

Competency based learning and assessment

Overview

Competency based assessment is a process where an assessor works with a trainee to collect evidence of competence, using the benchmarks provided by the unit standards that comprise the national qualifications.

It is not about passing or failing a candidate and evidence collection is more than just setting a test. During a semester a trainee may be required to undertake a series of tasks for assessment purposes such as assignments, projects, tests, exams or labs. It is the sum of all these assessments that deems a trainee to be competent (or not).

The unit of progression in a competency based training system, is mastery of knowledge and skills and is learner focused. Two key components of competency-based training are:

- Skill – a task or group of tasks performed to a specified level of proficiency which typically involves the manipulation of tools and equipment, or expertise that is knowledge or attitude-based.
- Competency – a skill performed to a specified standard under specific conditions.

The assessment process should be considered to be part of the learning process identifying gaps as learning opportunities to develop skills, not failures. It is a collaborative process to be negotiated with the trainee and not a one-off event that is imposed.

In the setting of a training provider, trainees can be given many opportunities to demonstrate skill and the assessment process should allow for the capturing and recording of these demonstrations.

Benefits of competency based assessment

Competency based assessment:

- Allows trainees to build on skills gained in a natural progression within a timeframe.
- Is part of a constructive and cooperative approach to developing the skills of trainees and it can identify the training needed to address gaps in competence; and
- Candidates can gain a nationally recognised qualification.

Assessment Matrices

For a trainee to be competent in a unit standard, they must demonstrate competency in every aspect of the unit standard. To ensure that trainees have as many opportunities as possible, it is good practice to record where performance criteria are included in assessments throughout the semester, for instance:

Competency based learning and assessment

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Unit standard 11111

Performance Criteria	Assignment	Lab 1	Lab 2	Test
1.1	✓		✓	
1.2	✓	✓		
2.1		✓		✓
2.2		✓		✓
2.3			✓	
3.1	✓			✓

Different trainees will be better at different types of assessments and it helps that they have more than one chance to demonstrate their competence in different ways.

From the trainee's point of view, they can also benefit from a matrix showing what they have achieved and what they still need to learn. For instance:

Unit standard 11111		Unit standard 12222		Unit standard 13333	
	Date achieved		Date achieved		Date achieved
1.1		1.1		1.1	
1.2		1.2		1.2	
1.3		2.1		1.3	
2.1		2.2		1.4	
2.2		2.3		2.1	
3.1		3.1		2.2	
3.2		3.2		2.3	

The principles of competency based assessment

Assessment needs to abide by the following principles and must be:

- **Current**
Assessment should take place within a short time of learning.
- **Valid**
All components that are to be assessment must be assessed. There must be sufficient evidence to ensure that the candidate meets the competency specified by the current standard. The candidate must not be asked to provide evidence for or be assessed against activities that are outside the scope of the unit standard.
- **Reliable**
The assessment must be able to stand up to scrutiny. That is, other assessors should reach the same conclusion. A number of evidence-gathering methods can be used to ensure consistency.
- **Flexible**
There is no single approach to competency based assessment. Evidence can be collected using different methods, at different times, under a variety of conditions. It must be responsive to the needs of the situation and the candidate.
- **Fair**
Assessment must not discriminate against individuals or groups. Different people and different situations need different assessment methods and, where necessary, reasonable adjustments to meet individual requirements must be made.
- **Safe**
All work and all assessment must comply with occupational health and safety requirements.

A variety of learning outcomes requires different assessment approaches.

For instance, mathematics, where the outcome is – to a point – either right or wrong. The trainee is either competent or not yet competent. There is room for some variation; a few percent either way with a mathematics answer can still be considered, in most cases, as competent because, in the real world, very few things that are either manufactured or that occur naturally attain 100% precision.

This also applies to laboratory based assessments where it is not always possible to achieve 100% accuracy because of real world limitations of the equipment and components. All equipment and components have tolerances within which they work best. These are generally determined by and specified by the manufacturer. Therefore, provided the candidate has achieved these tolerances, which can, in extreme cases, be as broad as 20% to 30%, they must be considered competent. However, if the candidate got all the numbers correct in their calculation but had the decimal point in the wrong place, would the project work? It would either blow up or fall to pieces or just not operate. On the other hand, a project that was constructed to within a few percent of 100% and was within the specified tolerances should work.

At the other end of the scale, the qualification contains theory based and research based activities where candidates cannot attain 100% accuracy because of the subjective nature of these components. A candidate can be competent in a subject while not attaining 100% accuracy. There will most likely be as many answers as there are candidates for theory based learning, and provided they have met the requirements of the unit standard, they must be assessed as competent. It is up to the assessor to determine the range for

Competency based learning and assessment

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competency and then judge if the trainee is competent within that range.

Competency does not mean expert. It means that the candidate has attained sufficient skill and knowledge to perform the activity or service to a degree and quality that is acceptable to the industry and the customer in a time within which a competent person at the level could reasonably be expected to perform the task.

Quality Assessment

The quality of assessment directly correlates to the quality of learning. If there are clear learning objectives that are reflected in the assessment material then the student has a clear understanding of what they have to learn to what depth they have to understand what they are learning and how they are expected to demonstrate their knowledge and understanding.

Indeed, the backwash effects of assessment arguably determine what is learned more than do formal curricula and teaching methods themselves.

Biggs 1996 p2

References

Biggs, J 1996 Assessing learning quality: Reconciling institutional, staff and educational demands, *Assessment & Evaluation in Higher Education*; Mar1996, Vol. 21 Issue 1, p5, 11p