Writing Learning Outcomes

As a general guide **learning outcomes** should:

• Be preceded with:

"Having completed this module/course, you will be able to …"

• Begin with an action verb and describe something (knowledge, skill or attitude – see Domains of Learning and Choosing Action Verbs below) that is observable or measurable.

• Use one action verb for each learning outcome.

• Focus on what you expect students to be able to demonstrate upon completion of the module.

• Be addressed in some way by the assessment for the module.

• Be written in clear short sentences.

• Be free of ambiguous words and phrases.

Domains of Learning and Choosing Action Verbs

When writing learning outcomes you will need to decide what type of learning students will be demonstrating by each learning outcome. Domains of learning are commonly used as a guide to writing learning outcomes as they encompass the various levels of learning;

- the **Cognitive domain** involving thought processes,
- the **Affective domain** involving attitudes and values, and
- the **Psychomotor domain** involving physical skills.

(Bloom et al, 1956).

These domains are commonly referred to as knowledge, skills and attitudes and are outlined in greater detail below.

The Cognitive Domain

If a learning outcome requires students to demonstrate thought processes, the six categories of the cognitive domain opposite will help you to decide what level of cognition is required.

Use the list of verbs below to help you choose an action verb relevant to this domain.

Knowledge	Learner knows something and can recall information
Comprehension	Learner understands what they know
Application	Learner can apply something in a different context
Analysis	Learner can break something down into components
Synthesis	Learner can create something new by analysis
Evaluation	Learner can make judgements about something

Cognitive Domain – Action Verbs:

Learning which involves thought processes, e.g. understanding, analyzing, evaluating. There are six categories in the cognitive domain: knowledge, comprehension, application, analysis, synthesis and evaluation.

1. Knowledge action verbs - Student knows something and can recall information

Arrange	Identify	Point	Reproduce
Count	Label	Recall	Select
Define	List	Recite	State
Describe	Match	Recognize	Tabulate
Enumerate	Label	Recollect	Write
Examine	Name	Recount	
Find	Order	Repeat	

2. Comprehension action verbs - Student understands what they know

Associate	Describe	Extrapolate	Recognize
Change	Differentiate	Generalize	Restate
Clarify	Discriminate	Give examples	Select
Classify	Distinguish	Identify	Specify
Compute	Estimate	Indicate	Solve
Contrast	Explain	Interpret	Summarize
Convert	Express	Locate	Translate
Decode	Extend	Predict	

3. Application action verbs - Student can apply something in a different context

Add	Divide	Solve	
Assess	Examine	Subtract	
Calculate	Find	Translate	
Change	Interpret		
Choose	Organize		
Classify	Plot		
Complete	Predict		
Compute	Relate		
Discover	Select		

4. Analysis action verbs - Student can break something down into components

Analyze	Connect	Divide	Relate
Appraise	Contrast	Draw conclusions	Recognize
Arrange	Deduce	Examine	Simplify
Break down	Determine	Group	Subdivide
Calculate	Differentiate	Identify	
Categorize	Discover	Infer	
Classify	Discriminate	Order	
Compare	Distinguish	Outline	

5. Synthesis action verbs - Student can create something new by analysis

Arrange	Group	Relate	
Categorize	Integrate	Reorganize	
Combine	Manage	Revise	
Develop	Modify	Summarize	
Explain	Order		
Formulate	Organize		
Generalize	Prescribe		
Generate	Rearrange		

6. Evaluation action verbs - Student can make judgements about something

Appraise	Decide	Rank	Verify
Ascertain	Determine	Rate	
Assess	Discriminate	Relate	
Attach	Estimate	Resolve	
Choose	Explain	Revise	
Compare	Evaluate	Score	
Conclude	Grade	Select	
Consider	Interpret	Summarize	
Contrast	Predict	Value	

Addressing Common Problems Associated with Writing Module Learning Outcomes

One approach to writing learning outcomes is to recognize and understand common problems. This section takes you through an explanation of common problems associated with the writing of learning outcomes and offers examples and solutions. It also demonstrates how to critique a set of learning outcomes for common problems as a means to preparing you to write your own.

Common Problems:

1. Language is too vague or too specific for module level

2. Use of ambiguous words and phrases

3. There are too many learning outcomes

4. There are too many verbs in one learning outcome

5. Overuse of the same verb

6. Inappropriate cognitive level

7. Use of progression

8. Learning outcomes are not realistic

9. Learning outcomes that are not, or cannot be, assessed

1. Language is too vague or too specific for module level

This is where learning outcomes are either written at a broad level more suitable for a programme or where the language is too prescriptive describing actions of a student that may be achievable at the end of a specific lecture rather than an entire module.

Example of an outcome that is too broad: Students will be able to identify and demonstrate the dynamic nature of the environment in which marketing decisions are taken.

Example of an outcome that is too specific: Students will be able to outline the functions of marketing within a financial institution.

2. Use of ambiguous words and phrases

This refers to the use of vague terms like know, understand, learn, be familiar with, be exposed to, be acquainted with, be aware of, appreciate, etc. The main problem with using these verbs/phrases is that they are not universally understood so students or another teacher may interpret them differently.

Questions to consider are: how can you be sure that the students know or understand? and how can they demonstrate that they know or understand?

Example of an outcome with ambiguous words: Students will be able to <u>understand</u> the function, structure and components of the musculoskeletal system.

Suggested alternative: Students will be able to <u>explain</u> the function, structure and components of the musculoskeletal system.

Tips:

• Focus on what the student will actually be able to demonstrate.

• Look at the verbs used in the relating element of the assessment as a guide.

• Use the verbs list at the back of the guidelines for alternative verbs.

3. There are too many learning outcomes

It is recommended at module level to have between four and six learning outcomes.

Tips:

• If you have too many outcomes you may want to consider whether some of the learning outcomes could be combined.

• You may decide that a particular outcome is more relevant to a specific lecture than the entire module in which case you may wish to remove it.

• Use your assessment and what it is measuring to prompt you.

4. Too many verbs in one learning outcome

Too many action verbs in one learning outcome can be confusing as it may not be clear which action is the most important for the student to be required to demonstrate. In the example opposite, consider if the focus for this outcome is on whether students can work in groups or whether they can apply basic principles and how this outcome is, or should be, assessed.

Example of outcome with too many verbs:

Students will have worked in small groups and considered the application of basic principles to different industrial processes.

Tips:

• You may want to question whether some of the outcomes could be combined.

• You may decide that a particular outcome is more relevant to an individual lecture than the entire module and remove it.

• Use your assessment and what it is measuring to lead you to the most relevant verb.

NOTE: There may be instances, where two verbs are co-dependent and consequently relevant to one learning outcome as seen in the example below:

Students will be able to <u>recognize</u> and <u>solve problems</u> relating to the basic concepts of chemical reactions.

5. Overuse of the same verb

In some cases, particularly when finding an alternative for ambiguous words/phrases such as *know, understand* or *be familiar with*, there can be a tendency to find a solution for one learning outcome and repeat it for others.

Tips:

• Ask what the learning outcome requires the student to demonstrate to ensure that what is required of the student determines the chosen verb.

• Use the verbs list at the back of the guidelines to suggest verbs for different learning domains.

• When you replace a verb reconsider the domain of learning it implies to ensure you do not alter the level of learning or alignment to the assessment.

NOTE: In some disciplines such as math there may be a need for repetitive use of words such as 'solve' or 'calculate' where there is no alternative required or possible.

6. Inappropriate cognitive level

This is where there is an over use of verbs that require students to demonstrate knowledge where they may also be required to demonstrate a deeper learning such as analysis, synthesis and evaluation.

Tips:

• Choose the verb based on the relevant domain of learning (see Domains of Learning).

• Use the verb list at the back to select a verb relevant to the level of learning required.

7. Use of progression in learning outcomes

This is where a learning outcome refers to improvement in learning or other phrases that imply progression.

Progression is difficult to measure as the student would need to demonstrate levels of learning at varying points of time. It may be best to remove the reference to progression.

Example of progression in a learning outcome: Students will have an <u>increased proficiency</u> in presentation skills.

Suggested Alternative: Students will be able to demonstrate a proficiency in presentation skills.

8. Learning outcomes that are not practical

This is where learning outcomes are not realizable due to constraints of time and/or resources.

For example a learning outcome might demand an assessment load too great for the students or for the teacher.

Tip:

• Consider the workload and resources of both yourself and your students in relation to each learning outcome and the module learning outcomes as a set.

9. Outcomes that are not, or cannot, be assessed

As the traditional teacher-centered approach involved writing objectives from the point of view of what the teacher intended to deliver, some learning outcomes can address the delivery of content only and are not covered anywhere in the assessment of the module.

Tips:

• Check that each learning outcome is addressed in some way by assessment.

• Check that all elements of the assessment have been included in the set of learning outcomes.