

# **How to write and use learning outcomes**

**Stefan Bienefeld, German  
Academic Exchange Service**

# Definition: What are learning outcomes ?

There are several different definitions of learning outcomes:

1. Learning outcomes are statements that specify what learners will know or be able to do as a result of a learning activity (American Association of Law Libraries)
2. Learning outcomes are an explicit description of what a learner should know, understand and be able to do (Bingham, 1999)
3. Learning outcomes are statements of what a learner is expected to know, understand and/or demonstrate after completion of a process of learning (ECTS User's Guide 2005)
4. Learning Outcomes are explicit statements of what we want our students to know, understand or be able to do as a result of completing our courses (University of New South Wales, Australia)
5. Learning outcomes are statements of what is expected that the student will be able to do as a result of the learning activity (Jenkins and Unwin, 2001)

# Communalities of definitions

All definitions stipulate that:

1. Learning outcomes focus on what the learner has achieved rather than the intentions of the teacher
2. Learning outcomes focus on what the learner can demonstrate at the end of the learning activity

Thus the ECTS definition seems useful as a working model:

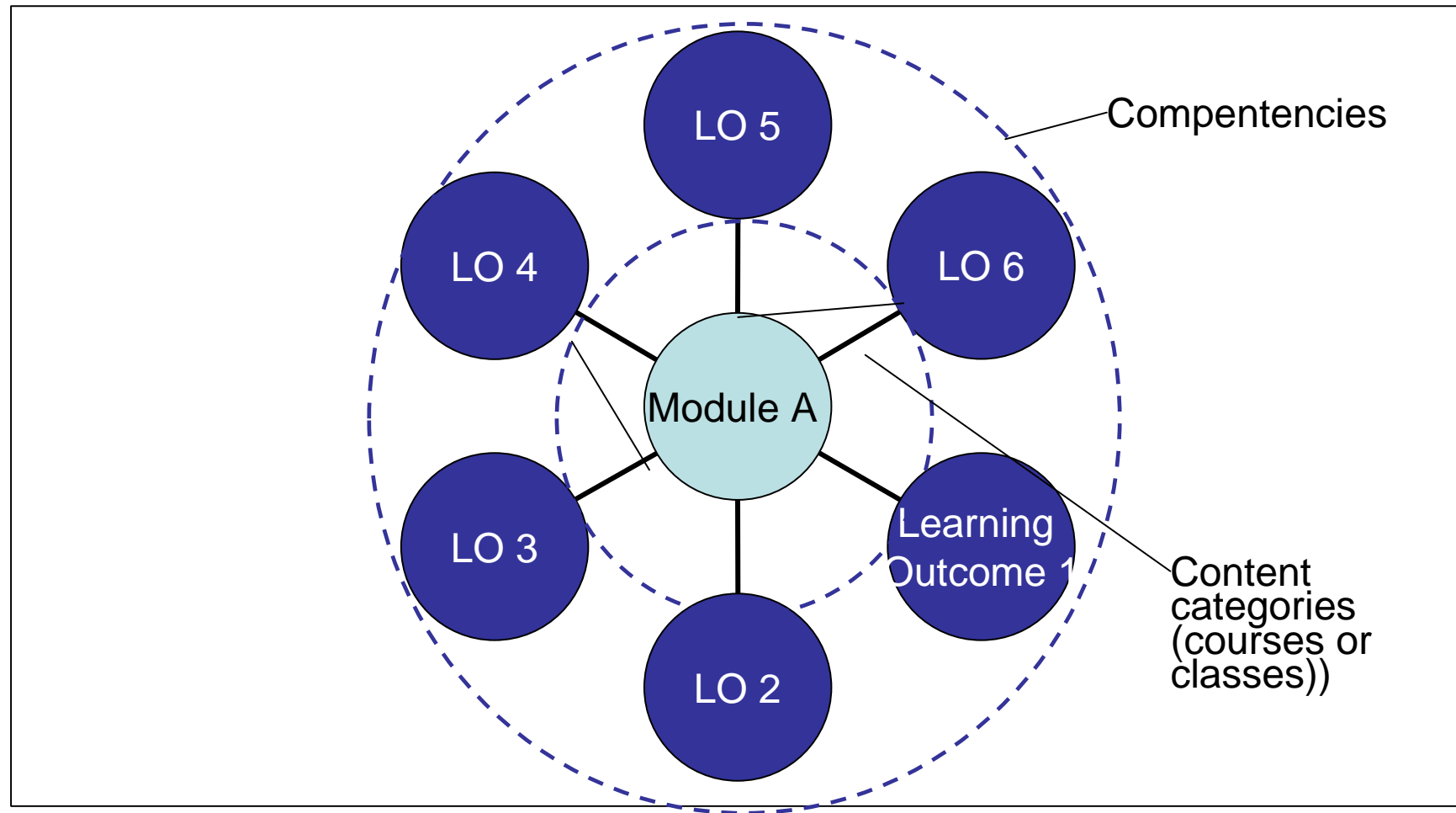
„Learning outcomes are statements of what a learner is expected to know, understand and/or demonstrate after completion of a process of learning“

# Differences between Learning outcomes, aims and objectives

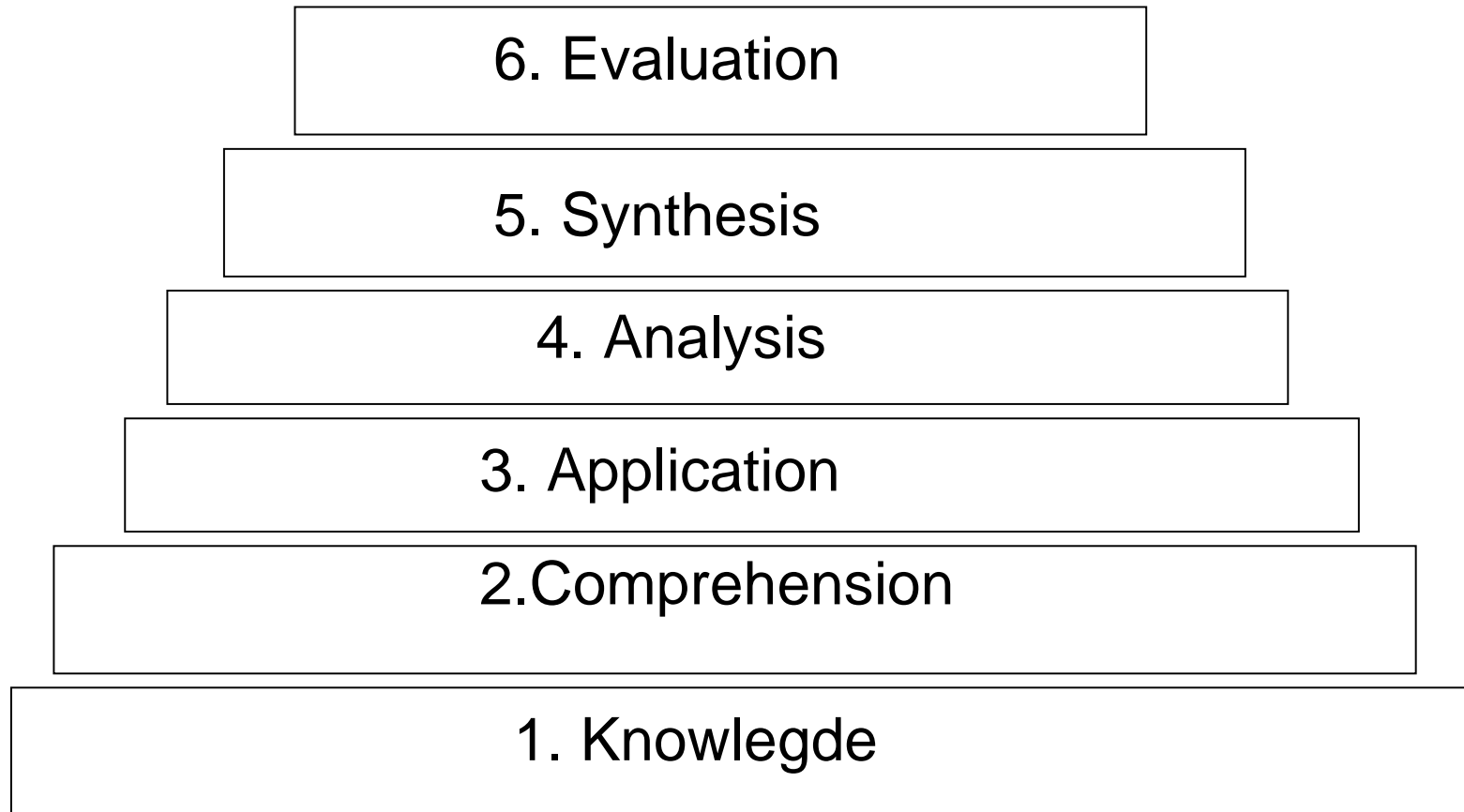
- Aims are broad and general statements of the teaching intentions (what does the teacher want to cover); for example „introduce the students to the basic concepts of German grammar“
- Objectives of courses or modules are usually specific statements of teaching intentions, they cover what the teacher aims to do in a specific period of learning; e.g. „students would understand the impacts and effects of behaviours and lifestyles on the local and global environments“ (sometimes, this is also called goal)

Sometimes objectives are written as teaching intentions and sometimes as learning outcomes, therefore their status is questionable- for reasons of clarity the use of learning outcomes is preferable

# Learning outcomes and competences – a schematic working model



# How to write learning outcomes ?



**BLOOM'S TAXONOMY OF THE COGNITIVE DOMAIN (1955)**

# Bloom's taxonomy: pedagogical consequences

Bloom suggests that cognitive processes can be arranged in a hierarchy which means that each higher level has the completion of the former levels as a prerequisite.

For example to apply something the students first need to have learned the knowledge and then gained comprehension.

Bloom advocated that in teaching the teacher should bear in mind that learning should try to get the thought processes of the students into the higher order process stages

# Writing learning outcomes in the cognitive domain

The taxonomy of Bloom provides verbs and descriptors for each stage of the cognitive processes

## 1. Knowledge

Knowledge is defined as the ability to recall or remember facts without necessarily understanding them. Associated verbs: arrange, collect, define, describe, examine, identify, list, memorise, order, present, recall, recognise, repeat, show, state, tell

## 2. Comprehension

Comprehension can be defined as the ability to understand and interpret learned information. Associated verbs: associate, change, clarify, construct, contrast, discuss, estimate, explain, extend, generalise, indicate, interpret, paraphrase, report...



# Writing learning outcomes in the cognitive domain

## 3. Application

Application can be defined as the ability to use learned material in new situations, e.g. put ideas and concepts to work in problem solving. Associated verbs: apply, assess, change, choose, compute, demonstrate, develop, employ, experiment, illustrate, interpret, modify, operate, produce, schedule, select, show, solve...

## 4. Analysis

Analysis may be defined as the ability to break down information into its components and, e.g. look for inter-relations (understanding of organisational structure). Associated verbs: analyse, appraise, arrange, categorise, classify, compare, criticise, debate, deduce, discriminate, examine, identify, illustrate, infer, order, point out, question, relate, sub-divide....

# Writing learning outcomes in the cognitive domain

## 5. Synthesis

Synthesis may be defined as the ability to put parts together, Associated verbs: argue, arrange, assemble, combine, compile, construct, develop, generate, integrate, make, manage, modify, organise, propose, revise, set up, summarise

## 6. Evaluation

Evaluation can be defined as the ability to judge the value of material for a given purpose. Associated verbs: appraise, ascertain, argue, assess, attach, choose, compare, contrast, criticise, defend, discriminate, explain, evaluate, grade, interpret, judge, measure, predict, rate,....

# Some examples

- Level 1, Knowledge: „identify and consider ethical implications of scientific investigations“
- Level 2, Comprehension: „classify reactions as exothermic or endothermic“
- Level 3, Application: „Construct a timeline of significant events in the history of Georgia in the 20th century“
- Level 4, Analysis: „Analyse why society criminalises certain behaviours“
- Level 5, Synthesis: „Summarise the causes and effects that led to the independence of Georgia“
- Level 6, Evaluate: „Assess the importance of key figures in bringing about change in Georgian history“

# Writing learning outcomes for other domains

Bloom in addition proposed a taxonomy of the emotional domain with five major categories:

1. Receiving (Willingness to receive information)
2. Responding (individual actively participates in his/her learning)
3. Valuing (ranges from simple acceptance to commitment)
4. Organisation (process individuals undergo whilst bringing together different values, resolving conflicts among them and starting internalisation)
5. Characterisation (Individual has a value system in terms of beliefs, ideas and attitudes that control and predict behaviour in a predictable manner)

# Writing learning outcomes for other domains

Some examples for learning outcomes in the emotional domain:

- Accept the need for professional ethical standards
- Value a willingness to work independently
- Display a willingness to communicate well with patients
- Resolve conflicting issues between personal beliefs and ethical considerations
- Embrace a responsibility for the welfare of children taken into care
- Display a professional commitment to ethical practice

# Writing learning outcomes for other domains

Dave (1970) proposed a hierarchy for the psychomotor domain consisting of five levels:

1. Imitation (observing others' behaviour and copying this)
2. Manipulation (ability to perform certain actions by following instructions and practising skills)
3. Precision (students can carry out a task with few errors and more precision without the presence of the original source)
4. Articulation (ability to co-ordinate a series of actions by combining two or more skills)
5. Naturalisation (displays of high levels of performance naturally (without thinking), skills are combined, sequenced and performed consistently with ease)

# Some guidelines for writing learning outcomes

- Begin each learning outcome with an action verb followed by the object of the verb followed by a phrase that gives the context
- Use only one verb per LO
- Avoid vague terms like know, understand, be familiar with etc.
- Ensure that the learning outcomes of the course, units and modules relate well to the overall LOs for the programme
- LOs must be observable and measurable
- Ensure that LOs can be assessed
- Bear in mind the timescale in which LOs are to be achieved and sequence the teaching accordingly
- Ask your colleagues or former students if the LOs that you developed make sense to them

# Summary: Advantages of Learning Outcomes (Adam 2004)

## 1. Course and Module design

Learning outcomes can

- Help to ensure consistency of delivery across modules and programmes
- Aid curriculum design and review by clarifying areas of overlap
- Help course designers to determine precisely the key purposes of a course and see how components of the syllabus fit and how learning progression is incorporated
- Highlight the relationship between teaching, learning and assessment and help improve course design and student experience
- Promote reflection on assessment



# Summary: Advantages of Learning Outcomes (Adam 2004)

## 2. QA

### Learning outcomes

- Increase transparency and the comparability of standards between and within qualifications
- Possess greater credibility and utility than traditional qualifications
- Play a key role by acting as point of reference for establishing and assessing standards

# Summary: Advantages of Learning Outcomes (Adam 2004)

## 3. Students

Learning Outcomes provide:

- Comprehensive sets of statements of exactly what the students will be able to achieve after successful study
- Clear information to help students with their choice of module and programme. This in return can lead to more effective learning
- Clear information to employers and HEIs about the achievements and characteristics associated with particular qualifications

# Summary: Advantages of Learning Outcomes (Adam 2004)

## 4. Mobility

Learning outcomes:

- Contribute to the mobility of students by facilitating the recognition of their qualifications
- Improve the transparency of qualifications
- Simplify credit transfer
- Provide a common format that helps promote lifelong learning