SUMMARY GUIDELINES FOR WRITING LEARNING OUTCOMES
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As part of the Bologna Process reforms, all modules and programmes throughout the European Higher Education Area are described in terms of Learning Outcomes. Learning outcomes are statements of what a student should know, understand and be able to **demonstrate** after completion of a process of learning.

Learning Outcomes are described in relation to three domains of learning, i.e. cognitive (knowledge-based), affective (attitudes and values) and psychomotor (practical skills). Most learning outcomes are written in the cognitive domain but, depending on the subject area being studied, learning outcomes may also be written in the affective and psychomotor domains.

Writing Learning Outcomes

Bloom's taxonomy (Fig. 1) is helpful when writing Learning Outcomes in the cognitive domain. Ranging from the lower to the higher order thinking skills, Fig. 2 provides some suggested action verbs.

When writing Learning Outcomes:

1. Always use action verbs. Think about completing the sentence *At the end of this module students should be able to:*

2. Keep the sentence short. More than one action verb can be used in the same sentence.

3. Try to ensure that module Learning Outcomes range across all levels of Bloom's Taxonomy in each year of the programme.

4. Programme Learning Outcomes should map on to the appropriate level of the National Qualifications Framework.

Fig. 2 Action verbs in the cognitive domain

Fig. 1 Learning Outcomes in the Cognitive Domain (knowing, thinking)

6. EVALUATION
5. SYNTHESIS
4. ANALYSIS
3. APPLICATION
2. COMPREHENSION
1. KNOWLEDGE

Learning Outcomes in the Affective Domain

Bloom also proposed a taxonomy for writing Learning Outcomes in the affective domain. Verbs include: Appreciate, accept, assist, attempt, challenge, combine, complete, defend, demonstrate (a belief in), discuss, dispute, embrace, follow, hold, integrate, order, organise, join, share, judge, praise, question, relate, share, support, synthesise, value.

Learning Outcomes in the Psychomotor Domain

The psychomotor domain refers to practical skills. High levels of psychomotor skills are required by professionals such as surgeons, artists, musicians and laboratory scientists.

If the psychomotor domain is relevant to your subject discipline, the following list of verbs may be helpful: bend, grasp, handle, operate, manipulate, perform, reach, relax, shorten, stretch, differentiate (by touch), perform (skilfully).

Aims and Objectives

The curriculum can be described in terms of aims and objectives, which is a more teacher-centred approach. Aims are long term and general, and relate to programmes. Objectives are short term, specific and relate to modules.

Aims and objectives are written using phrases such as:

- To give students an understanding of...
- To make students familiar with...
- To ensure that students know...
- To enable students to experience...

What number of Learning Outcomes?

- 3 to 9 Learning Outcomes per module
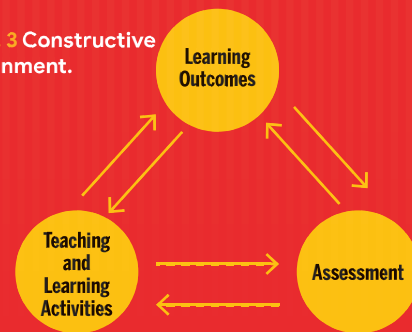- 5 to 10 Programme Learning Outcomes

Aligning Learning Outcomes to Teaching and Learning activities and to Assessment

Having written the Learning Outcomes for your students, always ask yourself how each Learning Outcome will be assessed. The Learning Outcomes we write should always be linked to teaching and learning activities and to assessment so that these various elements are aligned. This is known as constructive alignment and ensures thoughtful design of the curriculum (Fig. 3).

The key question is **What must the students be able to DO in order to show that they have achieved the Learning Outcome?** Details of how to check for constructive alignment using a simple three-column table are given in the online resources specified below.

Learning Outcomes are the common language in Education. ECTS credits are the common "currency" or reward that students receive for achieving the Learning Outcomes.

Fig. 3 Constructive alignment.