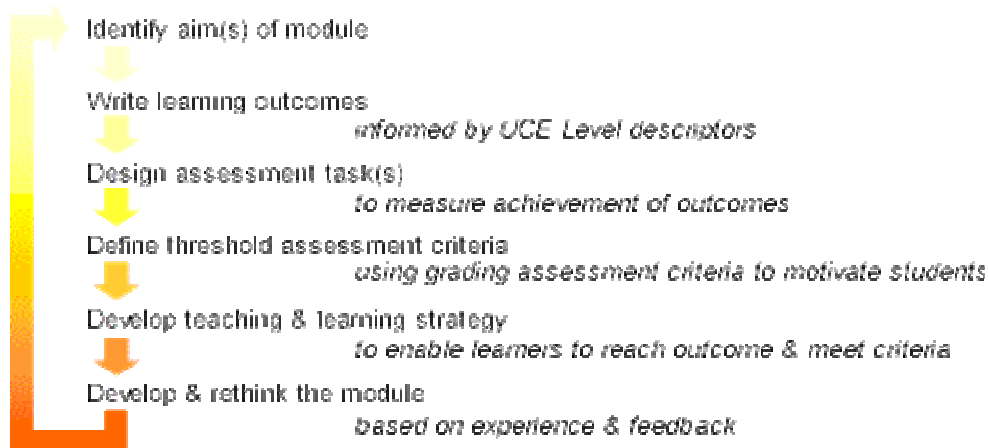
If you have any longer-term outcomes on a programme and feel a student may only be able to demonstrate them on completion of the programme, state them as programme outcomes, rather than module outcomes.

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6. The Learning Outcomes process at module level

A well-structured module should show clear alignment between the learning outcomes and the assessment criteria used on the module; in turn this requires you to design appropriate assessment tasks, and to deliver the module in a way which enables students to reach the required outcomes. This alignment between learning outcome, learning and teaching method, assessment tasks and assessment criteria makes the whole process transparent to the students and to other interested parties, and helps you to ensure that there is coherence in your modules. Use the chart below as a guide in this process.

Click on the chart to link to relevant sections of this Guide.



Although the outcomes of each module have to correspond with UCE's descriptors for that level, you don't have to attain ALL the descriptors in every module. Instead, you should make sure that students attain all descriptors on successful completion of ALL CORE MODULES at each level of a programme.

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7. Writing Learning Outcomes

Your learning outcomes should specify the **minimum** acceptable standard for a student to be able to pass a module or course (threshold level). This means that it is important to express learning outcomes in terms of the **essential** learning for a module or course, so you should have a small number of learning outcomes which are of central importance, not a large number of superficial outcomes.

We recommend that you aim for between four and eight learning outcomes for each of your modules, and up to twenty-five outcomes for an entire programme.

Start **programme outcomes** with the phrase:

'A successful learner from this programme will be able to ...'

Start **module outcomes** with the phrase:

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

OR, better still:

'On successful completion of the module, **you** will be able to ...'

These phrases lead you to use **action verbs** so that students are able to **demonstrate** that they have learned or achieved the outcome. Verbs relating to knowledge outcomes – 'know', 'understand', 'appreciate' – tend to be rather vague, or to focus on the process students have gone through (e.g. 'undertake action research') rather than the final outcome of that process (e.g. 'formulate strategies appropriate to their topic'), so use action verbs – 'solve', 'evaluate', 'analyse' – to indicate how students can demonstrate acquisition of that knowledge.

Make sure you only use one verb per learning outcome, and that you keep the sentence structure simple to avoid misinterpretation. Avoid unnecessary jargon; if absolutely necessary, use more than one sentence to ensure clarity.

To help you write your outcomes, use **Bloom's Taxonomy** (1956), which despite its age is still one of the best aids to writing good learning outcomes. [Click here for Bloom's Taxonomy](#)

Bloom identified six categories of learning – knowledge, comprehension, application, analysis, synthesis and evaluation – which you can use at any academic level. The first two of these relate specifically to knowledge and understanding, while the remaining four involve intellectual skills. While it might seem tempting to concentrate on the lower two categories for lower level modules, we recommend that you do engage your students in higher level activities, albeit on a smaller, more focused scale, from the outset.

When writing your outcomes, bear in mind the specific UCE Level Descriptors relevant to that level of study: use of Bloom's taxonomy will help you to respond to the first section of the Level Descriptors, which relate to knowledge and understanding, and intellectual (thinking) skills. For learning outcomes which relate to **specific skills** (as seen in the second part of the Level Descriptors), then you need to phrase your wording to describe **how** each skill is performed (for example, 'will be able to communicate effectively and succinctly through oral presentation').

[Click here for examples of learning outcomes](#)

[Click here for ideas for good practice in writing learning outcomes](#)

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8. Linking Outcomes to assessment

As already stated, you need to ensure that assessment tasks are designed to fulfil the outcomes of a module. One way of ensuring this is by directly linking your assessment criteria to your learning outcomes: this may involve a simple one-to-one correlation between outcome and criterion, or you may wish to have more than one criterion for each outcome. This method makes the assessment process all the more transparent to students, and enables them to see the purpose of assessments more easily. Making regular reference to the out-comes of the module will also help reinforce this understanding.

[Click here for a step-by-step guide to writing assessment criteria](#)

It is often helpful to combine intellectual outcomes and skills-based outcomes when devising assessments. For instance, if your outcomes state that students will be able to:

- analyse contrasting strategies for dealing with organizational change,
- demonstrate that they are effective team workers, and
- reflect on the role they play in groupwork,

you can then conflate these through one assessment, such as a group presentation with supporting group documentation including individual statements about the role each individual played in the final piece of work. Three outcomes can therefore be attained through one assessment, and you will need distinct assessment criteria to account for each of the stated outcomes.

[Click here for ideas on motivating students with these criteria](#)

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Plans to expand this guidance

In due course, the Staff & Student Development Department (SSDD) will be providing real examples of learning outcomes at different levels from a wide range of courses at UCE. If you would like to send us any of your learning outcomes to use as examples, please e-mail your module outlines or course documents to David Green, or send them to:

Dr David Green, SSDD, Attwood Building/A042, UCE, Perry Barr Campus.

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Sources

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Appendix

This appendix provides the following information:

1. A glossary of key terms
2. Bloom's Taxonomy (1956)
3. Example of learning outcomes
4. Good practice in writing learning outcomes
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I. 1. Glossary of key terms

II. Programme specification

A programme specification is a concise description of the intended outcomes or learning from a programme in Higher Education, and the means by which these outcomes are achieved and demonstrated. The Quality Assurance Agency (QAA) requires programme specifications for all award-bearing programmes, and sets out the minimum information needed for each programme. They are intended to provide a foundation for public assurance of academic standards and permit HE programmes and awards to be related to the national Qualifications Framework.

III. Subject benchmark statements

Subject benchmark statements set out expectations about standards of undergraduate degrees in a range of subject areas. They describe the attributes, skills and capabilities that a graduate with an honours degree in a specific subject might be expected to have. Each statement has been written by a group of academics and other specialists (such as representatives from professional bodies, industry and commerce) from the subject area. For some subject areas, you may need to refer to more than one set of benchmark statements.

IV. Level descriptors

Level descriptors are generic statements describing the characteristics and context of learning expected at each level. These help guide your expectations of students and they are designed to ensure equivalence and consistency of standards across subject areas. They are set out in the University's Academic Regulations and Policies and are based on those recommended by the QAA.

The first section of the descriptors for each level is a statement of outcomes which students should be able to demonstrate to be accredited at that level. These relate to **knowledge and understanding** of the subject, and the **intellectual skills** required to make use of this knowledge and understanding.

The second section of the descriptors states the wider abilities which a typical student could be expected to have developed at that level. This incorporates both **practical skills** (i.e. those which are relevant to competence in your own specific context, such as lab skills, performance skills), and more general **key/transferable skills** (communication, problem solving, self-evaluation). Depending on your context, these two categories of skills may well overlap.

NOTE

Learning outcomes and assessment criteria should be reviewed against these descriptors in order to develop modules and assign credit at the appropriate level.

V. Assessment criteria

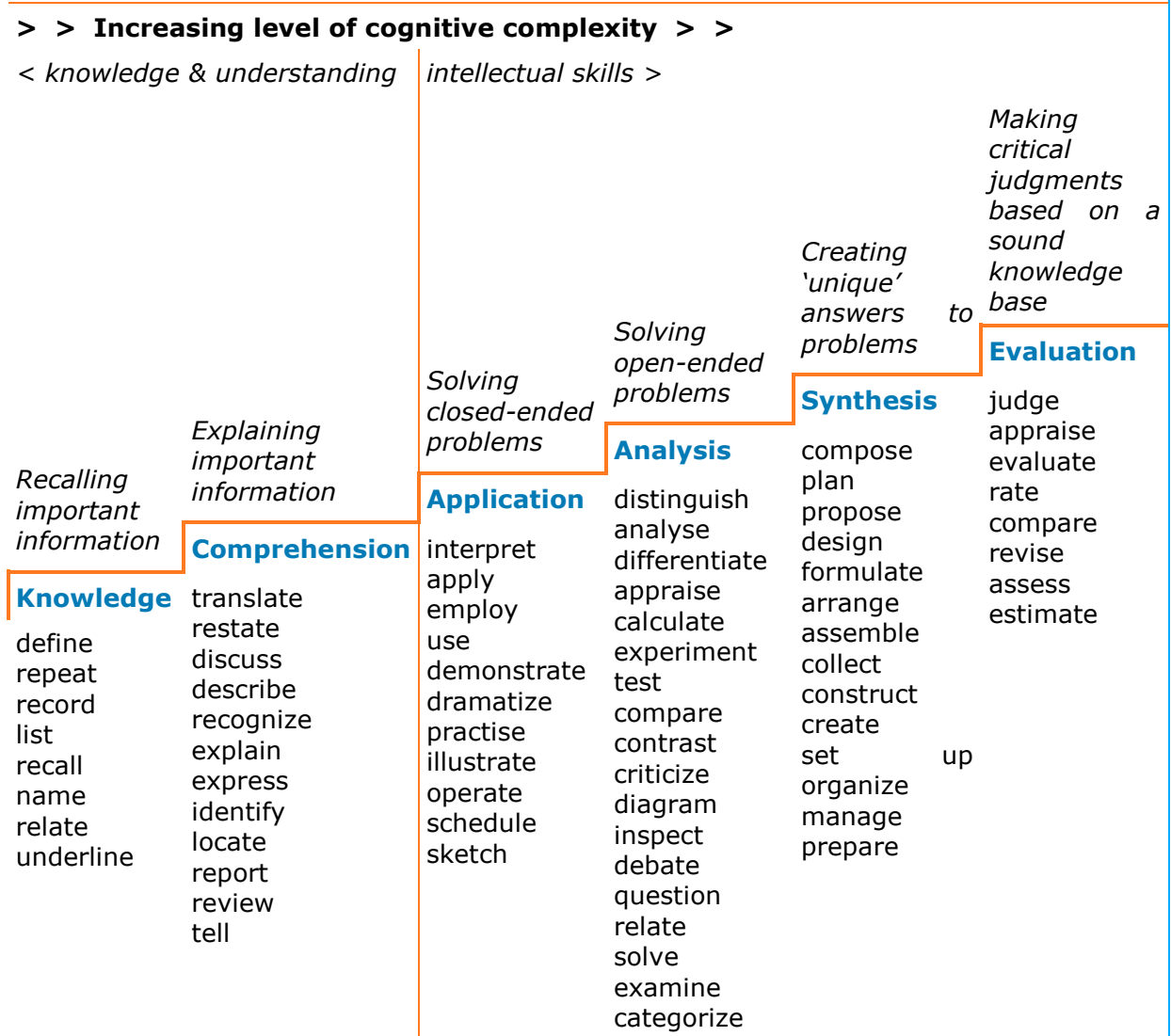
These are descriptions of what the learner is expected to do in order to demonstrate that a lean be differentiated by applying grading criteria (see section 6 below).

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2. Bloom's Taxonomy (1956)

Comments in *italics* are our own brief explanations of the differences between the six levels of the taxonomy. The list of verbs here is not exhaustive, and some appear under more than one heading.

Click on the headings to link to examples for each of these levels.



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3. Example Learning Outcomes

The examples provided here are taken from a range of disciplines. Outcomes relating to **knowledge and understanding** and to **intellectual skills** use Bloom's Taxonomy as their basis. There are then two further categories relating to **practical** (i.e. subject-specific) **skills**, and **key/transferable** (i.e. generic) **skills**.

Knowledge & understanding

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

- Explain the meaning, character and identity of place, and how landscape is constructed.
- Identify the theories of learning that are implicit in their current approach to education.
- Discuss Romantic poetry in relation to the major themes of Romanticism.
- Describe the underlying principles governing gene transmission and expression.

Pointers on knowledge and understanding outcomes

- Avoid learning outcomes which are TOO BROAD in scope, such as 'Recall the fundamental concepts of Structural, Mechanical and Electrical Engineering.'
- Avoid learning outcomes which are TOO NARROW in scope, such as 'State the six categories in Bloom's Taxonomy.'
- Avoid overloading your modules with TOO MUCH 'CONTENT': knowledge and understanding outcomes emphasize what your students will be able to comprehend and explain, but this isn't as important as being able to USE the information through application, analysis, synthesis and evaluation.

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VII. Intellectual (thinking) skills: application

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

- Apply Kolb's model of learning to the design of a teaching programme.
- Illustrate, using phonetics, the problem of stigmatism in children.

VIII. Intellectual (thinking) skills: analysis

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

- Appraise the key issues of market segmentation in a brewing industry case study.
- Compare Hofstede's theories of culture with those of Trompenaars and Hampden-Turner.

IX. Intellectual (thinking) skills: synthesis

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

- Create a set of criteria to assess Home Office implementation of immigration rules.
- Design an engine component that conforms to the following criteria...

X. Intellectual (thinking) skills: evaluation

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

- Explain the reasoning behind their allocation of scarce resources in the treatment of

- patients in an Accident and Emergency setting.
- Prioritize conclusions they reached from an analysis of paint techniques, giving reasons.

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XI. Practical skills (=subject-specific)

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

- Express themselves in writing for different professional and academic audiences.
- Employ appropriate ICT skills in order to forecast demographic trends.
- Use web-creation tools to produce an interactive website suitable for use by young schoolchildren.

XII. Key/transferable skills (=generic)

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

- Work effectively as part of a team.
- Reflectively evaluate their own learning and personal planning processes.

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4. Good practice in writing learning outcomes: Suggestions

XIII. Open-ended learning outcomes

Not all learning is pre-planned: in many subjects (especially creative ones), students are expected to choose their own route through a module, and you can devise open-ended learning outcomes to reflect this. For example, you could say that students are expected to be able to:

- draw creatively on experience to devise work which integrates art forms
- apply theory critically to analyse their professional experience
- evaluate the impact of their clinical intervention
- use a self-reflective approach to devising, developing and delivering project work.

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XIV. Avoiding plagiarism

Learning outcomes can also be used to help avoid plagiarism:

- Learning outcome: Students will be able to demonstrate the origins of their ideas by referencing sources used in their work.
- Assessment criterion: Accurate use of the standard referencing styles within the text for all sources used.

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5. Suggested steps in writing assessment criteria

1. Consider which learning outcome is being assessed (e.g. demonstrate critical awareness of social housing issues)
2. Consider the assessment task set (e.g. present a self-made artefact to the group to represent your critique of social housing issues)
3. Work out requirements for successful performance of the assessment, or the attributes required for this (e.g. clarity and fluency in terms of presentation; logical argumentation and marshalling of information in terms of content)
4. If necessary, specify the range to clarify contextual factors and the level (e.g. demonstrate critical awareness of social housing issues since the introduction of right-to-buy in the UK, making appropriate reference to the recommended reading for the module)
5. Focus on what is essential and categorize the requirements or attributes into clearly worded criteria
6. Check that the criteria are measurable or assessable in valid and reliable ways and that the criteria are clear and unambiguous (e.g. ask colleagues to read the criteria to see if they interpret them in the same way)
7. Repeat steps 3, 4, 5 and 6 until fully satisfied.

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6. Using assessment criteria to motivate students

In order to motivate students further, it can be helpful to use grading assessment criteria: while your learning outcomes have established the minimum requirement to pass a module, and can be linked to the minimum standard to fulfil a particular assessment criterion, **grading criteria** indicate what a student must demonstrate to achieve a higher grade. You will then have a set of statements to help you differentiate the level of a students' performance. The idea behind this is that, rather than focusing on the threshold level stated in the outcomes, students can see the criteria for a First, or a Distinction, and will shift their focus to the highest level. For example:

Learning Outcome:	Assessment criteria:				
By the end of the module, students will be able to: use evidence appropriately in support of an argument.	Fail	Third	Lower 2nd	Upper 2nd	First
	Unsubstantiated or invalid conclusion, based on anecdotes and generalizations only	Limited evidence of finding and conclusions supported by the literature and theory	Evidence of findings and conclusions 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

Grading criteria of this sort not only encourage students to aim higher, but also give them greater confidence in the objectivity and transparency of the marking process.

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From Edinburgh Seminar (February 2008) on Learning Outcomes:

USEFUL RESOURCES

National Qualifications Frameworks

The overarching framework http://www.bologna-bergen2005.no/EN/BASIC/050520_Framework_qualifications.pdf

The report by the Bologna Working Group on Qualifications Frameworks 2005 (Chair: Mogens Berg) http://www.bologna-bergen2005.no/Docs/00-Main_doc/050218_QF_EHEA.pdf. (but NB this is a book length report)

The report by the Bologna Working Group on Qualifications Frameworks 2007 (Chair: Mogens Berg) <http://www.dfes.gov.uk/londonbologna/uploads/documents/WGQF-report-final2.pdf>

Conference report from the 2005 Copenhagen conference on the Framework for Qualifications of the European Higher Education Area, by Sjur Bergan: http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/050113-14Copenhagen/050113-14_General_report.pdf

Conference report from the 2003 Copenhagen conference on Qualification Structures in Higher Education in Europe, by Sjur Bergan: http://www.bologna-bergen2005.no/EN/Bol_sem/Old/030327-28Copenhagen/030327-28Report_General_Rapporteur.pdf

Background report for the 2003 Copenhagen conference on Qualification Structures in Higher Education in Europe, by Stephen Adam: http://www.bologna-bergen2005.no/EN/Bol_sem/Old/030327-28Copenhagen/030327-28S_Adam.pdf

Publication on Qualifications - Introduction to a concept, by Sjur Bergan: http://book.coe.int/EN/ficheouvrage.php?PAGEID=36&lang=EN&produit_aliasid=2212

Learning outcomes

Stephen Adam: "An introduction to learning outcomes: A consideration of the nature, function and position of learning outcomes in the creation of the European Higher Education Area", article B.2.3-1 in Eric Froment, Jürgen Kohler, Lewis Purser and Lesley Wilson (eds.): *EUA Bologna Handbook – Making Bologna Work* (Berlin 2006: Raabe Verlag) <http://www.eua.be/index.php?id=129>

Stephen Adam: "Using Learning Outcomes". Report for the Bologna conference on learning outcomes held in Edinburgh on 1 – 2 July 2004 http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/040701-02Edinburgh/040620LEARNING_OUTCOMES-Adams.pdf

Declan Kennedy, Áine Hyland, Norma Ryan: "Writing and using learning outcomes: a practical guide", article C 3.4-1 in Eric Froment, Jürgen Kohler, Lewis Purser and Lesley Wilson (eds.): *EUA Bologna Handbook – Making Bologna Work* (Berlin 2006: Raabe Verlag) <http://www.eua.be/index.php?id=129>

Jennifer Moon: "Linking Levels, Learning Outcomes and Assessment Criteria". Report for the Bologna conference on learning outcomes held in Edinburgh on 1 - 2 July 2004
http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/040701-02Edinburgh/040701-02Linking_Levels_plus_ass_crit-Moon.pdf

Declan Kennedy, *Writing and Using Learning Outcomes: A Practical Guide*, Quality Promotion Unit, University College Cork, 2007

European Consortium for Accreditation [ECA] 2007 International Conference on Learning Outcomes, *Defining and measuring learning outcomes in higher education*, Zurich, 3-4 September 2007:
http://www.oaq.ch/pub/en/Conference_LO.php

European Universities Association EUA (2007) *Bologna Handbook - Making Bologna Work, Writing and using learning outcomes* by Declan Kennedy, Áine Hyland, Norma Ryan. Raabe Academic Publishers:
http://www.bologna-handbook.com/docs/downloads/C_3_4_1.pdf

Tuning Educational Structures in Europe Project (2006), *Universities' contribution to the Bologna Process - An introduction*:
<http://www.tuning.unideusto.org/tuningeu/>