

Faculty Development – Setting learning objectives

Definitions

This module explores some key educational concepts and applies them to clinical teaching and learning situations. Education uses a range of terms – aims, learning outcomes, learning objectives, competencies – to describe what learners should achieve as a result of educational interventions. This can be confusing, but it is often important that end points are clearly defined before the learning takes place. It is like planning a journey, if you don't know where you intend to go before you start, you may end up where you don't want to be

The term *aim* is usually used to define what the programme or teacher is trying to achieve overall. It tells participants what the programme or session is about. For example:

‘the aim of this session is to revise the principles of resuscitation and test your learning with a quiz’;

Distinctions between the terms ‘*learning objectives*’ and ‘*learning outcomes*’ have been under debate in medical education for more than 20 years. Learning objectives state the observable and measurable behaviours that learners should exhibit as a result of participating in a learning programme. An example of a learning (or instructional objective) would be:

‘on completion of this course, the learner should be able to describe the common causes of a unilateral headache in an adult’;

or

‘by the end of this teaching session the trainee should be able to aspirate a knee joint without undue discomfort to the patient’;

Latterly, there has been a shift from defining such specific instructional objectives to providing more broad-based learning outcomes that are intended to arise as a result of the programme. Harden suggests that learning outcomes (which underpin the ‘outcome-based education’ model) are essentially more ‘intuitive and user-friendly’ than objectives, that they are ‘broad statements’ that recognise the authentic interaction and integration in clinical practice of knowledge, skills and attitudes and the artificiality of separating these’ (2002, p. 151). We can think of outcomes as ‘learner goals’.

For example:

‘Graduates must know about biological variation, and have an understanding of scientific methods, including both the technical and ethical principles used when designing experiments’ (GMC, 2003, p. 6).

Increasingly, at postgraduate level, learners are required to demonstrate specific competencies. An example around history-taking at F1 level might be that the doctor:

‘routinely undertakes structured interviews ensuring that the patient’s concerns, expectations and understanding are identified and addressed’;

or

‘demonstrates clear history taking and communication with patients’; (Foundation Curriculum, 2005).

In practice, the terms ‘objectives’, ‘outcomes’ and ‘competences’ are often used interchangeably.

Grant notes that:

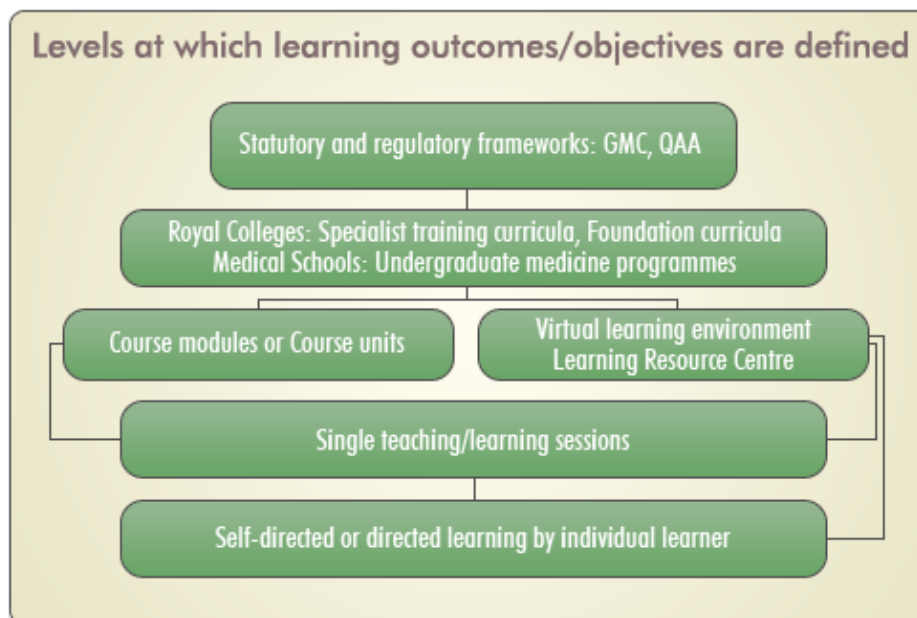
‘what is important is fitness for purpose, and the main purposes of stating the intended learning achievements of the curriculum are to:

- inform learners of what they should achieve
- inform teachers about what they should help learners to achieve
- form the basis of the assessment system, so that everyone knows what will be assessed
- reflect accurately the nature of the profession into which the learner is being inducted and the professional characteristics that must be acquired’; (2007, p. 21).

Defining outcomes also helps us achieve what Biggs (1996) calls ‘constructive alignment’, where objectives, teaching methods and assessments are aimed at delivering the same thing. It is not just in face-to-face teaching where learning outcomes need to be aligned; learning materials, library and online support all have to be constructed to help the learner achieve the specified outcomes of the training programme.

Learning objectives and learning outcomes

In formal education, learning generally takes place within a predetermined framework where the specificity of outcomes at each stage increases towards the bottom of an educational hierarchy (see figure below). As we have seen, it is also vital that there is alignment between the learning outcomes or objectives at each level, so that learning "makes sense" in terms of the individual learner"s journey.



For example, the GMC defines very broad goals or outcomes in the documentation that supports the training of medical students.

Tomorrow"s Doctors (2003, p. 8) states that in order to provide good clinical care, "graduates must be able to show that they can meet the following outcome: know about, understand and be able to apply and integrate the clinical, basic, behavioural and social sciences on which medical practice is based".

The Quality Assurance Agency (for Higher Education) produces subject benchmarks for each subject discipline, including medicine (QAA, 2002), as well as defining a framework for programmes at undergraduate, masters and doctoral levels (QAA, 2001). And in Good Medical Practice, the GMC sets out the principles that form the basis of medical education at all levels. As well as defining the expectations of doctors in clinical practice, Good Medical Practice includes the roles of doctors as

teachers, supervisors and appraisers: ‘If you are involved in teaching you must develop the skills, attitudes and practices of a competent teacher’ (2006, p. 14).

These overarching statements are interpreted and developed further by Royal Colleges and medical schools to generate curricula, often defined as broad outcomes, but which are then developed into much more specific outcomes or objectives at programme, course, module and unit level. These are often framed in terms of knowledge, clinical or professional skills/competencies and attitudes. For Foundation and Specialty Training programmes, learning outcomes may be defined in generic terms as well as more specifically relating to the clinical context and level.

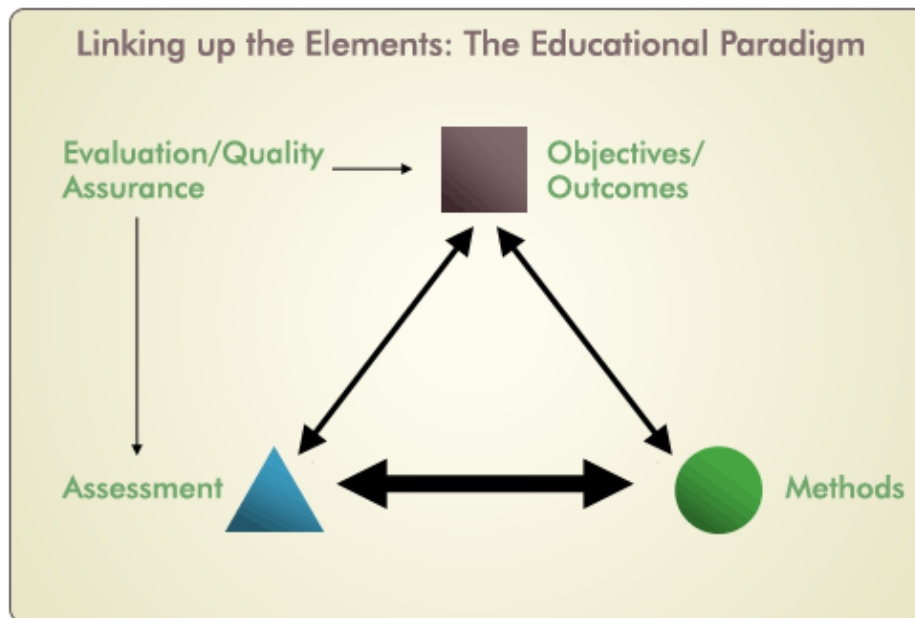
For example the ‘Standards for training for the Foundation programme’ states that the overall Foundation curriculum must be implemented at local level through ‘a clear programme description that outlines how the competences, including general professional competences, will be covered in the placements and what evidence and information will inform a judgement about the performance of the trainee’ (PMETB and GMC, 2006, p. 7).

At the level of the individual teaching event, further specificity is required as the intended outcomes of a particular educational intervention, teaching or supervision session, are tailored to the needs of individual learners.

Learning outcomes or objectives can be seen as the building blocks of any learning programme or teaching/learning event, and also as one of the keys that help all aspects of a programme link together.

The educational paradigm

The diagram below shows how learning outcomes interrelate with teaching and learning methods, assessment, and evaluation and quality assurance. The teacher's role is to ensure that each session integrates with the whole curriculum by providing opportunities for learners to achieve the stated objectives and thus be capable of passing assessments.



When planning a session or programme, paying attention to how the objectives or outcomes will be achieved (through appropriate teaching and learning methods), assessed and evaluated requires active and overt consideration of the educational process: the interaction of teachers, students and knowledge. Stenhouse (1975) thought of an objective-led curriculum as an educational 'straghtjacket', proposing a shift to a process-driven model in which the facilitation of learning is the central concern, and outcomes become unpredictable. Hussey and Smith (2008) call this the 'corridor of tolerance', allowing space for learning outcomes to emerge through the learning process.

Later writers, such as Grundy (1987), suggest that any curriculum is continually mediated and developed, a concept which in some ways can lead to uncertainty, particularly in medicine, where one of the requirements of training is that learners need to acquire specific competences. Defining very detailed instructional objectives is highly appropriate if, for example, we are trying to specify the core components of a clinical skill, but it can sometimes detract from the learning process and lead to an educationally impoverished curriculum.

A thoughtful curriculum includes outcomes with varying levels of detail, enabling the achievement of tasks, while acknowledging the importance of the process of learning. Health professions' curricula are now re-emphasising the importance of students and trainees having opportunity

to become immersed in clinical contexts and learning through experience. An example of a process objective might be: ‘to spend time with the district nurse and explore how the service works’.

See [Curriculum design and development](#) in ‘Explore around this topic’ for more information about the wider aspects of course planning and design, including curriculum mapping and how learning outcomes relate to setting assessment criteria as part of curriculum alignment.

Some theory

Two educational models help us understand how learning outcomes or objectives relate to learner's professional development as they move along the 'novice to expert' continuum.

The first is found in Bloom's Taxonomy of Objectives in the Cognitive Domain (1956), which describes how learning objectives related to cognitive development increase in complexity as learners develop deeper understanding, start to apply this knowledge, and ultimately synthesise and evaluate what they have learned. See also [Learning theories](#) in 'Explore around this topic'. You will recognise from your own experience, that as your clinical understanding developed, you became better able to handle complex information from multiple sources and synthesise it quickly and precisely to make consistently accurate diagnoses and decisions.

The diagram below shows how the six levels increase in complexity as learners advance through formal education. Bloom's model can be used to help write learning objectives or outcomes where they are mapped on to the appropriate level, depending on what learners are expected to achieve. A common mistake in writing outcomes is that they are at the wrong level; either expecting learners to be able to do something for which they are not yet ready, or inappropriately linking them to particular teaching and learning methods or assessments.

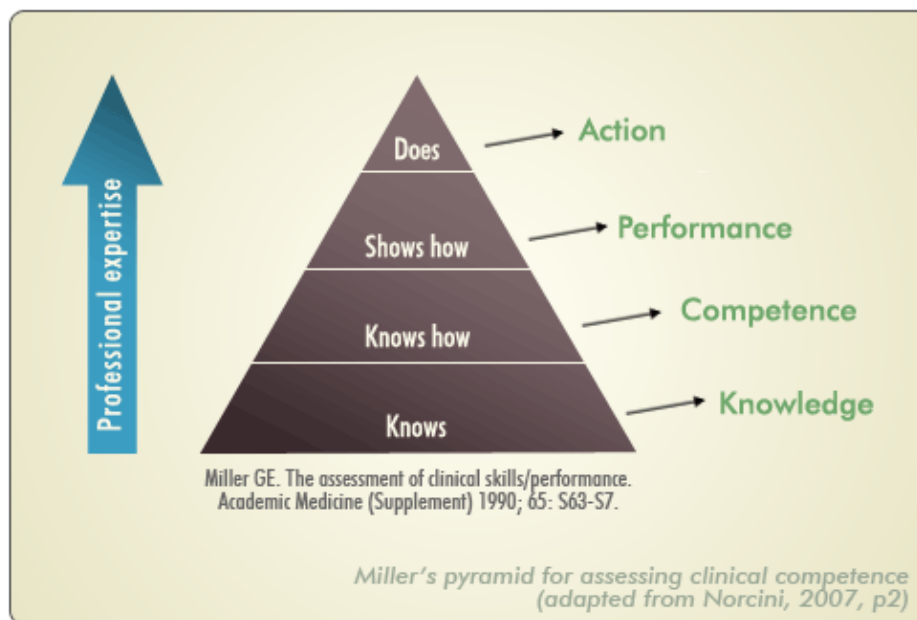


For example, it would probably be unrealistic for one of the learning outcomes for first-year medical students in their first term to be: 'to be able to evaluate the impact of rationing

herception on the long-term survival rates of breast cancer patients in the UK. They would not have had the range of information, the experience or the strategic overview at that stage to be able to carry out the task. If you set the same learning outcome for someone studying a public health masters degree, then it would probably be entirely feasible and appropriate. Learners also tend to need to work up to the higher-level outcomes. They need the underpinning knowledge before they can understand, apply it, synthesise and so on. Although this model runs somewhat counter to more experiential learning approaches in which learning happens 'by doing' (Kolb, 1984), Bloom's Taxonomy has been highly influential in all areas of education

When planning sessions, build in opportunities (even if they are quick checks and rechecks) to make sure that learners have the background knowledge and understanding before you move into the higher-level domains.

Another model that is particularly useful for thinking about learning outcomes in relation to assessment of clinical competence is Miller's (1990) pyramid.



This model is similar to Bloom's Taxonomy in that there is a marked shift (as professionals develop expertise) from being able to demonstrate knowledge that underpins clinical competence (for example knowing the theory – learned from video, demonstration and reading – about how to take a history or examine an abdomen) to 'doing in action' where theory (intellectual skills), psychomotor skills and professional attitudes are synthesised and internalised into a seamless routine that can be carried out in different contexts.

Both these models help us to match learning outcomes with what we might expect the learner to be able to do at any stage. Learning outcomes, and their assessment, for students or trainees, usually relate to knowledge

and understanding at a more basic level — possibly in an artificial or limited context — than the actual high-level performance expected of consultants.

Writing learning outcomes or learning objectives

Taking the two models as a backdrop, how do you write learning objectives or outcomes?

Learning outcomes specify the intended endpoint of a period of engagement in specified learning activities. They are written in the future tense and should clearly indicate the nature and/or level of learning required to achieve them successfully. They should be achievable and assessable and use language that learners (and other teachers) can easily understand. They relate to explicit statements of achievement and always contain verbs. Objectives should be SMART: Specific, Measurable, Achievable, Realistic and Timebound.

Individual outcomes should relate to one of the three domains described by Bloom (1956):

- cognitive (knowledge and intellectual skills)
- psychomotor (physical skills)
- affective (feelings and attitudes).

Outcomes and objectives should avoid ambiguity or over-complexity

The table below lists the elements of the cognitive domain with a brief description, and then some useful verbs that can be used to map the learning outcome on to the relevant level.

Bloom&rsquo;s Taxonomy: cognitive domain	Description	Useful verbs for outcome-level statements
Evaluation	Ability to judge X for a purpose	Judge, appraise, evaluate, compare, assess
Synthesis	Arranging and assembling elements into a whole	Design, organise, formulate, propose
Analysis	Breaking down components to clarify	Distinguish, analyse, calculate, test, inspect
Application	Using the rules and principles	Apply, use, demonstrate, illustrate, practise

Comprehension	Grasping the meaning but not extending it beyond the present situation	Describe, explain, discuss, recognise
Knowledge	Recall of information previously presented	Define, list, name, recall, record

Some examples

When writing objectives, always start with a 'stem' phrase, such as:

At the end of this session, learners will be able to…

We write this in the future tense. Then use a verb, that states specifically what the learners will be able to do (e.g. 'demonstrate') and which relates to the relevant domain described by Bloom (1956) (in terms of knowledge, skills or attitudes) followed by a clear statement of the topic of interest (e.g. that they can administer an intramuscular injection).

Knowledge objectives (which relate to the cognitive domain)

An example of a knowledge based objective (at the level of 'comprehension') might be: 'at the end of this session, learners will be able to *describe* the key features of hypertension in adults'.

For this learning objective, typical teaching and learning methods might be a lecture, seminar or tutorial, problem-based learning case or clinical scenario. We are not asking the learners to apply this knowledge at this point, and so any assessment would aim to assess that the learners understood and could recall accurately the key features of hypertension in adults.

Skills objectives (psychomotor domain)

Bloom suggested that these should be written in terms of competence. He called this the psychomotor domain (although this taxonomy was completed by others) and ascribed to it five levels:

- imitation (observes skill and tries to reproduce it)
- manipulation (performs skill from instruction)
- precision (reproduces skill with accuracy and proportion)
- articulation (combines one or more skills in sequence with harmony and consistency)
- naturalisation (completes skilful tasks competently and automatically).

Note how the similarity to Miller's pyramid.

An example of a skills-based objective at the level of 'precision' would be 'at the end of the training session, learners will be able to insert a cannula into a vein accurately without causing a haematoma'.

Teaching and learning methods for this domain may well include some background knowledge (in this case some anatomy and physiology or running through the range of equipment needed), but for learners to perform this skill accurately, they need to practise. This may be on models or, with supervision and feedback, with patients. Assessment of competence would involve a number of observations, not simply asking the learner to describe what they would do.

Attitudinal objectives (affective domain)

Attitudinal objectives are often seen as the most difficult to write because they describe patterns of observable behaviour. Bloom called this the affective domain and again it has five levels:

- receiving (aware of external stimuli, e.g. listening)
- responding (complies with expectations in response to stimuli)
- valuing (displays behaviour consistent with a single belief without coercion)
- organising (shows commitment to a set of values by behaviour)
- characterising (behaviour consistent with a value system).

An example at this domain (at the level of ‘responding’) might be: ‘at the end of the communications skills course, learners will be able to *demonstrate awareness* of cultural differences in working with actors as simulated patients in three different clinical scenarios’.

This learning objective focuses on the learners being able to show that they have understood and can respond to different (pre-defined in this case) cultural issues with which patients may present. This objective states clearly that learners are not being expected to demonstrate this awareness outside a simulated context, so not in the ‘real world’ of the ward or clinic.

Lesson planning

It is at the level of the individual lesson or teaching session that clinical teachers need to integrate the learning needs of their students or trainees with defined learning objectives. This can be achieved by asking four fundamental questions when planning teaching (adapted from Spencer, 2003, p. 251).

1. Who am I teaching? The number of learners and their level.
2. What am I teaching? The topic or subject, the type of expected learning (knowledge, skills, behaviours).
3. How will I teach it? Teaching and learning methods, length of time available, location of teaching session, access to patients, internet resources, clinical skills models, etc.
4. How will I know if the students understand? Informal and formal assessments, questioning techniques, feedback from learners.

You might also want to ask:

- What do they know already?
- Where have they come from and what are they going on to next?
- What do the learners want as a result of your teaching and how can I find this out?
- How can I build in sufficient flexibility cope with emergent needs?

For each teaching session it helps to formulate a 'lesson plan'. This may be very detailed or a simple broad-brush outline, but before each session, you should:

- define your aims and learning outcomes or objectives
- think about the structure of the session and timing of activities
- decide on the best teaching and learning methods to achieve the learning outcomes
- list content and key topics, and research more if needed
- refine lesson plan
- identify learning resources and support materials
- finalise any linked assessment or evaluation.

A practice tip is at the start of the session to build in time for students and trainees to define their own learning needs and then translate their learning needs into achievable outcomes.

See the [Lesson plan](#) in the [Teachers Toolbox](#).

Common pitfalls and how to avoid them

Careful planning helps teachers avoid some common pitfalls when setting learning outcomes for teaching and learning activities. The Table below lists some ways that these might be avoided.

Some pitfalls	⋯and how to avoid them
Trying to achieve too much in one session	Plan the session carefully, and allow time for discussion, activities and reflection
Trying to cover too many learning outcomes	Stick to a small number of learning outcomes (fewer than five) and be as specific as you can in terms of exactly what you are expecting the learners to be able to do at the end of the session
Learning outcomes not linked to the programme or to learner needs (level, etc.)	Make sure you know and understand the programme outcomes, the assessments the learners are working towards and the expectations of you by course organisers, particularly the outcomes and assessments that relate specifically to your session(s) Include informal and formal activities that help you understand and identify the needs of the learners
Learning outcomes defined at the wrong level (re Bloom)	Think carefully about exactly what you are expecting the learners to be able to do, think about their ‘learning journey’: their prior learning and the stage they have reached
Learning outcomes in the wrong domain (re Bloom: cognitive, psychomotor, affective)	Map the learning outcomes on to the domains, split objectives that cover more than one domain and design the teaching to enable learners to achieve all the

	<p>outcomes. If you are assuming that learners have the underpinning knowledge or earlier practice to carry out a complex skill, check it out, or break the skill down into sub-objectives</p>
<p>Learning outcomes not specific enough, don't define exactly what you want them to be able to do</p>	<p>Practise writing them and think about how you might assess the objective</p>
<p>Learning outcomes not linked to teaching and learning methods</p>	<p>Select the teaching and learning methods that help learners achieve the outcome (level, domain), e.g. if skills, need demonstration, practice (simulation &ndash; real), possibly broken down into steps, build in feedback, not just reading about it or watching a video</p>
<p>Learning outcomes not linked to assessment</p>	<p>Always link the learning outcomes to an assessment (formative or summative), i.e. how will you and the learner know that they have achieved the outcome satisfactorily? Make sure the assessment assesses the right domain so that skills are assessed by practical clinical assessments such as OSCEs</p>
<p>Learning outcomes not practical or feasible</p>	<p>Often there are too many learning outcomes specified to be covered in the time available or with the number or stage of learners. Check out equipment, rooms, other resources and facilities</p>
<p>Learning outcomes not linked to evaluation, little capacity to review and change</p>	<p>If you are told what the outcomes are rather than setting them for yourself, be aware of the process by which you can feed back to course organisers about how the session has worked. Think about making the links between learning outcomes, teaching and learning</p>

methods, assessment and evaluation transparent so that you can refresh the curriculum. Don't assume that the learning outcomes are set in stone. Update them according to external changes, research and medical advances

Setting learning outcomes: maximising opportunities

There are many opportunities for setting learning outcomes with learners on a day-to-day basis. Spencer's article 'Learning and teaching in the clinical environment' (2003) describes a range of aspects and activities concerned with helping clinical teachers to optimise teaching and learning opportunities that arise in daily practice, such as planning, using appropriate questioning techniques and teaching in different clinical contexts. Such techniques often involve discussing learners' performance or understanding, but the techniques are built into everyday practice.

Those setting learning objectives can help the learner to move through the stages in the 'competency model' of professional development (Proctor, 2001; Hill, 2007) as shown in the table below.

	Unconscious incompetence	Conscious incompetence	Conscious competence	Unconscious competence
<i>Learner</i>	Low level of competence. Unaware of failings	Low level of competence. Aware of failings but not having full skills to correct them	Demonstrates competence but skills not fully internalised or integrated. Has to think about activities	Carries out tasks with conscious thought. Skills internalised and routine. Little or no conscious awareness of detailed processes involved in activities
<i>Clinical teacher: setting learning objectives or learning outcomes</i>	Sets achievable learning outcomes for individual or group in alignment with the programme outcomes and identified individual needs	Sets achievable learning outcomes, helps learners set own outcomes, including study/learning or practical skills. Knows where learners can find out more and gain skills	Reminds of overall programme goals, aims and outcomes to ensure alignment. Moves towards a more learner-led approach as learner shifts towards 'expert' position – expects learner to be able to identify majority of learning needs	Reminds of clinical updates and opportunities for gaining higher-level knowledge, skills. Links to revalidation, appraisal, peer review and other forms of professional

To sum up

Setting learning objectives is a central activity for clinical teachers and the concept of pre-determined intended outcomes underpins most formal teaching, learning and assessment activities. Opportunities for setting learning objectives arise in formal, planned educational activities as well as in more informal 'moment-to-moment' situations. Clinical teachers can optimise teaching and learning opportunities that arise in daily practice, and support learners' professional development, through an in-depth understanding of the programme of study in which the learner is engaged, effective lesson planning and a continuous monitoring of learners' needs.

Congratulations

You have now reached the end of the module. Provided you have entered something into your log you can now print your certificate. To generate your certificate please go to 'my area' and click on 'complete' in the course status column. Please note, you will not be able to print your certificate unless you have entered something in your 'reflections area'.

Please now take a moment to evaluate the course and enter your comments below.

Further Information

This module was written by Judy Mckimm, Senior Lecturer (Interprofessional Education), Faculty of Medical and Health Sciences, University of Auckland; Visiting Professor of Healthcare Education and Leadership, University of Bedfordshire and Honorary Professor in Medical Education, Swansea University. The module relates to areas 1, 3 and 5 of the Professional Development Framework for Supervisors in the London Deanery.

Teachers' toolkit

[Course mapping matrix](#)

[Curriculum development proforma](#)

[Steps in curriculum development](#)

[Lesson planning checklist](#)

References

Biggs, J (1996) Enhancing learning through constructive alignment, *Higher Education*, 32, 347–364

Bloom BS (ed.) (1956) *Taxonomy of Educational Objectives: the classification of educational goals*. Susan Fauer Company.

General Medical Council (2003) *Tomorrow's Doctors*.
www.gmc-uk.org/education/undergraduate/undergraduate_policy/tomorrows_doctors.asp (accessed 10 September 2007).

General Medical Council (2004) *Good Medical Practice*.
www.gmc-uk.org/guidance/good_medical_practice/GMC_GMP.pdf (accessed 10 September 2007).

Grant J (2007) *Principles of Curriculum Design*. Association for the Study of Medical Education, Edinburgh.

Grundy S (1987) *Curriculum: product or praxis?* Falmer Press, Lewes.

Harden RM (2002) Learning outcomes and instructional objectives: is there a difference? *Medical Teacher*. 24: 151–5.

Hussey, T and Smith, P (2008) Learning outcomes: a conceptual analysis, *Teaching in Higher Education*, 13(1), 107–115

Hill F (2007) Feedback to enhance student learning: facilitating interactive feedback on clinical skills. *International Journal of Clinical Skills*. 1: 21–4.

Kolb DA (1984) *Experiential Learning: experience as the source of learning and development*. Prentice Hall, Englewood–Cliffs, NJ

Miller G (ed.) (1961) *Teaching and Learning in Medical School*. Harvard University Press, Cambridge, MA.

Norcini J (2007) *Workplace–based Assessment in Clinical Training*. Association for the Study of Medical Education, Edinburgh.

PMETB and GMC (2006) *Standards for training for the Foundation Programme*. www.gmc-uk.org/education/documents/Standards_for_Training_270307.pdf (accessed 10 September 2007).

Proctor B (2001) Training for supervision attitude, skills and intention. In: Cutcliffe J, Butterworth T and Proctor B (eds) *Fundamental Themes in Clinical Supervision*. Routledge, London.

Quality Assurance Agency for Higher Education (2002) *Subject benchmark statement for Academic Standards in Medicine*. www.qaa.ac.uk/academicinfrastructure/benchmark/honours/medicine.asp (accessed 12 September 2007).

Quality Assurance Agency for Higher Education (2001) *Frameworks for higher education qualifications in England, Wales and Northern Ireland*. www.qaa.ac.uk/academicinfrastructure/FHEQ/default.asp (accessed 12 September 2007).

Sadler DR (1989) Formative assessment and the design of instructional systems. *Instructional Science*. 18: 119–44.

Spencer J (2003) ABC of learning and teaching in medicine: learning and teaching in the clinical environment. *British Medical Journal*. 326: 591–4. <http://tinyurl.com/2po6xx> (accessed 23 July 2007)

Stenhouse L (1975) *An Introduction to Curriculum Research and Development*. Heineman, London.

Further reading

General

Anderson LW et al. (eds) (2001) *A Taxonomy for Learning, Teaching, and Assessing: a revision of Bloom's Taxonomy of Educational Objectives*. Addison Wesley Longman, New York.

Learning outcomes in medical education

AMEE (1999) *AMEE Education Guide No 14: Outcome based education*. Dundee, Association for Medical Education in Europe

Professional development in medical education

Evans A, Ali S, Singleton C, Nolan P and Bahrami J (2002) The effectiveness of personal education plans in continuing professional development: an evaluation. *Medical Teacher*. 24: 79–84.

Launer J (2006) *Supervision, Mentoring and Coaching: one-to-one learning encounters in medical education*. Association for the Study of Medical Education, Edinburgh.

Newman P and Peile E (2002) Valuing learners' experience and supporting further growth: educational models to help experienced adult learners in medicine. *British Medical Journal*. 325: 200–2.

Course Glossary

Aim

An aim in educational terms, is a brief statement of intent, indicating the scope and range of intended learning outcomes that the educational episode has been structured to address.

Appraisal

A positive and ongoing process to provide feedback on performance, review progress and plan action. The appraisal interview or discussion is a key part of the process where strengths and areas for improvement are summarized and agreed and a formal development plan is made.

Assessment

Assessment is the term used to indicate an appraisal of students' performance. Typical formal assessments in medicine include written examinations, Multiple choice questionnaires (MCQ), observations of clinical or communication skills, Objective Structured Clinical Examinations (OSCEs) and Multi-Source Feedback (MSF). Assessments may be summative (where the marks gained contribute to a formal grade or award) or formative (where the focus is on providing feedback for ongoing development).

Class

Class refers to hierarchical differences between individuals or groups in societies or cultures . Factors that determine class may vary widely from one society to another. However, economic disadvantage and barriers to access services are major issues within class discrimination.

Competences

Competences are similar to objectives and outcomes in that they provide a means of specifying and detailing practical skills in relation to the ultimate intended performance that the competences underpin (Grant, 2007, p 21). The use of competences has been widespread in practical vocational subjects such as healthcare, management and engineering. Competence based curricula can be used as a basis for learning and teaching, for assessment and to help ensure professional accountability. Programmes for professions such as medicine usually include specific practical competences and the integration of more complex skills, knowledge and behaviours.

Competencies

In assessment terms competencies refer to a set of professional abilities that includes elements of knowledge, skill, attitudes and experience. Competencies are similar to objectives and outcomes in that they provide a means of specifying attributes in relation to the ultimate intended performance that the competencies underpin (Grant, 2007, p 21). The use of competencies has been widespread in practical vocational subjects such as healthcare, management and engineering. Competence based curricula can be used as a basis for learning and teaching, for assessment and to help ensure professional accountability. Programmes for professions such as medicine usually include specific practical competences and the integration of more complex skills, knowledge and behaviours.

Curriculum

A detailed schedule of the teaching and learning opportunities that will be provided (GMC, 2004)

Curriculum

The GMC, 2004 described the curriculum as a detailed schedule of the teaching and learning opportunities that will be provided. A curriculum is a statement of the aims and intended learning outcomes of an educational programme. It states the rationale, content, organization, processes and methods of teaching, learning, assessment, supervision, and feedback.

Disability

The definition of disability outlined by the Disability Discrimination Act 1995 covers anyone with an impairment which has a substantial and long-term (at least 12 months) effect on their ability to carry out day-to-day activities such as mobility, speech, hearing or eyesight, memory or ability to concentrate, learning or understand, continence. The definition also includes long-term illnesses such as HIV, cancer and multiple sclerosis, from the point of diagnosis.

Learning Outcomes

Learning outcomes are similar to learning objectives in that they specify the intended outcomes of the programme of study. These should be stated in clear and specific terms and should be developed along with a specification of the learning experiences that will allow the outcomes to be achieved.

Learning objectives

Grant describes learning objectives as "the specific knowledge, skills and attitudes that the student will display at the end of (a) course" (p20, 2007). The earliest (and very pervasive) objectives models of education were linked to behaviourist theories and 'transmission' models of learning, emphasizing measurable, observable behavioural achievements that can be clearly and rigorously assessed. Later models considered problem solving or expressive outcomes as being more flexible than behavioral objectives.

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Supervision

Usually a formal one-to-one relationship, focussed around professional conversations to help the supervisee develop reflective professional practice, learning and skills with the aim of improving patient care.

2. Setting learning objectives in informal situations

When working with students or trainees, there are many informal opportunities to ‘teach’ or facilitate learning. This activity asks you to devise some personal techniques and strategies for building setting learning objectives into your day-to-day clinical teaching so that it becomes part of your teaching routine.

- Using some of the background learning and techniques covered in this module, write down and plan how you could build opportunities into day-to-day clinical teaching for setting learning objectives. You may find Spencer’s (2003) article a useful starting point for thinking about this in a structured way.
- Build these opportunities into two or three teaching sessions. These might be simple techniques such as simply asking learners what they hope or want to learn, defining two or three objectives for what you are about to do, using questioning techniques and signposting throughout the learning event or a check at the end to see whether learning was effective.
- Reflect on how this worked in practice. Did it help to make the learning more effective? Did it make your teaching more difficult? What were the key practical effects on the teaching?
- Review your teaching practice and plan how you will change your teaching to incorporate the learning from this activity

3. Setting educational objectives with individual learners

There are many occasions when clinical teachers or supervisors are required to work with individual students or trainees to formally set educational (learning) objectives. Using some of the models and frameworks from the module (such as Bloom’s Taxonomy or Miller’s pyramid) work with a learner on two or three occasions to structure the way in which the educational objectives are agreed and defined.

For example, you may wish to set objectives in terms of knowledge, skills and attitudes, aiming to include objectives in all three ‘domains’. For skills objectives, think about the level of competence it is realistic to expect from the learner at their particular stage of learning.

Try to make each objective SMART (Specific, Measurable, Achievable, Realistic and Timebound), think carefully about exactly what you expect from your student or trainee.

Finally, use the ideas from Bloom’s Taxonomy to use appropriate verbs to map learning outcomes onto the appropriate level.

Take some time to reflect on how using the models and frameworks worked for you:

- What worked well?
- What didn't?
- What further information or learning do you need?
- What did the student or trainee think?