# Assessing Competence

> **Assessment**
> 1 The processes used to gather and interpret evidence of an individual's learning, achievements and competence.
> 2 The action of judging evidence of learning, achievements and competence.
>
> *ETF, Glossary of Labour Market Terms and Standard and Curriculum Development Terms*

## Introduction

In the project to develop enterprise skills in Kazakhstan, the teams have adopted an approach to learning which involves students in practical activities which are designed to develop core and enterprise skills. The approach has been used in both the professional cycle and the general or academic cycle with great success. However, the project team have recognised that the assessment of this form of learning is quite different from traditional methods of testing and assessment. This paper is designed to help the teams to identify appropriate methods of assessment.

## What is assessment?

Assessment is an information system which enables decision making. In an assessment system, information is gathered, judged against criteria and presented in a way which is useful for those who wish to use the information.

Imagine that I wish to buy a used car. I can assess the condition and value of the car myself – but I am not an engineer, so I will not know what to look for or whether the car is worth the price asked. As an alternative, I can ask a specialist mechanic to examine the car and give me a report. The report will detail the condition of the car, identify any problems, calculate the likely costs of repair and maintenance and give the specialist's professional judgement of the value of the car. The criteria the specialist will use to make the judgement will be a comparison between the condition of the car, allowing for reasonable wear, against the condition when new. I can use this information to make a choice about whether I buy the car or whether I negotiate the price for the car based on the professional assessment.

This is an example of assessment. Information is collected and judged against criteria to enable a decision to be made. In this example it is an object (the car) which is assessed. When we look at assessing the achievement of people, we find that the general principles of collecting and judging information against criteria still apply.

Enterprises are constantly making judgements about people's achievement. When recruiting staff, for example, companies will obtain information about potential candidates from:

- the information given on the application form;
- interviewing candidates;
- asking candidates to take a practical test;
- making enquiries with other people who know the candidate and their work (references);
- considering qualifications and examples of previous work.

This information will be judged against criteria – the job description or 'person specification'.

These processes of collecting and judging information are expensive – so we expect assessment to **add value** to decision making. Evaluating applications forms, conducting interviews, arranging practical tests, paying for the services of a professional mechanic, all cost money – and we expect a return on that investment.

Assessment is used by many different stakeholders to make decisions – for example, in vocational education and training, the results of assessment are used to:

- allow students to progress to the next stage of a course;
- give students access to educational courses at higher levels;
- allow qualified people to practice in certain occupations;
- evaluate the success of a course;
- evaluate the effectiveness of teachers;
- make recruitment and selection decisions in employment.

In VET we have worked hard to make the VET standards, the curriculum and the learning process relevant to the needs of employment. But we need to present information about the achievement of students in ways which are helpful to all stakeholders. So, for example, a system of marks or grades may be useful within a school where all the teachers share a common understanding of how marks are awarded and what the marks mean – but this system may be of limited use to employers who are looking for recruits.

## What are we assessing?

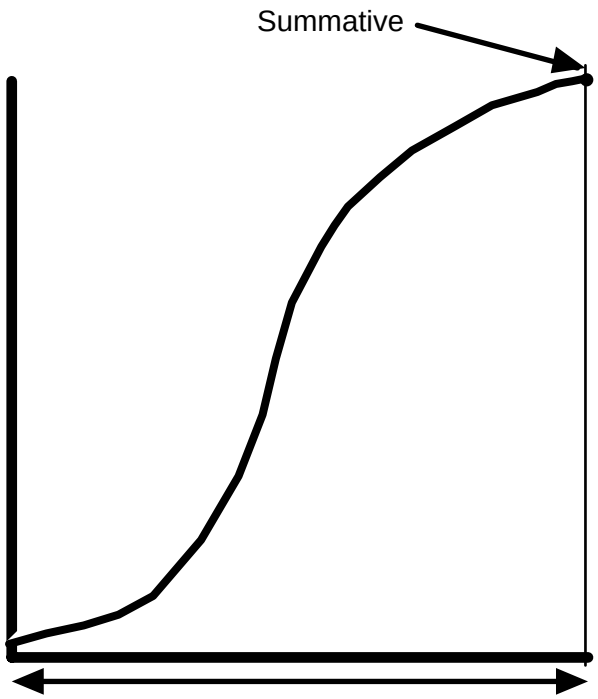
We know that assessment is serving at least two purposes in VET. The first is 'internal' to the VET school. Teachers are identifying the progress their students have made, they are using this information to evaluate their own performance and the courses which the school offers. This type of assessment is focused on the **learning** which has been acquired.

The second is 'external' to the school. This type of assessment is aimed primarily at employers who want information about the ability of students to work in employment. This type of assessment is focused on the **competence** which has been acquired.

So the first distinction which we need to make is between:

**Assessment of learning**
and
**Assessment of competence**

Technically, the different types of assessment are called 'formative' (assessment of learning) and 'summative' (assessment of competence). We can show this difference using a diagram of the learning curve:




**The Learning Curve**

The purpose of formative assessment is to identify the progress the student is making towards an objective. The objective could be a learning objective in a learning programme or one of the 'outcomes' we would find in the employment specification in a VET standard. Formative assessment should provide useful feedback to the student, informing them what progress they have made.

The purpose of summative assessment is to record whether a person has achieved the objective or not.

## What and how can we assess?

We can only assess three things:

- What has been done (the result)
- How things are done (the process)
- What a person knows (knowledge and understanding)

Each of these is assessed using different methods, as is shown in the table below:

| What we assess | How we assess |
|---|---|
| Results | Inspection |
| Process | Observation |
| Knowledge and Understanding | Testing:<br>• Oral testing<br>• Written testing |

In practice each of the methods may have many sub-methods. Inspection would include checking work in the classroom, or examining work produced previously (including work from a workplace). Observation could be direct observation in person, by viewing a video or listening to a tape recording. Written testing might be forced choice, multi-choice, case studies or traditional examinations. Oral testing could involve informal questioning by a teacher or more formal questioning by an examination commission or panel.

The problem in the past was that most assessment involved the testing of knowledge and understanding with some limited practical testing involving the inspection of results. But these methods are limited if we are trying to assess **competence**, where we are trying to assess the application of knowledge and skills in realistic applications. Also, these methods are not the most effective way to assess some of the important core skills like communication, team working, planning and decision making.

## How do we make judgements?

We make judgements against criteria. Assessment is a judgement made against criteria. In the example of recruitment, a company will set criteria for the person who will be recruited – usually within a job description or person specification. Some criteria will be clear and absolute – for example – 'they must have a certificate or diploma in the occupational specialism'. Some are less clear – for example – 'they must have some experience in a similar organisation'. Some criteria will be optional – ie it would be nice if the person met the criteria – but it is not essential, for example, 'knowledge of a foreign language is desirable'. Optional criteria are usually those which are less important and where it is possible that the person could learn to do this over time.

So, the first thing we need to do when we are assessing is to set clear and transparent[1] criteria against which the judgements will be made.

## How do we set assessment criteria?

The assessment criteria will depend on the degree of variation that is acceptable. For some aspects of competence, the student is allowed no variation – health and safety regulations are an example. But often, there is a range of variations which is acceptable and in many cases the action of the student depends on the context. We can see these three types in the table below.

| Level of variation | Type of criteria | Examples of words used to describe actions |
|---|---|---|
| Absolute | Yes/No | Correct |
| Tolerance | Range of acceptable variations | Accurate |
| Conditional/Dependent | Variation depends on context | Appropriate |

[1] By 'transparent', we mean criteria which can be understood by those involved in the process. For assessment, both the assessor and the person being assessed need to know and understand the criteria

Here are examples of activities in which the different types of criteria are applied:

| Example Criteria | This is used because … |
|---|---|
| • The **correct** specification of cable is selected | There is a danger of an electrical fault if the wrong cable is used so no variation is allowed |
| • Plates are positioned **accurately**, approximately two finger widths from the edge of the table | Plates and tables (and fingers!) vary in size and shape – so there is no exact or 'correct' position |
| • The **appropriate** glass is selected, depending on the meal | The meal will determine the type of glass |

These are only single examples. There are many more words we can use to set the criteria. Here are some more examples of each type.

| Yes/No Criteria (absolute) | Commentary |
|---|---|
| • Surfaces **are visibly clean** and free from debris | This criterion simply states what should happen |
| • Health and safety clothing **conforms to** legal requirements | We use 'conforms to' when legal requirements or procedures have to be followed |
| • Equipment is checked and is **safe for use** | No variation – because of health and safety |
| **Range of Variations (tolerance)** | |
| • Orders sent to the kitchen are **legible** | Handwriting can vary – but it has to be legible |
| • Customers are greeted **politely** | We do not have to have a single way of greeting customers – but we need to be polite |
| • Table settings for each course are cleared **promptly** | Variation is allowed – it does not have to be immediate – but we do not want used dishes left on the table for too long |
| **Variation depends on context (Conditional/Dependent)** | |
| • A **suitable** method for covering the cable is used | The method used will depend on the type of cable and the type of installation |
| • **Sufficient** paper of a **suitable** type is available for the print run | The amount will depend on the length of the print run and the purpose of the document |
| • The recommendation is **realistic** | The realism of the recommendation will depend on the purpose and the resources available |

What we will notice with the criteria described above is that, as we move away from 'absolute' criteria, we have to make more judgements. In the first example, only one cable will meet the specification. Any variation is incorrect. This is easy for the assessor and the student to recognise. The same is true of the three other examples of absolute criteria.

But when we get to the 'range of variations' it becomes more difficult. For example, how do we judge if handwriting is 'legible' or whether a greeting is 'polite'? In these cases, the extremes are obvious and we can produce examples for students to examine. But there will be a point where the difference between 'legible' and 'not legible' becomes a matter of individual opinion. In formal assessment systems, assessors will agree the boundaries between what is and is not acceptable for examples like this. This can be a useful discussion topic for students, particularly when they are encouraged to identify their own examples and develop a sense of 'ownership' of the assessment standards.

Where the 'variation depends on the context', judgement can be easier because the context determines the acceptable variation. So, for example, a vodka glass is not 'appropriate' if the meal is breakfast –

knowing the context narrows the range of possibilities. Equally, if we know that we have to install a single phase power cable in a factory, a light plastic cover is not 'suitable'. Again, we can help students understand the criteria if we develop examples of what is and is not acceptable.

## Developing enterprise – contingency management

The aim of this project is to develop enterprising young people who will be employable in a changing, market led, labour market. We want our young people to be flexible, adaptable, to make decisions – and we can help them to do this by creating learning environments where they are exposed to choice and challenge. This means that we should avoid setting all the assessment criteria as 'absolute'. In reality, many professional activities involve variation and dependency and young people have to learn how to manage this. We need to confine 'absolute' criteria to those instances where they are really necessary – usually where there is a risk to safety, to meet legal requirements or where there is the potential to waste resources.

We also need to help young people manage when things go wrong – as they inevitably do at work. We call this particular aspect of competence 'contingency management'. It involves:

- Scanning the environment for problems or potential problems;
- Trying to put things right, without prompting, before matters become critical;
- Using reference sources (including people) to try to correct problems;
- Knowing when to call for expert help – and not making matters worse by trying to correct something which is beyond your capability;
- Learning from the experience so that you better prepared for the next time.

We can help students develop these skills in all sorts of ways – for example:

- Presenting incomplete supplies of tools and equipment;
- Setting up 'hazard spotting' exercises;
- Providing tools and equipment which are faulty;
- Building problems and breakdowns into learning activities;
- Providing 'expert' advice – but only when asked for;
- Turning requests for information from students into questions (eg 'how do I do …' – 'how will you find out how to do …');
- Encouraging students to record their actions and to identify what they might do in the future to avoid contingencies.

What we are trying to achieve is the 'ownership' of this approach by students. So, rather than 'teaching' students about contingency management we can help them by using all available opportunities to develop these skills within the learning environment. This often involves the use of questions rather than instructions – questions like:

- What variations would we expect to find in a workplace?
- What variations and new requirements are likely to develop in this occupation?
- If we were doing this in a different context, what tools and equipment would we use and why?
- What would happen if this was not done in the correct order?

## How do we assess against the criteria?

Once we have set the assessment criteria we then make the judgement. There are two ways of making judgements:

- Can Do/Can't Do Yet
- Grading or Scoring

Traditionally, we make judgements by awarding marks or scores. For academic subjects or disciplines this system can work – and it can also be useful for formative assessment. But one major stakeholder – the employer – simply wants to know if a person can do something. A mark of 4 out of 5 or 65% in waiting service does not help the employer. They want the answer to the question 'can this person lay tables for different meal services – 'yes' or 'no'? This is summative assessment.

Notice that we do not say 'Pass' or 'Fail' – we use the terms 'Can Do/Can't Do Yet'. This means that if the person does not meet the assessment criteria, we assume that with further learning, they will be able to meet it at a later date. This also means that if a person does not meet the criteria they need immediate feedback to let them know **why** they have not met the criteria and **what** they need to learn in order to meet the criteria.

If we choose to give marks or scores, we still need assessment criteria – but in this case we need to make the marking scheme clear and transparent. This can be done by:

- Having separate criteria for each score;
- Removing marks for mistakes;
- By identifying 'essential' and 'desirable' criteria.

## Next steps

The next step in the project will be to identify clear and transparent criteria for each of the lesson plans developed by the teams. We need to make sure that we develop criteria for the professional skills which are 'embedded' in the lesson plans and the core and enterprise skills which are the main focus for this project.

We have produced an example below to guide the work of the team, using the 'Can Do/Can't Do Yet' model. We stress that this is only **one example** – it should not just be copied – the team will need to develop their own examples for each of the plans developed so far. We have used laying a table as an example and we have assumed that this will be a team activity followed by a presentation.

**Example plan for 'Laying a table for food service'**

**Assessment Criteria – Professional Activity**

| Criteria | Yes/No | If No – what is needed to meet the Criteria |
|---|---|---|
| The table is checked before laying and is clean and visibly free from debris | | |
| The linen, cutlery, glassware and crockery selected is appropriate for the type of meal | | |
| Linen, cutlery, glassware and crockery is stacked safely and within easy reach | | |
| Tables cloths are positioned symmetrically with equal overhang on opposite sides | | |
| Plates are positioned accurately, approximately two finger widths from the edge of the table | | |
| Glasses are positioned in an appropriate pattern to the top right of the main plate | | |
| Cutlery is positioned at an equal distance from each side of the plate and in order of serving | | |

| | | |
|---|---|---|
| Additional service items (flowers, condiments etc) are positioned appropriately | | |
| All cutlery, glassware and crockery is checked after laying and is cleaned if necessary | | |
| Items are handled safely and hygienically | | |

**Assessment Criteria – Core Skills**

| Criteria | Yes/No | If No – what is needed to meet the Criteria |
|---|---|---|
| Each member of the team works safely and in a way which does not hinder others | | |
| Team members offer help and advice when asked to do so | | |
| Members cooperate in activities which involve more then one person | | |
| Any plans are agreed by the team | | |
| Each stage of the activity is checked by team members and necessary changes are made | | |
| The results of the activity are explained (orally), problems, solutions and recommendations for improvements are identified and are clear and concise | | |

Comments and suggestions from the team are very welcome.

**Nanci Downey**
**Bob Mansfield**

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