

Faculty of Medicine, Nursing and Health Sciences Guidelines

Guidelines Title	Guidelines for writing learning outcomes – Faculty of Medicine, Nursing and Health Sciences
Parent Policy/Procedure	
Date Effective	16/7/2018
Review Date	July 2020
Guidelines Owner	Deputy Dean Education Faculty of Medicine, Nursing and Health Sciences
Category	Academic Quality and Standards
Version Number	1
Content Enquiries	Email: med-quality-fmnhs@monash.edu
Scope	The guidelines apply to all courses and units in the Faculty of Medicine, Nursing and Health Sciences.
Purpose	These guidelines have been developed to provide clarity for staff on how to develop and use Learning Outcome Statements in teaching and learning at a course, unit and topic level.

1. Why Learning Outcome Statements?

Learning outcome statements are valuable to students, teachers and administrators and support better curriculum design and alignment through explicit connection to learning and teaching activities and assessment tasks (Figure 1). An aligned curriculum requires that if one of the three components are revised or review, a matching review or revision of the other two must be undertaken. Where a curriculum is not aligned – i.e. where there is a discontinuity between any two of the components – it is likely that there will be a mismatch between intention and product (Biggs, 2003).

Learning Outcome Statements are written from a student's' perspective with clear and unambiguous language, and explicitly state what the students will learn, the level of learning required, and how they will demonstrate their learning. They promote transparency and bring clarity to the teaching practice and associated assessments in the curriculum.

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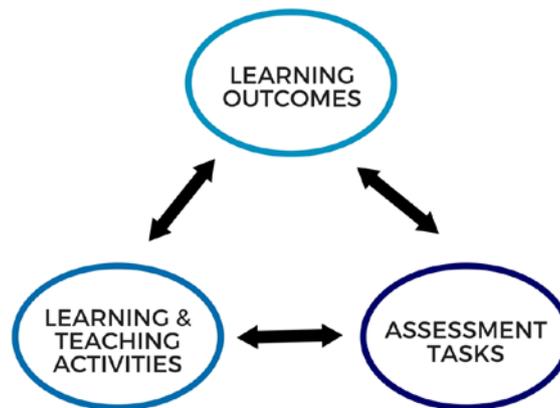


Figure 1: Constructive alignment of learning outcomes, assessment tasks and learning and teaching activities

2. What are the different levels of Learning Outcome Statements I should be aware of?

TEQSA requires learning outcomes and assessments to be aligned at all levels of study and consistent with the Australian Qualifications Framework (AQF) level of the higher education qualification offered. Within the Faculty, Learning Outcome Statements are required at a course, unit, and topic level (a topic may map to a single week or multiple weeks of content within a unit), and alignment between these levels is critical (Figure 2).

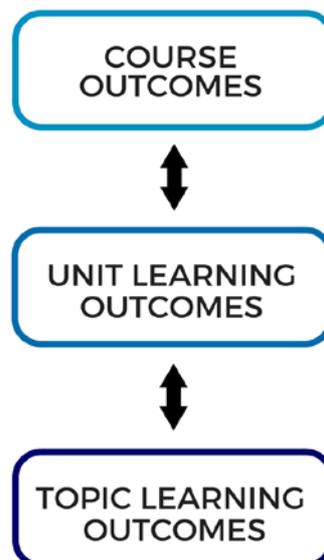


Figure 2: Alignment between course outcomes, unit learning outcomes and topic learning outcomes

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Course Learning Outcomes

Course Learning Outcomes are clear statements of the knowledge and skills that students must develop in order to fulfil the requirements of the course, and must align with the appropriate level of the AQF, Monash Graduate Attributes, Threshold Learning Outcomes and any relevant Industry or Professional Association Standards that may be expected.

“They are expressed in terms of the dimensions of knowledge, skills and the application of knowledge and skills” (AQF Second Edition, January 2013, p. 11).

Unit Learning Outcomes

Unit Learning Outcomes are clear statements of the knowledge and skills that students will be able to do or demonstrate at the completion of the unit, and must align with the Course Learning Outcomes, learning and teaching activities and assessment.

Topic Learning Outcomes

Topic Learning Outcomes are clear statements of the knowledge and skills that students must develop throughout the topic, and must align with the Unit Learning Outcomes. Topic Learning Outcomes continue the 'unpacking' process to its most fine-grained level. For more information on using Topic Learning Outcomes in a teaching plan, see the section 'How do I use Topic Learning Outcomes in my teaching?'

3. How many Learning Outcome Statements are appropriate?

Each course, unit, and topic will be different, however as a general guide, having too many outcomes can risk losing the broader picture of the learning, and too few can cause issues of vagueness and may not be of any real value to the learning.

Course Learning Outcomes. Across the university, an average of eight to ten course learning outcomes is observed for courses and can be used as a guide

Unit Learning Outcomes. There should be between four and six for a six credit point unit. This is appropriated scaled for 12, 18 and 24 credit point units.

Topic Learning Outcomes. The number of learning outcomes depends on the breadth, depth and length of the topic but as a guide may have between two and four for a single topic. What cognitive and knowledge levels are appropriate?

Each course, unit, topic will be different, however all levels of study should be engaging in a spread of both higher and lower order thinking skills. Similarly, all levels of study should be engaging in a range of knowledge levels from factual to metacognitive.

4. Learning taxonomy and useful verbs for designing learning outcomes

Bloom's taxonomy is a widely used classification of learning objectives (descriptors of the knowledge, skills and philosophy of the discipline) used by educators to guide the development of a holistic learning experience. Bloom's taxonomy guides teachers through the process of designing learning activities that give learners the opportunity to develop:

- Knowledge (cognitive domain)
- Practical skills (psychomotor domain) or
- Emotional awareness, values or philosophy (affective domain).

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Anderson and Krathwohl (2001) published a revised version of Bloom's Taxonomy that address the emergence and integration of learning technologies and social media into learning and teaching, and beyond. It changes the language to an active verb form and introduces creating as a higher order thinking skill that is highly valued in the 21st century.

Combining the cognitive dimension with the knowledge dimension representing a range from concrete (factual) to abstract (metacognitive) into a three-dimensional model is shown in Figure 3.

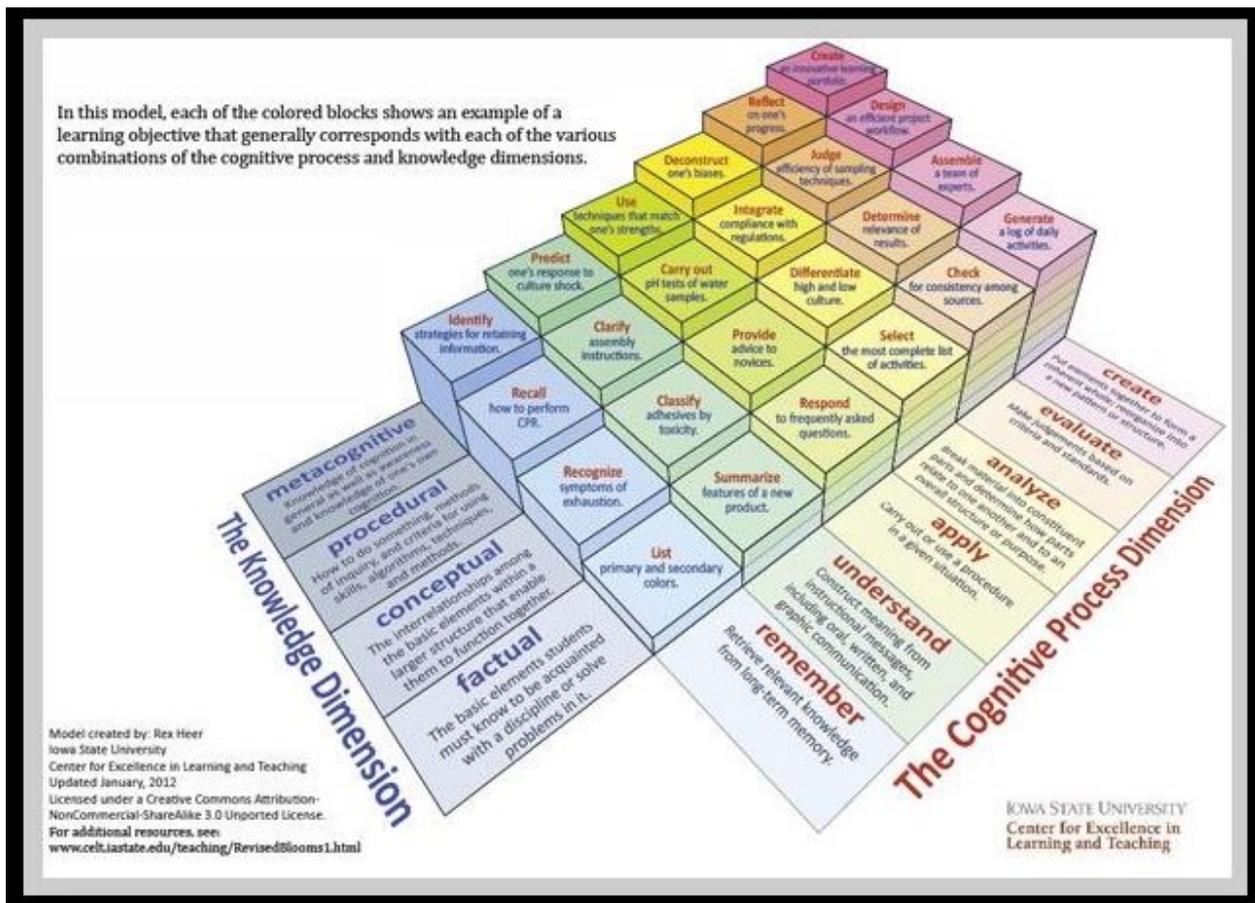


Figure 3: Revised Bloom's taxonomy model after Anderson and Krathwohl (2001) combining knowledge and cognitive process dimensions

Model created by: Rex Heer Iowa State University Center for Excellence in Learning and Teaching Updated January, 2012 Licensed under a Creative Commons Attribution NonCommercial-ShareAlike 3.0 Unported License

All Learning Outcome Statements must be **observable** and **measurable**. Some verbs are difficult to measure, therefore difficult to assess, such as: 'appreciate', 'understand', 'learn', 'take an interest in' and 'become aware of'. These verbs should be avoided for Learning Outcome Statements.

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Verbs used across Bloom's Cognitive Domain	
know, remember	arrange, choose, count, describe, define, draw, enumerate, find, identify, label, list, locate, match, memorize, name, omit, outline, point, quote, read, recall, recite, recognize, repeat, reproduce, select, sequence, state, tabulate, tell, view, write
comprehend, understand	arrange, associate, classify, cite, compute, conclude, convert, defend, demonstrate, describe, discuss, distinguish, estimate, explain, express, generalize, examples, illustrate, indicate, interrelate, interpret, infer, match, paraphrase, predict, represent, restate, rewrite, select, show, summarize, tell, trace, translate
apply	administer, apply, articulate, assess, calculate, change, chart, choose, collect, compute, construct, contribute, control, demonstrate, determine, develop, discover, dramatize, draw, employ, establish, explain, extend, extrapolate, generalize, imitate, implement, interview, interpret, include, inform, instruct, judge, modify, manipulate, organize, paint, participate, predict, prepare, produce, select, show, simulate, sketch, solve, transfer, use
analyse	analyse, arrange, breakdown, categorize, characterise, classify, combine, compare, contrast, debate, deduce, develop, devise, design, detect, diagram, discriminate, differentiate, distinguish, identify, illustrate, infer, limit, order, organise, outline, point out, prioritise, recognise, research, relate, select, separate, subdivide, survey, utilize
evaluate	analyse, arrange, breakdown, categorize, characterise, classify, combine, compare, contrast, debate, deduce, develop, devise, design, detect, diagram, discriminate, differentiate, distinguish, identify, illustrate, infer, limit, order, organise, outline, point out, prioritise, recognise, research, relate, select, separate, subdivide, survey, utilize
create	adapt, anticipate, categorise, collaborate, choose, combine, communicate, compile, compose, construct, create, design, develop, devise, drive, explain, express, formulate, generate, group, hypothesize, incorporate, individualise, initiate, intervene, invent, justify, make model, modify, negotiate, originate, organize, perform, plan, pretend, produce, progress, propose, rearrange, reconstruct, reinforce, reorganise, revise, rewrite, role play, structure, substitute, tell, transform

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5. What are the components of Learning Outcome Statements?

Typically, Learning Outcome Statements contain four elements:

1. **Stem** - a lead-in statement, usually in future tense.
2. **Verb** - indicates what the student is expected to do.
3. **Content/focus** - indicates the process, product or behaviour.
4. **Context** - indicates specific conditions or context that may or may not be required.

Example: On completion of this unit, students will be able to (*stem*) explain (*verb*) the modes of professional communication within professional relationships (*content*) focussed on fitness for practice (*context*).

6. How do I write Learning Outcome Statements?

Here is an example on electrolyte balance:

Step 1: Identify the content

List the key content areas of the topic/week/module.

1. The key electrolytes relevant to a given patient's fluid balance problem
2. How to calculate the patient's fluid, electrolyte and acid-base losses & requirements
3. How to interpret the patient's fluid balance chart

Step 2: Choose a verb

Think about the two levels concerned with the task and content: the Cognitive Process Dimension and the Knowledge Dimension. Choose an appropriate verb within Bloom's taxonomy to reflect the task and content.

Step 3: Rephrase the statement

Take the content area/task from Step 1, and the verb from Step 2, and rephrase as statement of learning outcome. Begin with the stem 'Students will be able to: ...

Students will be able to:

1. Identify the key electrolytes relevant to a given patient's fluid balance problem
2. Calculate the patient's fluid, electrolyte and acid-base losses & requirements
3. Accurately interpret the patient's fluid balance chart.

7. How do I use Topic Learning Outcomes in my teaching?

Educators often begin planning their teaching by listing the content they want to cover and then arranging the order in which that content will be delivered. A more effective starting point, however, involves the educator moving from this teacher-centred view of the process (What content do I want to cover/will the unit cover?) to a position that starts with the students – What do I want the students to have learnt by the end of the topic. Situations need to be created in which the students do observable things that are evidence of their learning. This means student behaviour needs to be the focus of the learning outcomes, and the focus of assessment should be on getting the student to produce evidence of this learning.

- **The outcome:** What do I want the students to have learnt by the end of the topic?
- **The teaching activities:** How can I help the students learn this?
- **Directed student activities:** What will the students need to do?
- **The link to assessment:** How can they provide evidence of this? Or, what will you be looking for to determine that learning has occurred?

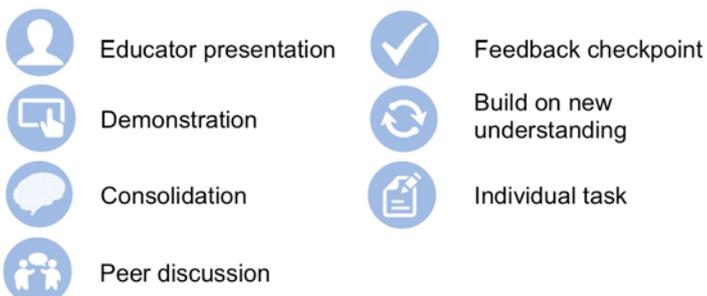
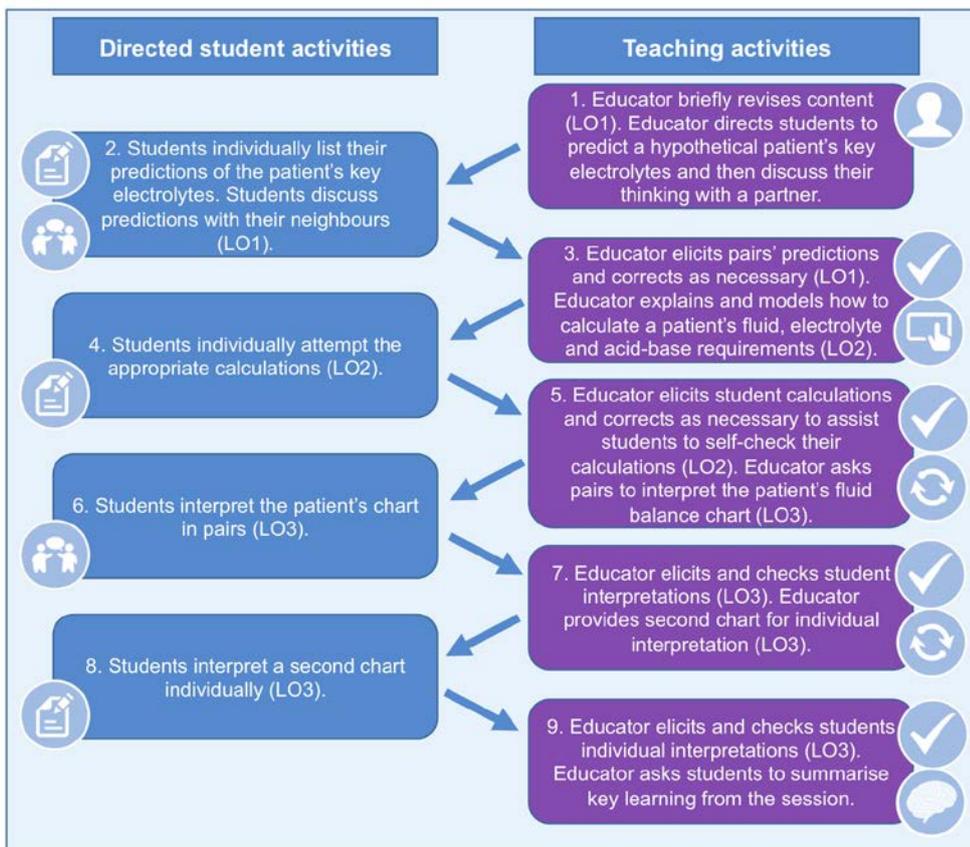
Learning outcomes should be achievable within the timeframe allocated, as well as through assessment activities. Here's what the electrolyte tutorial plan could look like with an active learning approach:

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Learning outcomes: students will be able to:

1. Identify the key electrolytes relevant to a given patient's fluid balance problem.
2. Calculate the patient's fluid, electrolyte and acid- base losses & requirements.
3. Accurately interpret the patient's fluid balance chart.

A schematic below outlines the steps and activities undertaken by the teacher and student in fulfilling the requirements of the learning outcomes.



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Responsibility for implementation	Office of the Deputy Dean Education Quality Unit
Status	New
Approval Body	Name: Faculty Learning and Teaching Committee Meeting: 3/2018 Item: 7.3 Date: 16/7/18
Definitions	
Related Policies	
Related Documents	<p>Australian Qualifications Framework AQF (2013), Second Edition, Australian Qualifications Framework Council, www.aqf.edu.au.</p> <p>Anderson. L. W, Krathwohl. D. R, Airasian. P. W, Cruikshank. K. A, Mayer. R. E, Pintrich. P. R, Raths. J and Wittrock. M. C. (eds) (2001) A Taxonomy for Learning, Teaching and Assessing, London, Longman.</p> <p>Biggs. J. (2003) Teaching for Quality Learning at University – What the Student Does 2nd Edition SRHE / Open University Press, Buckingham.</p>