

CEBE Guide to writing Assessment Criteria

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Introduction

Assessment criteria are a set of descriptions of what a student is expected to do to attain a particular mark. Educationalists believe that carefully written assessment criteria not only assist in the marking process, but they also help to encourage students to adopt an appropriate approach to their learning. This briefing guide provides advice and a worked example of how assessment criteria can be written to improve the quality of the student's learning.

There is a view amongst some students that learning is about the mass acquisition of facts: the more things you can remember, the better mark you will get in your examinations (Saljo, 1979). Learning of this sort is rarely of any great long term practical use, as much is forgotten within a relatively short period of time. Research has suggested that learning is more useful if it allows students to qualitatively change the way that they think about and understand the world around them (Ramsden, 1992).

It is this latter viewpoint that many lecturers aim to achieve with their students, with the mass acquisition of facts being considered a misconception on the part of the students. Unfortunately the aspirations of lecturers in this respect do not always translate into their teaching practice (Boud, 1990).

One of the reasons for this misconception may be inappropriate assessment methods. If a lecturer wishes students to be able to critically evaluate the work of a seminal architect, but subsequently sets an exam question that tests their recall of that architect's key buildings, then the students' attention will be focussed upon memorisation, rather than developing their critical thinking abilities.

To avoid this, lecturers need to ensure that their learning objectives, course activities and assessment tasks are

clearly aligned (Biggs, 1999) so that the assessment tasks measure whether the students have met the learning objectives for that course. This ensures that students are aware of the type of understanding that is required of them.

In order to do this, lecturers need to think about the level of understanding that they require from their students. Is it sufficient for something just to make sense (a relatively low level of understanding), or are the students expected to interpret what they have learned in a new way (a higher level of understanding)? The word 'understand' in itself is too vague, as it provides no indication of level.

A number of researchers have tried to categorise the different levels of understanding (Bloom, 1956; Biggs, 1999; Moon, 1999). Box 2, overleaf, outlines one such categorisation based upon Biggs' SOLO Taxonomy. For instance, to theorise (level 4), requires a higher level of understanding, than to be able to recall something (level 1). By selecting appropriate verbs, it is possible to describe the level of understanding required by the students in order to attain a particular mark.

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Select the principal outline topics to teach
 Consider the relative breadth and depth of coverage required.
 Avoid overloading the curriculum with excessive content.
A topic may refer to a piece of declarative knowledge, a piece of procedural knowledge or a piece of functioning knowledge (see box1).



Consider why you are teaching each particular topic
 Is it to acquaint the students with background information or is it something that students will use and apply? Is it immediately relevant to the student?



Prioritise the topics in terms of their perceived importance
 Generally, students should be expected to gain a higher level of understanding in those topics perceived to be most important. Less important topics may only require basic awareness.
 Box 2 outlines what might be meant by high and low levels of understanding. It may not be possible, or desirable for students to achieve the same level of understanding for all topics.



Define lowest pass assessment criteria
 This will be a description of the *quality* of student performance that would necessitate a bare pass. See Box 3 for details.



Define what would be the best you might expect
 Again It will probably consist of a series of verbs and content descriptions that describe the *quality* of student performance.



Define 2-3 intermediate levels of performance



Determine appropriate assessment methods for the specific topics
 Different assessment methods measure different levels of understanding.
 See Biggs (1999) pp 165-202 for a description of how different assessment methods require particular levels of understanding.

Box 1: Types of knowledge
Declarative knowledge: knowing about things.
Procedural knowledge: knowing how to do something in specific circumstances (skills and routine procedures).
Functional Knowledge: the practical use and application of declarative and procedural knowledge.

Box 2: Indicative Levels of Understanding (Based upon Biggs' SOLO Taxonomy)

- **Level 4 (Highest):** theorise, generalise, hypothesise, or reflect.
- **Level 3:** compare, contrast, explain, relate, analyse, argue, or apply.
- **Level 2:** describe, list, paraphrase, or enumerate.
- **Level 1:** recall, name, carry out a routine procedure.
- **Level 0 (Lowest):** misses the point.

Box 3: Assessment Criteria
 These are a series of descriptions of the expected *quality* of student performance at the lowest pass, best possible and a small number of intermediate levels. Generally the descriptions should incorporate all of the topic areas within a single descriptor.
 The descriptions should consist of a series of verbs that describe the level of student understanding associated with the topic areas. Some possible verbs are shown in box 2, but there may be others.
 For instance a student with a bare pass may be expected to simply memorize a series of facts whilst an excellent student would be able to construct their own theories and generalisations.
 Where necessary, you can assign a letter grade to each of your level definitions.

Diagram by Andrew Roberts, based upon J. Biggs, *Teaching for quality learning in higher education*. SRHE:Oxford,1999, Chapter 3.

Assessment Criteria: Worked Example

This worked example refers to a fictitious course in construction economics, delivered to a cohort of first year architecture students.

Aim of course:

The course aims to familiarise the students with the basic principles of economics as they are manifested within the construction industry and to relate those principles to the architectural design process.

It is likely that much of the knowledge learned in this module will be of a *declarative* nature. Nevertheless, it is possible that some *procedural* knowledge may need to be taught, for instance how to look up outline building prices. It is hoped that the students will be able to use the knowledge learned in practical situations, for instance to influence their design processes and therefore it is likely that the outcome of this module will be *functional* knowledge.

Stage 1: Determine the principal topics

- 1) The basics of micro economics, including the laws of supply and demand and economies of scale.
- 2) The economics of the UK construction industry and how it relates to the UK economy as a whole.
- 3) Future trends and developments within the UK construction industry.
- 4) How architectural design decisions impact upon the cost of buildings, specifically with regards to the concept of value for money.
- 5) How to look up outline building prices.
- 6) The impact of different procurement methods on the economics of building.

Stage 2: Why are these topics important?

- 1) The basics of micro economics including the laws of supply and demand: students will need to know that issues such as scarcity of supply is likely to increase prices and that design decisions will influence building costs.
- 2) The economics of the UK construction industry and how it relates to the UK economy as a whole. This sets the context and is background information that the students should know about; it also forms part of the professional syllabus.

- 3) Future trends and developments within the UK construction industry. Again this is background information, but may not be something that will be of immediate use to the student.
- 4) How architectural design decisions impact upon the cost of buildings, specifically with regards to the concept of value for money. As architects, students will need to have an understanding of the impact that their design decisions will have on building costs. This is something that could be applied to current design project work.
- 5) How to look up outline building prices. A useful skill, which may assist in achieving item 4
- 6) The impact of different procurement methods on the economics of building. This is a research topic of the lecturer running the module, who feels it is important that the students know about it.

Stage 3: Prioritisation

Items 2 and 3 are stated as being background information. At this level the students would not be expected to show much more than basic familiarity with the key concepts. Item 6 may be the lecturer's pet research topic but space and time within the curriculum are limited. This is an area that may be a topic best tackled at a higher level, later in the course. For now a background level of understanding may suffice. The level of understanding in these cases may not need to be much more than levels 1 or 2 in Box 2, and verbs such as *describe*, *outline*, *recall* and *show* awareness may be sufficient here.

Item 1 will require a higher level of understanding, probably to level 3 in box 2 as the knowledge will need to be applied to other circumstances. Verbs such as *apply*, *explain* and *relate* provide descriptions of the student's performance.

Item 4 probably will require the highest level of understanding as there is a desire to use this knowledge to help solve problems. If the student was to use this knowledge to analyse and *explain* or *evaluate* the cost implications of a building that had previously been designed, then this is likely to be at level 3 in box 2. However if the students use the knowledge to influence their decision making processes, perhaps with their own building design, then the level of knowledge is likely to be at Level 4. Verbs such as *hypothesise*, *design*, *devise*, *generate*, and *incorporate* may be appropriate here.

Stage 4: Describe Minimum Pass Levels (Grade D)

A description of 'D-ness'

Students who achieve a bare pass will be able to:

- *Recall* an established view on the UK construction industry, its relationship to the UK economy and its likely future trends. They will do little more than reiterate the facts that were presented to them. (Level 1)
- *Recall* the likely impact of different procurement methods on the economics of building. (Level 1)
- *Describe* how basic micro economic principles might impact upon the cost of buildings. (Level 2)
- *List* the costly and cheap elements in a building. There may be little indication as to why these elements are likely to be costly or cheap, or whether they represent any particular value for money. (Level 2)
- Some aspects of performance will contain errors.

Note that a bare pass that only contains cognitive engagement at levels 1 and 2 may not be sufficient to meet the minimum requirements of the QAA's national qualification frameworks.

Stage 5: Determine best possible level (Grade A)

A description of 'A-ness'

The best students will be able to:

- *Explain* a number of viewpoints on the UK construction industry, its relationship to the UK economy and its likely future trends. The student will be able to relate different ideas and draw their own conclusions. (Level 3)
- *Compare and contrast* the likely impact of different procurement methods on the economics of building. (Level 3)
- *Reflect* upon architectural design decisions in the light of key economic principles and costly and cheap elements in order to *generate* design proposals that are likely to represent good value for money. (Level 4)

Stage 6: Determine the intermediate levels (Grades B and C)

A description of 'B-ness'

Students who achieve a grade B will be able to:

- *Outline* a number of viewpoints on the UK construction industry, its relationship to the UK economy and its likely future trends. (Level 2)
- *Describe* the aspects of different procurement methods that will impact upon the economics of building. (Level 2)
- *Analyse* a building for those elements that might be costly or cheap and relate these to basic micro economic and construction principles. Recognise those elements that represent good or bad value for money. (Level 3)

Students may also be graded in this category if their performance is not quite adequate to be classed as an A grade.

A description of 'C-ness'

Students who achieve a bare pass will be able to:

- *Describe* a limited set of established viewpoints on the UK construction industry, its relationship to the UK economy and its likely future trends. There will be little attempt to relate the various viewpoints. (Level 2)
- *Describe* the aspects of different procurement methods that will impact upon the economics of building. (Level 2)
- *Analyse* a building for those elements that might be costly or cheap and relate these to basic micro economic and construction principles. Recognise those elements that represent good or bad value for money (Level 3). Some of the viewpoints may demonstrate a degree of naivety or may be incomplete.

Students may also be graded in this category if their performance is not quite adequate to be classed as a B grade.

Stage 7: Determine appropriate assessment methods

The format of the assessment is important to ensure that the appropriate levels of understanding described above can be achieved by all students. Possible assessment methods are described in Biggs but the following could be concluded from this set of outcomes:

Examination essays may be appropriate for the measurement of those items that represent declarative knowledge such as the background information on the construction industry. Nevertheless evidence suggests that the pressures of an examination may put excessive emphasis on *memorisation*, which may restrict a good student's ability to conduct higher level tasks.

Similarly, multiple choice tests, unless very carefully constructed, often fail to assess the higher level tasks.

An open book examination, reduces the need for memorisation. In this case this would give the students an opportunity to *explain*, and *relate* the knowledge that is provided as is required to achieve the higher marks.

It may be possible to test those items that require functioning knowledge, such as those that relate economic and construction industry principles to architectural design, though exam essay. An open ended essay could ask students to reflect upon a familiar building, or a building that a student has designed, in terms of its economics. Nevertheless, it would still be difficult to measure the highest level of understanding that requires the students to generate design proposals that incorporate economic principles. It may be more appropriate for students to keep a reflective diary, or to produce a project report outlining how economic principles have impacted upon design work.

About The Author

Andrew Roberts is CEBE's subject coordinator for Architecture and Landscape education. He is also a tutor in the Welsh School of Architecture, Cardiff. He has carried out research in architectural education, particularly with respect to how students of architecture learn, which was also the subject of his doctorate.

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