



# Guide to Assessment

Publication date: June 2008  
Publication code: AA4147

Published by the Scottish Qualifications Authority  
The Optima Building, 58 Robertson Street, Glasgow G2 8DQ  
Ironmills Road, Dalkeith, Midlothian EH22 1LE

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# About this Guide

This guide is designed to provide support for everyone who assesses for SQA qualifications. It looks at the principles of assessment, and brings together information on assessment in general as well as on best practice in assessment. It covers the full range of SQA qualifications, and should help you to develop assessment instruments and assessment specifications.

The Scottish curriculum is currently going through review in the light of [A Curriculum for Excellence](#), which aims to develop a streamlined curriculum for 3–18 year olds and introduce new approaches to assessment. This will enable all young people to become successful learners, confident individuals, effective contributors and responsible citizens.

This guide will also assist anyone assessing the Curriculum for Excellence outcomes, or developing new qualifications that recognise the achievements of the young people of Scotland.

We publish guidance material for all our procedures that have a bearing on assessment. This guide has links to the most recent versions of these, and to other documents that are relevant.

We hope that you will find this guide useful. It is being written incrementally — we'll add further sections as the need for them is defined.

## Information about SQA qualifications

SQA's qualifications cover an array of knowledge and skills in a wide range of subjects. We offer three main types of qualification:

- ◆ Units — National, Higher National and SVQ Units
- ◆ Courses — Standard Grades, National Courses, and Skills for Work
- ◆ Group Awards — National Progression Awards, National Certificates, Higher National Certificates and Diplomas, Scottish Vocational Qualifications, Professional Development Awards, and Customised Awards

The publication [Scottish Qualifications](#) provides more information about these qualifications.

## **Core Skills in SQA qualifications**

Core Skills are the abilities learners need to be active, enterprising, and responsible members of society. SQA's Core Skills Framework covers:

- ♦ communication
- ♦ numeracy
- ♦ problem solving
- ♦ information technology
- ♦ working with others

Everybody who achieves an SQA qualification automatically gets a Core Skills Profile. This lists the Core Skills they have achieved. There is more information on [Core Skills](#) on our website.

## **The SCQF: how qualifications relate to each other**

The [Scottish Credit and Qualifications Framework \(SCQF\)](#) shows how qualifications in Scotland relate in terms of their difficulty and size.

The SCQF has 12 levels, from basic learning at SCQF level 1 to doctorates at SCQF level 12. All the most commonly used Scottish qualifications have been allocated to levels in the SCQF, showing the level of difficulty, or the demand that they make on the learner.

Each qualification has also been given a credit value to show how big it is, or how much it is worth. Credit value is expressed in terms of points — one point representing a notional 10 hours of effort by the learner. The main purposes of the SCQF are to show:

- ♦ how Scottish qualifications compare with each other
- ♦ the entry points to and exit points from qualifications to make learners' progression and transfer clearer and easier

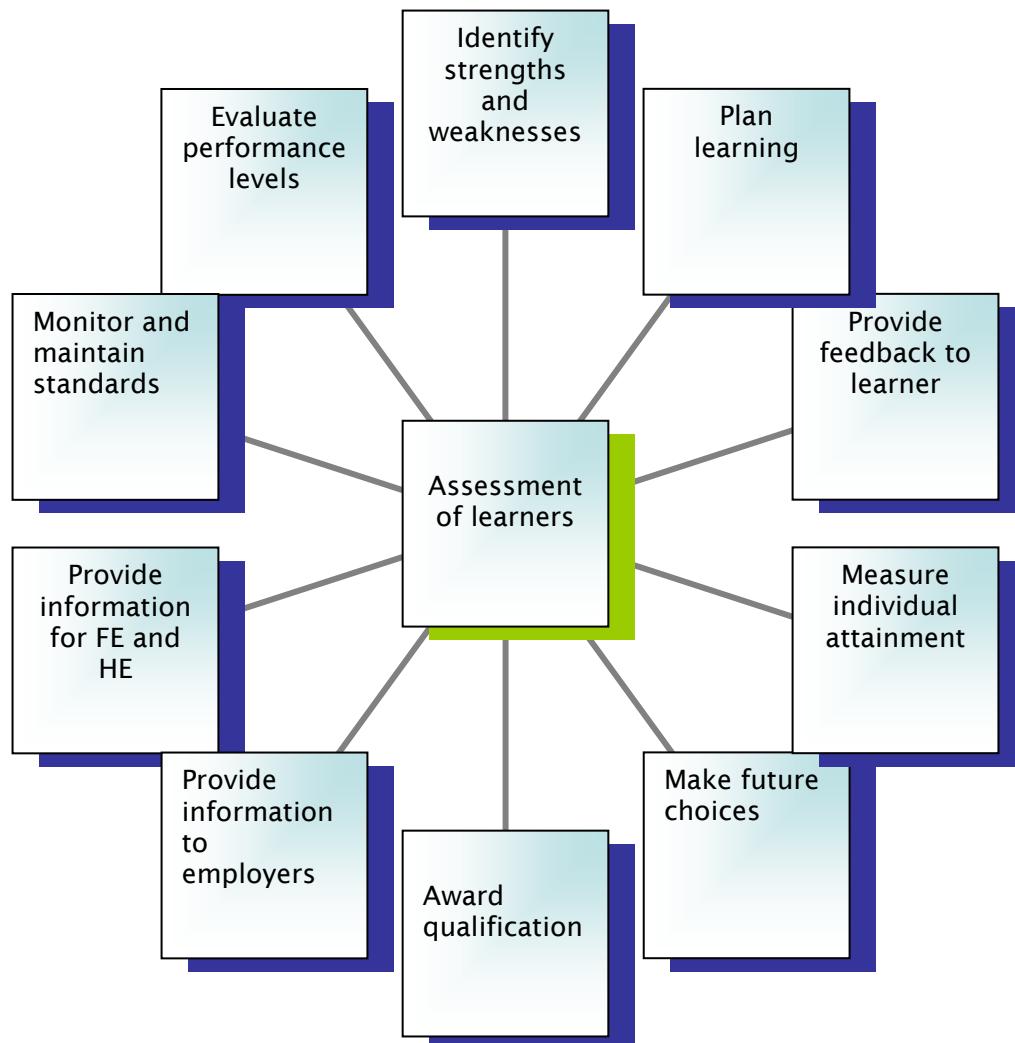
There is an [SCQF Ready Reckoner](#) which shows where SQA qualification types are in the Framework.



# The purposes of assessment

Assessment is the process of evaluating an individual's learning. It involves generating and collecting evidence of a learner's attainment of knowledge and skills and judging that evidence against defined standards.

Assessment has many different purposes, such as those illustrated.



Some of these purposes show the use of assessment for individual progress, while others show assessment results being used by external organisations. This wide range of different purposes can cause tension between apparently conflicting requirements. As the national awarding body, we are concerned with the effective assessment of learning, but our aim is to ensure that our qualifications complement the learning and teaching process.

## **Identifying strengths and weaknesses — diagnostic assessment**

Diagnostic assessment will normally take place at the beginning of a learning programme. Its sole purpose is to identify a learner's strengths and weaknesses in specific areas. Diagnostic assessment can be carried out in many ways, but should always suit the individual learner. Finding out whether a pre-school child can name different colours and ascertaining the IT skills of an adult returner on an FE course will call for different assessment methods, but both have the same overall aim — to plan a learning programme for those individuals.

The results of diagnostic assessment may be given as feedback to learners — or parents/carers in the case of younger learners.

## **Planning learning and providing feedback — formative assessment**

These functions of assessment are intertwined and together contribute to effective learning. Assessment takes place in the learning environment and provides information on the learner's progress. It allows assessors and learners to identify, and try to take account of, any issues which might affect the learning process. It is not formally recorded. It is used to complement learning and teaching. This type of assessment is known as 'formative' assessment.

Formative assessment is used to identify future learning needs and gaps in learning. It can also identify an individual's support needs. The results of formative assessment will be used to set learning goals and success criteria, and to provide feedback to learners. Feedback should always be direct and constructive, and should provide information to learners on their next steps. To be effective, feedback needs to be given promptly so that learners can take account of it in their learning. This provides motivation, which is a crucial element in helping individuals to become successful learners. Delayed feedback can cease to have meaning to the learner.

The importance of formative assessment in effective learning has been stressed by the Assessment is for Learning initiatives in schools and further and higher education institutions. Assessment for Learning has been defined by [Black and Wiliam](#) as 'all those activities undertaken by teachers and/or by their students which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged'.

## **Measuring an individual's attainment — summative assessment**

This function of assessment is to measure and record an individual's attainment — the assessment of learning. This type of assessment is known as summative assessment.

Summative assessment can be either internal (conducted by the centre) or external (conducted by an awarding body, like SQA). What makes the assessment summative is that it is used to measure attainment against a particular specification or 'standard'. Summative assessment will therefore be systematically designed and should always be quality assured.

Any type of assessment can be used summatively. While external assessment will nearly always be summative, it is important to note that internal assessment is also often summative. For example, Scotland's national assessment system includes [National Assessments 5-14](#). These school assessments are summative but are administered internally by individual schools.

## **Making future choices**

Learners use the outcomes of formative and/or summative assessment to assist them to make choices about their future learning or career aspirations. These can be curricular — such as choosing school subjects — or vocational — such as selecting career pathways.

## **Awarding qualifications**

The most high-profile use of assessment is for awarding formal qualifications — assessing learning against national standards. SQA assessment is always summative. SQA assessment can be internal, external or a mixture of both. Internal assessment is always subject to our quality assurance procedures.

SQA assessment covers a wide range of assessment methodologies in Unit assessments for school, college and workplace qualifications, as well as external assessments for Standard Grade and National Qualifications.

The current emphasis on gaining qualifications is sometimes seen as detrimental to the learning process, but qualifications can make a positive contribution to learning. Qualifications provide:

- ◆ motivation
- ◆ a structure, in the form of nationally and internationally recognised standards of attainment

- ♦ entry to further study by providing information to further and higher education
- ♦ information to employers for selection purposes
- ♦ progression in the workplace
- ♦ a means of promoting lifelong learning by clear routes of progress

## **Monitoring and maintaining standards**

SQA has responsibility for monitoring and maintaining national standards across subjects and over time. We have a range of processes for carrying out this function, from the annual NQ grade boundary meetings to the monitoring of HNQs and SVQs across centres. Our programme the [Scottish Standard](#) deals with these in greater detail. We also take a developmental approach, such as [Professional Development Workshops](#) and the [Understanding Standards](#) and [SQA Academy](#) websites.

## **Evaluating performance levels**

Assessment is widely used as a quality indicator at local, national and international levels. Examples include:

- ♦ The Scottish Survey of Achievement: a national sample survey which gathers evidence for the Scottish Government on pupil attainment at P3, P5, P7 and S2 stages in particular subjects and core skills. There's more information on the SSA at: [www.ltscotland.org.uk/assess/of/ssa/](http://www.ltscotland.org.uk/assess/of/ssa/)
- ♦ HMIE/Funding Councils/Sector Skills Councils: pass rates in SQA qualifications are used as an evaluation tool to assess the quality of individual centres.
- ♦ The Programme for International Student Assessment (PISA) ranks the success of national educational systems on the basis of its assessments of 15-year-old pupils. PISA rankings are taken very seriously by governments and have sometimes resulted in the radical overhaul of a national system.
- ♦ The Progress in International Reading Literacy Study (PIRLS) compares the reading attainment of 9–10 year olds in over 40 countries. It measures trends in reading achievement and collects information about literacy policies and teaching practices every five years. The study also collects information about reading behaviours — how pupils feel about reading and what they choose to read. The National Foundation for Educational Research conducted PIRLS 2006 on behalf of the (then) Scottish Executive Education Department.
- ♦ The Trends in International Mathematics and Science Study (TIMSS) is a world-wide research project. It takes place every

four years and assesses the knowledge and skills of 9–10 and 13–14 year olds in over 60 participating countries. The National Foundation for Educational Research conducted TIMSS 2007 on behalf of the (then) Scottish Executive Education Department.

# Principles of assessment

Our primary role is the assessment of learning against national standards to provide individuals with worthwhile qualifications that meet their educational and training needs.

We have to ensure that the assessment of our qualifications is credible with our users, partner organisations and the wider community. To be credible, all assessments that contribute to an SQA qualification must be:

- ♦ valid
- ♦ reliable
- ♦ practicable
- ♦ equitable and fair

Whether the assessment is administered through pen and paper examinations, oral questioning, practical tests, computer assisted tests, or any other means, the principles remain the same.

## Valid assessment

Validity is a measure of the accuracy of an assessment. In other words, is the assessment actually doing what it is supposed to be doing? Each assessment should be designed to allow candidates to produce the evidence to show that they have the required knowledge, understanding and skills for the qualification they are aiming for.

An assessment is valid when it:

- ♦ is appropriate for the purpose, eg a practical assessment should be used to assess practical skills — a written assessment that asks candidates to write about a skill rather than demonstrate it would have low validity
- ♦ allows candidates to produce sufficient evidence of performance that can be measured against the standards defined in the qualification
- ♦ allows candidates to produce sufficient evidence of the knowledge, understanding and skills that are required to satisfy standards of the qualification
- ♦ allows all assessors to make reliable assessment decisions for all candidates

## **Reliable assessment**

Reliability is a measure of the degree of consistency with which candidates' responses to an assessment are judged. To be reliable, assessment decisions on candidates' performance must be consistent across all assessors for all candidates undertaking the same assessment task. In any assessment system, procedures have to be put in place to ensure this.

Assessment decisions are reliable when:

- ◆ they are generated by valid assessments which are produced under conditions of assessment that are consistently applied
- ◆ they are consistent across the range of assessors applying the assessment in different situations, contexts and with different candidates
- ◆ they are taken on the basis of clearly-defined standards of performance
- ◆ the authenticated work of the candidates is being assessed
- ◆ they are consistent over time

## **The relationship between validity and reliability**

Validity and reliability are interdependent. An assessment that produces inconsistent results cannot provide valid information about a candidate's achievement. On the other hand, highly consistent results do not necessarily indicate high validity, since the test may be inappropriate for the competence being assessed. For example, the results of a maths test involving routine calculations may have a high degree of validity for indicating arithmetical skills but a low degree of validity for indicating problem-solving abilities.

High validity and high reliability are more likely to be achieved when assessors:

- ◆ measure candidates against outcomes of learning which have clearly-defined performance levels
- ◆ use assessment instruments that are appropriate to the outcomes
- ◆ minimise subjectivity

### **Practicable and cost-effective assessment**

For assessments to be practicable they need to be capable of being carried out both efficiently and effectively. This means assessors need to ensure that they have adequate resources and time to undertake the assessment. Examples of this are:

- ◆ in the context of oral assessments or interviews, balancing the need for assessment reliability with considerations of staff and candidate time and potential stress
- ◆ in the context of assessing practical skills, bearing in mind equipment, time and staff implications
- ◆ operating an assessment system which has enough flexibility to meet the needs of all candidates

### **Equitable and fair assessment**

To be equitable and fair, an assessment:

- ◆ has to be accessible to all learners who have the potential to be successful in it
- ◆ has to offer learners equal opportunity to succeed — and that opportunity has to be seen to be fair



# Carrying out assessment

## Different types of assessment

Assessment can take place in a variety of settings, such as classrooms, lecture rooms, workplaces (or in a simulation of workplace conditions), community and training establishments or examination halls. No matter where it takes place or what form it takes, assessment always involves observation, product evaluation, or questioning or a combination of some or all of the three.

There are many different methods of assessment, known to practitioners as ‘assessment instruments’. Each of these instruments can be classified under one or more of observation, product evaluation or questioning. Whether they are used formatively or summatively, the most important issue is whether the assessment is appropriate for the intended outcome. Because SQA’s role is the summative assessment of learning, the information in this guide comes from that perspective.

Before selecting the assessment instrument for a particular outcome, or series of outcomes, it will be helpful to consider whether assessing the outcome(s) involves observation, product evaluation or questioning or a combination of the three. Deciding this will allow you to start the process of selecting the most appropriate assessment instrument.

### Observation

The assessor observes the candidates as they carry out tasks defined in the standards for the qualification. This observation often takes place in the workplace, or the conditions of the workplace, but it can also be carried out in a laboratory, workshop or any other place where the candidate is undertaking practical activities.

Assessors need to plan observation to take advantage of any skills or activities that occur naturally in the learning environment, and to make the best use of the available resources.

### Product evaluation

In some areas, as candidates work towards achieving their qualifications they will generate evidence in the form of products of their work. This is the case in qualifications in creative areas such as art, design, craft or multimedia, as well as in many SVQs and other work-based or practical qualifications.

## **Questioning**

Questioning is used primarily to assess cognitive ability. It can be used whenever an assessor wants to assess knowledge and understanding and the various different applications of knowledge such as reasoning, planning, analysing and evaluating.

Probably the best known form of questioning in SQA is the written question papers for Standard Grade and National Courses.

Questioning is not, though, restricted to formal external assessments. It can be used to:

- ◆ confirm knowledge and understanding where it is not apparent from performance
- ◆ address gaps in knowledge and understanding in performance-based units
- ◆ authenticate evidence by asking learners to explain part of the evidence and/or describe the process of producing it
- ◆ assess contingencies where it would not be practical or safe to wait until the skill or activity can be observed

You can use oral or written questions, depending on the requirements of the outcomes of units being assessed and the circumstances of the assessment. Your choice of method should reflect any special assessment requirements your learners may have. For example, some learners do not respond well to written questions — in any case, you should always ensure that the appropriate reading level is used.

## **Assessment instruments**

This section explains, and gives examples of, the most common assessment instruments. They are listed in a grid in alphabetical order and classified under Observation, Product evaluation or Questioning (or a combination). We hope that this will help you to start to identify the most appropriate assessment instrument for your purposes.

We also provide information sheets which give a definition of each instrument, describe its use, and discuss its individual strengths and limitations. In some instances they also include examples of the assessment instrument in use. The information sheets fall into three groups:

- ◆ assessing cognitive abilities by a selected or constructed response by candidates
- ◆ assessing cognitive abilities by an extended or free response by candidates
- ◆ assessing practical abilities

We hope that these information sheets (used in conjunction with the guidance on assessment requirements given in the units you are assessing), will help you to select the most appropriate instrument of assessment. Bear in mind, though, that a combination of instruments might provide the most effective form of assessment for your purposes.

### Assessment instruments

Instrument	Observation	Product evaluation	Questioning
Alternative response questions			x
Assertion/reason questions			x
Assignments	x	x	x
Aural/oral tests			x
Case studies	x	x	x
Cloze questions			x
Completion questions			x
Dissertations		x	x
Expressive activities	x	x	x
Extended response questions			x
Grid questions			x
Matching questions			x
Multiple choice questions			x
Multiple response questions			x
Oral questions			x
Practical exercises	x	x	
Professional discussions	x	x	x
Projects	x	x	x
Question papers			x
Restricted response questions			x
Role-plays	x		
Self-report techniques			
♦ Log-books		x	x
♦ Personal interviews	x		x
♦ Questionnaires			x
Simulations	x	x	x
Short answer questions			x
Structured questions			x

# **Assessing cognitive ability by selected or constructed response**

## **Alternative response questions (true/false)**

In this type of question, the learner is presented with a statement which is followed by two alternatives (eg true/false, yes/no), only one of which is correct.

### **Use**

Alternative response items may be used to assess outcomes concerned with the recall of information or the ability to discriminate. They can provide an encouraging lead-in to assessment, but because it is possible to guess the correct response, they are better used for self-assessment and diagnostic assessment than for summative assessment.

### **Advantages**

- ◆ easy to construct and mark
- ◆ can be used as a self-assessment and diagnostic tool
- ◆ can be used to generate discussion with learners
- ◆ can be offered and marked online

### **Limitation**

- ◆ 50% chance of guessing the correct answer

### **Significant construction features**

- ◆ Use positive rather than negative statements.
- ◆ Make sure there is a roughly equal distribution of true and false statements.
- ◆ Avoid lengthy and ambiguous statements.
- ◆ Set the pass mark high to counter the guess factor.

### **Note**

The high guess factor in True/False exercises can be mitigated by adding a third option — ‘not known’.

In this form of alternative response question the learner is presented with a passage of text for interpretation and responds to a series of statements to which the answers can be true/false/not known.

**Advantages of this variation**

- ♦ reduces the guess factor
- ♦ can be used to assess higher-order skills such as reasoning

**Limitation of this variation**

- ♦ can be complex to construct the passage

## Assertion/reason questions

This type of question consists of an assertion and a supporting explanation.

The learner is asked to select the answer from a list of five possibilities, deciding whether the assertion and the explanation are individually true, and if true, whether the explanation is a valid reason for the assertion.

### Use

These questions can be effective in assessing the higher-order skills of analysis and evaluation.

### Advantages

- ♦ highly complex and demanding matters can be assessed relatively quickly because the item supplies all the information required — all the learners have to do is to use their analytical skills to work out the correct answer
- ♦ can be offered and marked online

### Limitations

- ♦ the level of language comprehension involved may be too sophisticated for some learners
- ♦ very dependent on the skill of the assessor to produce plausible reasons that are applicable to the assertion
- ♦ no credit is given for partial knowledge

### Significant construction features

- ♦ The reason should be a free-standing sentence so that it can be considered separately from the assertion.
- ♦ Avoid supplying minor or insignificant reasons — these could result in an ambiguous question.

### Example

Assertion: Vegetation is completely lacking in desert regions  
Reason: Plants cannot tolerate temperatures above 40° C

Possible responses:

<i>Assertion</i>	<i>Reason</i>
1 True	True and valid
2 True	True and invalid
3 True	False
4 False	True
5 False	False

## **Cloze questions**

In cloze questions the learner is presented with a passage of text from which a number of words have been removed. In some cases, a list of words or phrases is supplied, and the candidate selects the missing words. In others, no prompt is given and it is left to the candidates to decide on the appropriate word.

### **Use**

Cloze questions are frequently used to assess vocabulary, comprehension and grammatical accuracy in native and second language learning. They can also be used as an alternative to multiple choice and short answer questions to test recall and reasoning.

### **Advantages**

- ◆ allow considerable coverage of content by making it possible for the learner to respond easily and quickly
- ◆ are useful for formative assessment
- ◆ can be offered and marked online

### **Limitations**

- ◆ can be dependent on a learner's reading level
- ◆ in more complex tests the variety of possible responses can increase the candidates' uncertainty and can make marking more difficult
- ◆ although there should be only one possible word for each blank space, the higher the level of the assessment, the more varied the likely response

### **Significant construction features**

- ◆ Usually there is no gap in the first 14 or so words.
- ◆ One blank space should be provided for each word removed.
- ◆ Too many blank spaces should be avoided, as the meaning of the statement might become ambiguous.
- ◆ There should be only one possible word for each blank space.

### **Note**

A variant of such assessments is the 'spot the mistake' test, which can be used to identify spelling errors and incorrect usage of words or grammar.



## **Completion questions**

This type of question is really a variation of the short answer question. The learner is required to supply the words that complete a given statement or to label various parts of a diagram.

### **Use**

Whilst completion questions provide a convenient means of assessing recall of factual information, they can also be used to test the understanding and application of mathematical concepts.

### **Advantages**

- ♦ can be easy to administer
- ♦ can easily be used for self and diagnostic assessment
- ♦ allows considerable coverage of content by making it possible for learners to respond easily and quickly to questions
- ♦ can be offered and marked online

### **Limitations**

- ♦ if there is more than one option as an answer, marking becomes more difficult
- ♦ plausible responses might sometimes be difficult to identify

### **Significant construction features**

- ♦ Only the key words in the statement should be left blank.
- ♦ Diagrams should be clearly identified and the parts requiring to be named should be clearly shown.
- ♦ There should be only one possible word or phrase for each blank space.

### **Example**

Complete the sentence by writing the correct word or words in the space provided.

The ..... of the earth is solid metal.

Choose your answer from the list:

crust                      mantle                      outer core                      inner core

## **Grid questions**

Grid questions provide an alternative to matching questions. They consist of a series of possible responses presented in a grid format, together with a number of related questions. The learner is required to select those responses that are appropriate for each question from the grid.

They differ from the other selected response types of assessment in that each question may have more than one correct response and each response may be used more than once.

### **Use**

Can be used to assess the recall, comprehension and application of knowledge.

### **Advantages**

- ◆ compared with other multiple choice/response the chance of a correct guess is reduced
- ◆ useful for assessing topics involving large amounts of factual information in an economical manner
- ◆ can be offered and marked online

### **Limitations**

- ◆ restricted to situations where a large number of plausible responses can be identified
- ◆ it can be difficult and time-consuming to construct good questions

### **Significant construction features**

- ◆ All responses should be plausible.

**Example**

A. Questionnaire	B. Role-play	C. Short answer
D. Restricted response	E. Multiple choice	F. Structured question
G. Assignment	H. Log-book	I. Case study

Write down the letter(s) of the box(es) containing an instrument of assessment which answer the following descriptions

1. Used to assess practical skills involving an on-going activity	
2. Is described as a self-report technique	
3. A constructed response item which can be marked objectively	
4. An example of a free response question	
5. Used to assess behavioural skills	
6. Classified as objective items	

## Matching questions

Matching questions are a variant of multiple choice (see next item) in which the learner is presented with two lists — a set of statements and a set of responses. The learner is then required to indicate which response from the second list corresponds with, or matches, each statement in the first list.

### Use

Can be used to assess the recall, comprehension and application of knowledge.

### Advantage

- ♦ useful for assessing topics involving large amounts of factual information in an economical manner
- ♦ can be offered and marked online

### Limitation

- ♦ restricted to situations where sufficient plausible responses can be identified — four is probably the minimum
- ♦ can be difficult and time-consuming to construct good questions

### Significant construction features

- ♦ The answer list should be larger than the first list to reduce the chance of guessing by a process of elimination.
- ♦ There should be no more than one correct response for each statement.
- ♦ All responses should be plausible.

### Example

Match each discovery/invention from list A with the scientist associated with it from list B.

#### List A — Discoveries/Inventions

Use of chloroform as an anaesthetic	
Manufacture of dynamite	
Development of the steam engine	
Invention of television	

#### List B — Scientists

Nobel          Bell  
Simpson      Watt  
Darwin        Baird  
Faraday

## **Multiple choice questions**

Multiple choice questions or items consist of an incomplete statement or a question, known as the 'stem', followed by four plausible alternative responses from which the learner has to select the correct one. The correct response is known as the 'key', while the incorrect ones are referred to as 'distractors'. Multiple choice questions are often called 'objective tests'.

### **Use**

Multiple choice questions are frequently used to assess at the level of recall and understanding and, if carefully constructed, can also be used to assess higher-order cognitive skills. However, it might be more appropriate to consider whether outcomes involving higher-order cognitive skills such as synthesis or evaluation could be more validly and practicably assessed by other means.

### **Advantages**

- ◆ allow considerable coverage of content
- ◆ can be marked objectively
- ◆ can be offered and marked online
- ◆ are generally reliable
- ◆ make less demand on learners' writing skills than free response answers
- ◆ can provide rapid feedback to learners and assessors
- ◆ can be used for diagnostic purposes
- ◆ can be used to access a wide range of cognitive skills
- ◆ reduce the element of guessing found in alternative response items

### **Limitations**

- ◆ often perceived as being mainly for testing the recall of factual information
- ◆ do not allow learners to express themselves
- ◆ often difficult to construct good items which are unambiguously worded and which will elicit the key
- ◆ it is often difficult to devise enough plausible distractors for certain topics
- ◆ can make heavy demands on learners' reading skills

### **Significant construction features**

- ◆ All distractors should be feasible but there should only be one key.
- ◆ All the responses should be of approximately the same length.
- ◆ The responses should be grammatically correct, unambiguous and consistent with the stem.
- ◆ The stem should reflect a level of language appropriate to the learner.
- ◆ None of the responses should be synonymous.
- ◆ The stem should contain as much information as possible.
- ◆ Negative statements should be avoided in the stem.
- ◆ Responses should not include unintended clues.
- ◆ The position of the key in the options should be randomised.
- ◆ Items should be tested before use to check validity, reliability and the difficulty level (see facility value and pre-test in the glossary)

### **Example**

Most adults have a pulse rate in the range of:

- |                       |                       |
|-----------------------|-----------------------|
| A. 55–64 beats/minute | B. 65–74 beats/minute |
| C. 75–84 beats/minute | D. 85–94 beats/minute |

## **Multiple response questions**

Multiple response questions are a variant of multiple choice where more than one of the alternatives given is correct. The learner can either select any number and combination of those alternatives, or be told the number of options that may be selected. Because they can be answered in a wide variety of ways, multiple response questions are more complex than multiple choice questions.

### **Uses**

Multiple response questions are frequently used to assess at the level of recall and understanding. If carefully constructed, they can also be used to assess some of the higher cognitive skills.

### **Advantages**

- ◆ can be marked objectively
- ◆ can be offered and marked online
- ◆ can help to reduce the element of guessing found in alternative response items

### **Limitations**

- ◆ questions can be difficult to construct
- ◆ require a high level of deductive skill to understand how to answer the question
- ◆ the learner might get no automatic credit for partial knowledge
- ◆ giving credit for partial knowledge requires intervention by the marker

### **Significant construction features**

- ◆ There needs to be a wide range of distractors and keys.
- ◆ All distractors should be feasible.
- ◆ All the responses should be of approximately the same length.
- ◆ The responses should be grammatically correct, unambiguous and consistent with the stem.
- ◆ The stem should reflect a level of language appropriate to the learner.
- ◆ None of the responses should be synonymous.
- ◆ The stem should contain as much item information as possible.
- ◆ Negative statements should be avoided in the stem.
- ◆ Responses should not include unintended clues.
- ◆ The position of keys in the options should be randomised.

- ◆ Items should be tested before use to check validity, reliability and the difficulty level (see facility value and pre-test in the glossary)

**Example**

Which four of the following expressions are equivalent to  $4p$ ?

1.  $2p + \frac{6p}{2}$

2.  $\frac{1}{2}(2p + 6p)$

3.  $2(p + p)$

4.  $\frac{2p^2}{p}$

5.  $4\frac{p^2}{p}$

6.  $\frac{2p + 6p}{2}$

7.  $\sqrt{16}p^2$



## **Short answer questions**

This type of question involves learners being presented with a question with a pre-determined answer that consists of a few words. These questions may also involve the use of numbers, diagrams and graphs.

### **Use**

Although generally used to assess the recall of factual information, they can also test the understanding and application of knowledge, for example mathematical concepts.

### **Advantages**

- ◆ can be offered and marked online
- ◆ less time-consuming to construct than good multiple choice or matching items
- ◆ do not provide as much opportunity for guessing as is the case with selected response items
- ◆ can allow considerable coverage of content

### **Limitations**

- ◆ tend to be used only for lower levels of cognitive competence
- ◆ can be restricted to a small area of content

### **Significant construction features**

- ◆ They must be devised to ensure that they reflect the requirements of the outcomes.
- ◆ They should be phrased in such a way that the learner's task is clearly indicated.
- ◆ A detailed set of specimen solutions must be prepared so that there is a clear understanding, on the part of all markers, of the expected answers and the range of responses.

### **Example**

1. Which scientific law is demonstrated when a leaf falls from a branch to the ground?
2. What is the diameter of a circle with a circumference of 10 cm?

# **Assessing cognitive ability by extended or free response**

## **Assignments**

An assignment is a problem-solving exercise with clear guidelines, structure and specified length.

Assignments are more structured and less open-ended than projects. They differ from practical exercises in that they do not necessarily involve strict adherence to a prescribed procedure and they are not concerned exclusively with manual skills.

Where the assignment involves an investigation, it is likely to be based on learners carrying out a series of instructions correctly and drawing valid conclusions from the results.

## **Use**

An assignment is particularly suited to the assessment of learning outcomes concerned with applying practical skills (and related knowledge and understanding) to a situation that involves task management.

## **Advantages**

- ◆ easy to develop
- ◆ can access a wide range of both cognitive and practical competences
- ◆ provides learners with the opportunity to demonstrate initiative
- ◆ can be helpful in integrating assessment across units and or outcomes

## **Limitations**

- ◆ can be time-consuming to complete
- ◆ can be time-consuming to mark
- ◆ reliability in marking may be difficult to achieve because of the range of approaches that the learners might adopt in undertaking their assignments

## **Significant construction features**

- ◆ The brief for the assignment must be clearly defined.
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected; this will help to ensure that the assessment is valid and reliable and the requirements of the brief are met.

**Example**

You are asked to plan, carry out and report on a survey.

Produce a formal research report of at least 1,000 words excluding appendices and bibliographies.

Clearly divide the report into sections. The sections should be in a sequence which will:

- ◆ give the purpose of the research
- ◆ explain and justify the procedures used including the sampling strategy
- ◆ present in detail the information gathered, which should include:
  - graphical information selected from tables, graphs, bar charts pie charts
  - histograms
  - qualitative and quantitative data

You should present your conclusions based on accurate analysis of data and interpretation of information.

Write the report in language appropriate to the intended reader and purpose.

## **Dissertations**

A dissertation is a substantial written essay, treating a subject or issue in depth in a formal, methodical manner. It will be based on research on the literature for the subject and may also involve some original research.

### **Uses**

Used to test learners' ability to apply their knowledge in a critical way, to evaluate evidence from a range of sources, to draw valid conclusions from this evidence and to present their ideas in a clear and coherent report

### **Advantages**

- ◆ allows scope for self-expression
- ◆ tests higher-order skills
- ◆ can be helpful in integrating assessment across units and/or outcomes

### **Limitations**

- ◆ time-consuming to mark
- ◆ reliability might be difficult to achieve because of the wide range of approaches that learners might take

### **Significant construction features**

- ◆ Requires a brief to be developed and agreed with the learner.
- ◆ Requires review of the learner's progress from time to time.
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable and that the requirements of the brief are met.

## **Extended response questions**

This type of written question has comparatively few restrictions on the content and form of the response. Continuous prose is normally expected, but there may be limits imposed on the length and/or the time allocated. The content can be as open-ended as the assessor wishes.

If the question relates to an investigation or research project, the response may be in the form of a report describing the aims, methodology, findings and conclusions.

Essays are a form of extended response. They are usually transactional — the candidate is asked to produce a piece of non-fiction writing that conveys factual information or argues the validity of a point of view, with objective evidence. Transactional essays require technical writing skills as well as a logical line of thought.

### **Use**

Extended response questions are particularly suitable for assessing outcomes concerned with the cognitive skills of analysis, synthesis and evaluation. They provide a way of assessing a learner's command of language, powers of analysis, discrimination in choice of evidence, and skills in argument.

### **Advantages**

- ◆ relatively easy to construct
- ◆ allows considerable scope for self-expression

### **Limitations**

- ◆ reliability may be difficult to achieve because of the range of approaches that the learners might adopt in their responses
- ◆ makes considerable demands on learner's writing abilities
- ◆ is time-consuming for the learner and for the marker
- ◆ often covers a relatively small area of content
- ◆ difficult to devise unambiguous questions that will elicit valid responses

**Significant construction features**

- ♦ The questions should be devised to ensure that they reflect the requirements of the outcomes, and should be phrased in such a way that the learner's task is clearly indicated.
- ♦ A detailed set of specimen solutions must be prepared so that there is a clear understanding, on the part of all markers, as to the expected answers and the range of responses.

**Example**

Describe the development and structure of an ecosystem of your choice.

## **Oral questions**

Oral questions are usually similar to restricted response questions. The form and content of the response may be limited but the questions do allow the learner a measure of self-expression.

Assessors have to exercise professional judgement when interpreting learners' responses because there might not always be pre-determined answers to the questions.

### **Use**

Oral questions are most often used in assessment when a learner has been observed carrying out a practical task competently but knowledge and understanding associated with the task must also be assessed. They can also be used as an alternative to asking the learner to give written answers to questions. However, this would be impractical with large numbers of learners.

An example of this form of use is the variant of the Standard Grade English Course, which uses only spoken (as opposed to both spoken and written) English. This is designed for candidates with significant difficulties in reading and/or writing. For further details see [More information on Conditions & Arrangements](#).

### **Advantages**

- ◆ can occur naturally out of an observation and so assist integration of assessment
- ◆ can be non-threatening to the learner
- ◆ can be used when there are some gaps in the learner's portfolio of evidence
- ◆ can be offered to learners with additional support needs

### **Limitations**

- ◆ can be difficult to manage with large numbers of learners
- ◆ reliability may be difficult to achieve because of the range of responses that the learners might give

### **Significant construction features**

- ◆ A checklist must be developed identifying all the outcomes to be covered by the questions; this will help to ensure that the questions are valid and reliable.
- ◆ A range of questions will be required. These must be valid and reliable, and must meet the requirements of the outcomes and/or units.

- ◆ A detailed set of specimen solutions must be prepared so that all assessors clearly understand the expected answers and the range of responses.
- ◆ The assessment should be recorded.



## **Projects**

A project is any exercise or investigation in which the time constraints have been relaxed. Projects are practical and more open-ended than assignments. They can be tackled by individuals or a group. They usually involve a significant part of the work being carried out without close supervision, although the assessor may provide guidance and support. They have a more extended timescale, although they are still time-bound.

The choice of project may be directed by the assessor, usually by providing the learner with a topic or brief as the basis for the investigation.

## **Use**

Projects provide a useful way of bringing together assessment of a wide range of skills and of integrating different activities both within and across units. They are particularly suited to assessment of outcomes concerned with analysis, synthesis and evaluation. Projects are most effective when the learners concerned already possess the necessary skills in planning, accessing resource material and in writing reports.

## **Advantages**

- ◆ can access a wide range of high-order cognitive and practical skills
- ◆ provides the learner with the opportunity to demonstrate personal initiative
- ◆ can provide the opportunity to integrate assessment across a number of outcomes

## **Limitations**

- ◆ difficult to assess individual performance with group investigations
- ◆ difficult to assess high-inference skills such as originality, commitment, initiative
- ◆ can be time-consuming to complete and assess
- ◆ may be difficult to ensure that the project is the authentic work of the individual
- ◆ reliability may be difficult to achieve because of the range of approaches that the learners might adopt in their projects

**Significant construction features**

- ◆ The brief needs to be clearly defined and agreed with learners.
- ◆ The brief should suggest the different stages of the project which are likely to include the following in one form or another:
  - planning the project
  - devising the investigation strategies
  - conducting the investigation
  - analysing the results
  - reporting on the conclusions
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected in the learners' projects. This will help to ensure that the assessment is valid and reliable and that the requirements of the brief are met.

## **Professional discussions**

A professional discussion between a candidate and an assessor focuses on evidence already provided or demonstrated by the candidate. This is likely to consist of real work activities, practical tasks, a case study, project, portfolio or some other form of assessment undertaken to meet the requirements of the learning.

The assessor starts by asking the candidate questions about the evidence and a discussion ensues. The assessor must record the discussion. The assessor is responsible for ensuring that the points that need to be covered are brought into the discussion by the candidate.

The professional discussion is not a substitute for knowing or doing something, however — the candidate needs to be able to show the assessor how what he or she says in the discussion is backed up in other ways. This could be, for example, by product evidence, witness testimonies, workplace documents or other material either developed through work or in other assessments.

### **Use**

More wide-ranging and intensive than questioning and interviewing, this assessment instrument is used to support existing evidence of a candidate's knowledge and understanding, performance abilities and higher-order analytical and decision-making skills, and to integrate assessment across a range of outcomes and/or units. It can also be used to provide evidence when gaps have been identified in a candidate's portfolio. It can be an excellent way for the candidate to demonstrate the authenticity of his or her evidence, and for the assessor to confirm its reliability and validity.

This type of assessment is more suitable for assessing higher-order skills.

### **Advantages**

- ◆ the assessor is able to target particular areas for discussion and can gain additional evidence while the assessment is in progress
- ◆ the professional discussion can be used to integrate assessment across a range of units
- ◆ helps to make use of naturally occurring evidence in the assessment of some higher order vocational learning

### **Limitations**

- ♦ time-consuming to set up, prepare for and manage for large numbers of candidates
- ♦ reliability may be difficult to achieve because of the range of approaches that the candidates might adopt in the discussion
- ♦ must be recorded — if electronic recording is not possible, it will have to be done in writing

### **Significant construction features**

- ♦ The assessment is wide-ranging and likely to cover outcomes from a number of units.
- ♦ The purpose of this assessment and its focus need to be clearly defined and agreed between assessor and candidate.
- ♦ The assessor must make a plan for the assessment and give this to the candidate.
- ♦ A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable and that the purposes of the discussion are met.
- ♦ The professional discussion must be recorded.

### **Example**

The SVQs in Learning and Development 3, 4 and 5 use professional discussions as part of the assessment methods, and the Unit A2.2 *Assess Learners' Performance through Observation*, gives examples.

## **Restricted response questions**

Restricted response questions are so called because the form and content of the response is limited by the way the question is asked, but they are free response questions because they give learners a measure of self-expression.

Restricted response questions differ from short answer questions as the correct answers are not all predetermined and, consequently, the assessors have to exercise their professional judgement when interpreting learners' responses.

Restricted response questions restrict the learners' responses in two ways:

- ♦ by the way the question is phrased
- ♦ through the scope or aspect of the subject area being assessed

### **Use**

Restricted response questions can be used to assess factual recall, but they are probably most appropriate for assessing outcomes concerned with understanding and reasoning.

### **Advantage**

- ♦ easy to produce
- ♦ can be constructed to cover a wide range of content
- ♦ allow the learner a measure of self-expression
- ♦ can be offered and marked online

### **Limitations**

- ♦ may initially be less reliable than objective questions because the learners might make responses which are not expected (but which are nevertheless valid)

### **Significant construction features**

- ♦ The questions should be devised to ensure that they reflect the requirements of the outcomes and phrased in such a way that the learner's task is clearly indicated.
- ♦ A detailed set of specimen solutions must be prepared so that there is a clear understanding, on the part of all assessors, as to the expected answers and the range of responses.

**Example**

Questions that are restricted by the way the question is phrased have the following formats:

Describe two differences between sociological and common sense explanations.

Describe two key features of action theories.

A question that restricts the scope or aspect of the subject area would be one that directed the learner in a particular direction. For example:

Explain why iron rusts.

In this question the response elicited is much more restricted than a question concerned with writing an account of the chemistry of corrosion.

## **Structured questions**

A structured question consists of a stem (which describes a situation) followed by a series of related questions. The stem can be text, a diagram, a picture or multi-media. The questions may require completion, short answers, or restricted responses.

### **Use**

While structured questions can be devised to assess the recall of knowledge, they are probably most useful for the assessment of outcomes concerned with comprehension and the application of knowledge.

### **Advantages**

- ◆ less reliant on learners' writing ability than extended response questions
- ◆ more reliable than extended response questions since the learners are led through the question and are less likely to stray from the subject or miss the point

### **Limitation**

- ◆ often restricted to a limited area of content
- ◆ failure in one part may prejudice the learners' answers in succeeding parts

### **Significant construction features**

- ◆ Repetitive questions should be avoided.
- ◆ Questions based on recall are inappropriate.
- ◆ Questions should be based on, and relevant to, the stem.
- ◆ Questions should be devised to ensure that they reflect the requirements of the learning outcomes.
- ◆ Questions should be phrased in such a way that the learner's task is clearly indicated.
- ◆ A solution paper should be prepared so that there is a clear expectation as to the expected answers.

### **Example**

Caroline and Bob have two daughters, Mandy (8 years old) and Hannah (6 years old). Though close in age, the two girls are very different in personality. Relatives and friends think Mandy has a similar personality to her mother, whereas Hannah seems more like her father.

(a) What is meant by personality?

- (b) Give the full title of the EPI.
- (c) Describe two of the dimensions that Eysenck suggested in his trait theory.
- (d) According to psychoanalytic theory, the first personality structure to develop is the 'id'. Name the other two structures.
- (e) Discuss 'nature' and 'nurture' influences on personality.



## **Question papers**

A question paper is a collection of assessment instruments that are intended to sample a domain of knowledge and/or skills. It is administered under controlled conditions and is therefore kept confidential beforehand.

This method of assessment is used primarily to assess cognitive abilities. The external assessments in Standard Grade and National Qualifications are predominantly written question papers. Depending on the level of the qualifications, the examination will assess the range of candidates' ability to recall information, demonstrate understanding, interpret, apply their knowledge, solve problems, analyse and evaluate.

### **Use**

- ♦ to assess whether the candidate can retain, integrate and consolidate the knowledge and skills gained in individual units
- ♦ to grade attainment

### **Advantages**

- ♦ taken under strict conditions, which ensures the confidentiality of the material and minimises any chance of malpractice
- ♦ marking is carried out by external personnel and subject to a series of rigorous checks so reliability should be high

### **Limitations**

- ♦ can create artificial barriers, particularly for low and mid attainers
- ♦ can lead to 'teaching to the test', to the detriment of learning
- ♦ not useful for assessing all cognitive skills, for example, creative writing

### **Significant construction features**

- ♦ The language used in the question papers should not be a barrier to achievement.
- ♦ The weight given to a particular part of the syllabus in the question paper reflects its relative importance in the syllabus.
- ♦ The sampling of the syllabus is systematic but unpredictable to avoid question 'spotting'.
- ♦ The level of difficulty of the individual questions is appropriate.
- ♦ The mark available for each question must match the demands of the task and the test specification.
- ♦ The level of difficulty of the overall paper must be appropriate.

- ♦ The marking instructions must allow for a range of valid answers for open-ended questions.

### **Examples**

There are examples of SQA's many question papers in the free [SQA Past Papers](#) section of our website.

# Assessing practical ability

## Aural tests

An aural test assesses listening skills using live or recorded stimulus. It is sometimes known as 'listening comprehension'. Learners demonstrate their understanding by oral or written responses.

## Use

Aural tests are extensively used in language and music studies.

## Advantages

- ♦ can be offered and marked online
- ♦ can allow considerable coverage of content

## Limitations

- ♦ can be difficult to manage with large numbers of learners
- ♦ can be demanding of resources such as time, facilities and assessors
- ♦ offering the assessment 'live' can be even more time-consuming to set up, prepare for and manage
- ♦ reliability may be difficult to achieve because of the range of responses that the learners might give

## Significant construction features

- ♦ A checklist must be developed defining the outcomes to be covered and the standards to be expected; this will help to ensure that the assessment is valid and reliable.
- ♦ The stimulus needs to be written/developed in advance and used consistently with all learners.
- ♦ A detailed set of specimen solutions must be prepared so that there is a clear understanding, on the part of all assessors, as to the expected answers and the range of responses.

## Example

[Learn Listening Online](#) — a set of practice tests for NQ Music.

## **Case studies**

A case study consists of a description of an event, usually in the form of a piece of text, a picture or an electronic recording that concerns a realistic situation. This is then followed by a series of instructions which prompt the learner, as a detached observer of events, to analyse the situation, drawing conclusions and making decisions or suggesting courses of action. Case studies can be undertaken by individual learners, or by small groups of learners working together.

It is important to remember that in many case studies there are no 'correct' answers and no 'correct' methods of arriving at the decisions. What is important is the process of interpretation and decision-making, and the conclusion that the learner arrives at.

### **Use**

Case studies are designed to provide opportunities for exercising problem-solving and decision-making skills. They are particularly useful when the real situation would be difficult to set up and where the timescale for the learning is limited.

### **Advantages**

- ◆ useful for assessing both cognitive and behavioural skills
- ◆ the vocational relevance of the case study can be a useful way of motivating learners
- ◆ may be completed by individuals or small groups
- ◆ allows individual initiative to be exercised
- ◆ exposes learners to difficult situations without involving them in the stress of the real life situation
- ◆ gives learners the opportunity of practising situations they are likely to have to cope with in real life

### **Limitations**

- ◆ it can be difficult to devise good case studies
- ◆ reliability in marking might be difficult to achieve because of the range of approaches that the learners might adopt in undertaking the case study

### **Significant construction features**

A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable, and that the requirements of the situation defined in the case study are met.

## **Expressive activities**

In expressive activities the candidates produce artwork or design work using appropriate levels of skill in their chosen media. Their work can be 2 or 3 dimensional.

### **Use**

To develop aesthetic understanding, creativity, visual awareness and problem solving.

### **Advantages**

- ♦ promotes artistic self-expression
- ♦ encourages independent thought and initiative

### **Limitations**

Reliability in marking may be difficult to achieve because of the range of approaches that the candidates might adopt in undertaking this assessment.

### **Significant construction features**

A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable.

## **Oral tests**

An oral test is a test of the learner's listening and communication skills. It is often described as the 'assessment of speaking' or 'talking assignment'

Oral tests can take the form of a presentation on a topic chosen by the learner and a follow-up discussion with the assessor. Learners are expected to convey information and deploy ideas. They may describe personal experiences. Learners can be assessed individually or as part of a group discussion.

### **Use**

It is used to provide evidence of learners' ability to interpret and communicate ideas and to sustain conversation, either in English or in a foreign language.

### **Advantages**

- ♦ provides a valid means of assessing skills that involve self-expression

### **Limitations**

- ♦ can be difficult to manage with large numbers of learners
- ♦ can be demanding of resources such as time, facilities and assessors
- ♦ offering the assessment 'live' can be even more time-consuming to set up, prepare for and manage
- ♦ reliability may be difficult to achieve because of the range of responses that the learners might give

### **Significant construction features**

- ♦ A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable.
- ♦ The test items have to be written in advance and used consistently with all learners.
- ♦ A detailed set of specimen solutions must be prepared so that all assessors clearly understand the expected answers and the range of responses.
- ♦ Recording answers will help to increase reliability of assessors' decisions.

### **Note**

Oral tests should not be confused with the oral questions that may be used as an alternative to written questions when testing knowledge at the level of recall or comprehension.

## **Practical exercises**

A practical exercise consists of any activity that allows learners to demonstrate their technical and/or behavioural skills directly. The assessment may be based on the end-result of the activity (the product), or the carrying-out of the activity (the process), or a combination of both.

In some subjects, demonstrating a practical skill can show that learners can apply the knowledge needed to demonstrate competence. In other subjects, knowledge may not be apparent from the performance. In such cases, an additional assessment such as questioning may be required to supplement any observation of the skill.

The range of practical exercises is wide and includes composing or arranging a piece of music, researching and investigating a design problem, performing specialist dance sequences, undertaking laboratory exercises, and making an artefact and using it.

### **Use**

- ◆ allows the learner to display the skills, techniques, knowledge and understanding of their specialism
- ◆ provides evidence of practical skills gained, for example, in the workplace

### **Advantages**

- ◆ practical performance is of particular relevance in a vocationally-based system or where the subject being assessed is performance-based
- ◆ assesses 'real life' skills
- ◆ the completion of an artefact provides very tangible evidence of achievement
- ◆ practical activity can be very motivating for learners
- ◆ may help in integrating assessment across outcomes and units

### **Limitations**

- ◆ can be very time-consuming to carry out with large numbers of learners
- ◆ reliability may be difficult to achieve

### **Significant construction features**

- ◆ A brief needs to be clearly defined for learners.
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable and that the requirements of the brief are met.

## **Role-plays**

In role-play, learners are presented with a situation, often a problem or incident, to which they then have to respond, by assuming a particular role — unlike a case study where the learner is a disinterested observer. The enactment may be unrehearsed or the individual may be briefed in the particular role to be played. Such assessment is more open-ended and person-centred than simulations.

### **Use**

Role-play can be used to assess a wide range of behavioural and inter-personal skills. It is probably best used formatively to allow learners to safely try out particular forms of behaviour, to improvise, and to develop new skills.

### **Advantages**

- ◆ allows assessment of individual initiative
- ◆ assesses learners in a realistic environment but without the stress of the real situation
- ◆ feedback from the role-play encourages reflection on performance and provides a useful stimulus for learning
- ◆ performance can be recorded and reviewed

### **Limitations**

- ◆ difficult to manage with large numbers of learners
- ◆ requires experienced tutors to handle well
- ◆ learners' performance may be affected by the knowledge that they are being assessed
- ◆ reliability may be difficult to achieve

### **Significant construction features**

- ◆ The purpose of the role-play needs to be clear.
- ◆ A brief needs to be clearly defined for learners.
- ◆ The situation needs to be realistic and believable.
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected. This will help to ensure that the assessment is valid and reliable and that the requirements of the brief are met.
- ◆ Time needs to be given for feedback and reflection on performance.
- ◆ Formative assessment needs to take account both of the learner's reflection on the issues raised by the role-play, and on the performance itself.



## **Simulations**

A simulation is a structured practical exercise with specific objectives involving the organisation and completion of a product or resource based task and which seeks to simulate real-life conditions.

In a simulation the learners are active participants who shape the result by their involvement. To be effective, simulations must succeed in recreating the atmosphere, conditions and pressures of the real situation. A simulation differs from a role-play in that the simulation focuses on a particular activity and aims to test behavioural, analytical and decision-making skills in a realistic setting.

### **Use**

Simulations are used where assessment would be difficult to carry out for reasons of safety, expense and client confidentiality, and for dealing with contingency or emergency situations.

### **Advantages**

- ◆ allows individual initiative to be exercised
- ◆ gives learners the opportunity of displaying skills they are likely to need in the world of work
- ◆ assessment carried out in a 'safe' environment
- ◆ learners are likely to be motivated by the realism of the assessment
- ◆ some simulations can be carried out online

### **Limitations**

- ◆ often difficult or expensive to simulate real situations
- ◆ requires experienced tutors to handle well
- ◆ may be difficult to manage with larger groups
- ◆ reliability may be difficult to achieve

### **Significant construction features**

- ◆ The simulated situation should be designed to represent real, credible circumstances.
- ◆ The brief for the simulation needs to be clearly defined.
- ◆ Any resources or equipment that would normally be in real work should be available and in working order for the simulation.
- ◆ Learners should complete the required tasks in the timescales that would normally be expected in real work, taking account of any legislation and regulations that would apply in real work.

- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected in the simulation. This will help to ensure that the assessment is valid and reliable and that the requirements of the brief are met.

### **Examples**

Simulations can cover a wide range of activities. They can be managed in relatively easy circumstances and without requiring much technical back up (as with the evacuation of a building during a fire drill), or they can be detailed, complex and expensive to set up (as with simulating a call centre or the flight-deck of a plane).

## **Self-report techniques**

### **Log-books**

A log-book can, if properly structured, provide a useful means of assessing the progress of a learners' achievement or performance. To be effective, it should have clear instructions for use, and should give guidance to learners on how essential information is to be recorded. In the workplace, learners might keep a log-book to monitor and check the operation of specific equipment or to keep a record of processes. Such records can also be scrutinised by the assessor.

### **Use**

Log-books are used to provide supplementary evidence of the learner's ability to carry out a range of activities and tasks. They are kept by the learner and record the number of times that specified activities and tasks were undertaken in a range of settings.

### **Advantages**

- ◆ provides a useful means of assessing cognitive and behavioural skills
- ◆ develops good record-keeping discipline
- ◆ encourages self-motivation
- ◆ can be implemented as blogs
- ◆ regular inspection of the log-book provides opportunities for guidance
- ◆ provides useful information for course evaluation

### **Limitations**

- ◆ requires the co-operation of motivated learners
- ◆ can be time-consuming for learners to compile
- ◆ can be time-consuming for assessors to monitor
- ◆ may be difficult to ensure that the log-book is a true record
- ◆ assessment of behavioural skills can be unreliable
- ◆ reliability may be difficult to achieve

### **Personal interviews**

The personal interview is probably the oldest and best known means of eliciting information directly from learners. An interview can be two-way, providing learners with the opportunity to question the assessor. It also provides a useful means for offering guidance and support and giving feedback.

### **Advantages**

- ◆ flexibility
- ◆ provides opportunities to explore particular aspects of the topic

### **Limitations**

- ◆ can be time-consuming with large numbers of learners
- ◆ reliability can be difficult to achieve

### **Significant construction features**

- ◆ The purpose of the interview needs to be defined and agreed between assessor and learner.
- ◆ A checklist must be developed defining the outcomes to be covered and the standards to be expected; this will help to ensure that the assessment is valid and reliable and that the purposes of the interview are met.
- ◆ A set of questions must be developed to meet the requirements of the checklist.
- ◆ A set of expected responses must be prepared so that there is a clear understanding, on the part of all assessors, as to the expected answers and the range of responses.
- ◆ The interview should be recorded.

## **Questionnaires**

A questionnaire is essentially a structured written interview consisting of a set of questions relating to a particular area of performance. Unlike a personal interview, it is administered and judged under standard conditions.

## **Use**

Questionnaires are particularly suited to the assessment of outcomes concerned with attitudes, feelings, interests and experiences.

## **Advantages**

- ◆ provides an efficient means of gathering information with respect to learners' experiences
- ◆ less time-consuming to administer than personal interviews

## **Limitations**

- ◆ responses may not be a true reflection of a learner's attitudes
- ◆ requires considerable skill to construct questionnaires which will elicit the desired information
- ◆ may be difficult to interpret the results, ie to specify what is a satisfactory performance
- ◆ reliability may be difficult to achieve

## **Significant construction features**

- ◆ A checklist must be developed identifying all the outcomes to be covered by the questionnaire.
- ◆ The questions must meet the requirements of the checklist.
- ◆ Set responses must be prepared so that all assessors clearly understand the expected answers and the range of responses.

# Assessing SQA qualifications

SQA qualifications can be assessed internally, or externally, or both. The use of internal and external assessment varies across SQA qualifications. The majority of our qualifications are internally assessed (by assessors in our centres) and externally verified by us.

The current modes of assessment are as follows:

♦ Standard Grade	internal and external (sometimes only external)
♦ Access 1, 2 and 3	internal
♦ Intermediate 1 and 2 Courses	internal and external
♦ Higher Courses	internal and external
♦ Advanced Higher Courses	internal and external
♦ National Certificates	internal
♦ Skills for Work Courses	internal
♦ National Progression Awards	internal
♦ Higher National Certificates	internal
♦ Higher National Diplomas	internal
♦ Scottish Vocational Qualifications	internal
♦ Professional Development Awards	internal

## Internal assessment

In internal assessment, assessors in our centres are responsible for deciding how candidates have performed in relation to the standards for the qualification. They do this either by applying assessment tasks that they have devised themselves, or by applying assessments that we have devised for use by centres. These tasks can be written examinations, project work or practical performances.

Whether it is an assessment devised by an individual centre or SQA, the responsibility for carrying out the assessment belongs to the assessor in the centre, working in line with SQA guidance and subject to SQA quality assurance processes.

Any national system of assessment must have effective checks and balances in place to ensure that standards are being applied and maintained. [SQA's Quality Framework: a guide for centres](#) defines in detail how quality assurance is carried out for SQA qualifications.

Internal assessment is quality assured by a process called verification. This focuses on:

- ♦ validity of assessment instruments
- ♦ practicability of assessment instruments
- ♦ reliability of assessment decisions
- ♦ equity of the assessment
- ♦ consistency of the quality of assessment practices within centres over time

There are two parts to verification: internal and external.

- ♦ Centres manage internal verification
- ♦ SQA manages external verification

### **Internal verification**

Internal verification ensures that centres are making consistent and accurate assessment decisions in accordance with the assessment criteria defined within our qualifications.

### **External verification**

External verification ensures that national standards are being maintained consistently across all centres.

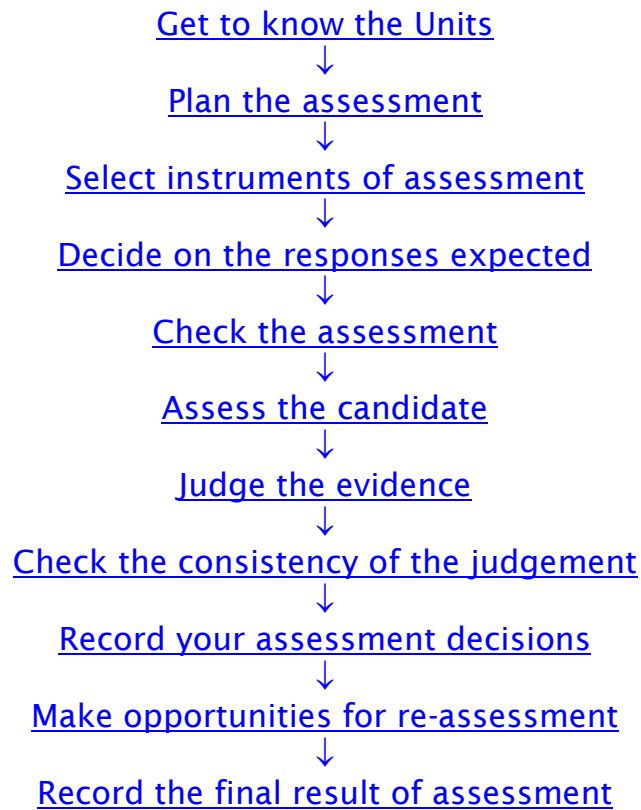
There is more information on verification on the [Assessment Standards](#) and [SQA Academy](#) websites.

### **External assessment**

SQA is responsible for devising and marking external assessments. These can be written examinations, project work or practical performances. Centre staff are responsible for administering external assessments in the centre in accordance with our procedures which are available from our [Operational Help Centre](#).

## The assessment process for SQA Units

The sequence of stages shown here describes the process of assessment from the assessor's point of view. Following this sequence will help you to develop assessments that are valid, reliable and practicable.



### Get to know the Units: content and standards

You should take time to familiarise yourself with the Units and the specific requirements of the assessments. An important element of valid and reliable assessment is knowing what is required by the national standards in the Unit Specification. SQA Units describe the evidence candidates have to produce and define the contexts in which they should do it.



## **Plan the assessment**

You should draw up a plan indicating how the Units you are assessing will be assessed. In a course or programme of study consisting of a number of Units it is likely that a wide range of assessment methods will be used. It will be helpful to you and other assessors (and to the internal verifier) if you have an assessment plan for the programme of study which:

- ◆ describes what is to be assessed
- ◆ says what assessment methods are to be employed
- ◆ provides a rationale for using these to ensure that the skills, knowledge, and understanding defined in the Units will actually be assessed
- ◆ allocates Units to particular assessors — this is a prerequisite for some SVQs where the assessment strategy calls for an independent assessor
- ◆ describes how the assessments are to be administered — eg online, pen and paper, or practical
- ◆ defines opportunities for integrating assessment
- ◆ provides a timetable for when the assessment will take place
- ◆ notes arrangements that need to be made to take account of additional support needs or prior learning
- ◆ describes the measures to be taken to ensure that the evidence produced is authentic and current
- ◆ describes how and when requirements for record-keeping and quality assurance processes will be met

You should discuss the plan with the candidates, either as individuals or in groups, taking account of the learning that is taking place so you can make best use of the available facilities during assessment.

## **Select instruments of assessment and devise the assessment tasks**

### **National Assessment Bank**

In National Courses, there are assessments for National Units in the National Assessment Bank (NAB). The advantages of using NAB assessments are that their validity has already been confirmed, and that they come complete with assessment schemes (ie marking guidelines). When you choose to use a NAB assessment, your responsibility as assessor is to ensure that you administer the assessment and apply the marking schemes correctly.

## **Assessment Support Packs**

There are also Assessment Support Packs (ASPs) for some National Units that are part of National Certificates and National Progression Awards. These provide exemplar assessments.

## **Assessment exemplar packs**

In HN Qualifications we provide exemplar assessments. These give an example of how assessment for an HN Unit might be approached. If you intend to use an HN exemplar for your assessment you should review the exemplar in conjunction with the national standard in the Unit Specification to help you to make sure that it assesses what you want to assess. You will need to decide whether you are able to use the exemplar as it is or whether you will use it as the basis for developing your own assessment. You can find out more about [HN Assessment Exemplars](#) by clicking this link.

If you decide to use the exemplar as it stands it will be important to make sure that it is relevant to the context in which the Unit is delivered in your own centre. If you decide to change the exemplar assessment or to develop your own Unit assessment, again, we recommend that you request prior verification.

## **Devising your own assessments**

If you want to devise your own instruments of assessment for National Units or make amendments to an existing NAB, we recommend that you refer to existing NABs or ASPs to ensure comparable standards, and that you request prior verification of your assessments.

When devising your own assessments for any SQA qualifications, you need to identify beforehand the skills candidates have to be able to demonstrate, and the knowledge and understanding that they need to attain.

Just as assessment can be divided into the three categories of observation, product evaluation and questioning, so outcomes are written to describe:

- ◆ an activity which can be observed
- ◆ a product which can be evaluated
- ◆ knowledge, understanding and other analytical skills which can be tested by questioning

So, when you are devising an assessment, you should consider the way the outcomes are worded to identify what it is that needs to be

assessed. From this you can start to identify the best assessment instruments for your purpose.

### **Where the outcome is practical**

If the verb that describes what the candidates are expected to do is practical (ie if it is concerned with the candidate doing or making something), the evidence to be generated involves performance. You should therefore observe the candidates carrying out the activity and/or evaluate the product of that activity.

In some instances (depending on the information given in the Unit), you will have to check that the candidates understand the reasons for undertaking an activity in a particular way. In these cases you will want to ask the candidates questions to test their knowledge and understanding. Knowing about the activity, however, is no substitute for being able to do it. So, where knowledge is tested in a practical activity, it will be in support of observing the activity, not instead of it.

See the '[Assessing practical ability](#)' section in this guide for more information on suitable assessment instruments.

### **Where the outcome is cognitive**

If the verb that describes what the candidates are expected to do is cognitive (ie if it is concerned with knowing, understanding or being able to explain something), you will want to test the candidates' knowledge, understanding and analytical skills by asking questions which can be answered orally or in writing.

When you use questioning you will be doing any or all of the following:

- ◆ assessing your candidates' knowledge and understanding
- ◆ confirming your candidates' knowledge and understanding where it is not apparent from performance
- ◆ addressing gaps in knowledge and understanding in performance-based Units
- ◆ authenticating your candidates' evidence by asking them to explain parts of the evidence and/or describe the process of producing it
- ◆ assessing contingencies where it would not be practical or safe to wait until the skill or activity can be observed

There is more about assessment methods for testing cognitive abilities in the '[Assessing cognitive ability](#)' section in this guide.

In assessing both practical and cognitive skills you must use the information in the Unit to identify the standard to which the activity is to be performed by the candidate. Your choice of instrument of assessment will depend on a number of factors. The assessment instrument must:

- ◆ allow candidates to produce enough evidence of the skills, knowledge and understanding specified in the Unit to ensure coverage of the outcomes
- ◆ generate evidence that can be measured against the standards specified in the Unit
- ◆ integrate assessment where possible by, for example, combining the assessment of outcomes within a Unit or across a range of Units into one problem-solving situation or scenario
- ◆ make sure that the demand of the assessment matches the demand of the SCQF level of the Unit
- ◆ be chosen to make best use of available resources
- ◆ take account of cost effectiveness in terms of staff and candidate time
- ◆ be designed to help all assessors to make reliable assessment decisions where the same assessment task has been applied

### **Decide on the responses expected**

In devising an assessment, it is important to think about what you will accept as evidence and how this will be marked or measured. You should develop your assessment scheme (your 'marking instructions') as you devise your assessment. There are several reasons for doing this:

- ◆ To make sure that the knowledge, product or performance evidence that you expect to receive from the candidates will actually be generated by the assessment you have set.
- ◆ To establish consistency in marking. It will help you to be objective in your marking since you will be able to compare the evidence the candidates give you with the requirements of your assessment scheme. This will help to ensure that you give credit to all candidates in the same way.
- ◆ To establish consistency between and amongst all assessors. Having an agreed assessment scheme will help to make sure that markers apply the same standards in their marking.
- ◆ To make the assessment process as efficient and effective as possible. If you develop a clear assessment scheme it will help you to undertake the marking process within a reasonable timeframe and give results and feedback to candidates as soon as possible.

### **Specimen solutions for questions**

Whenever you are designing a set of questions, either to administer in a written test or to ask the candidate orally, you should always prepare a detailed set of specimen solutions to accompany the questions. This is your ‘marking scheme’.

You should take time to think what your questions actually mean and what you really want the candidates to write or say in response. And you should try to anticipate, as far as possible, all the acceptable responses to your questions. This is especially important with extended response assessment instruments, where there might be a wide range of acceptable solutions.

When developing your marking instructions, you should ensure that you use positive marking — you should give marks for what is correct, rather than deduct marks for what is wrong. Doing the latter could result in a negative score — to say nothing of demotivating the learner when they see the result.

Try to avoid setting questions with two related parts where the correct answer in the second part depends on having the correct answer to the first. If you cannot avoid this, and the answer to the first part is wrong and has been carried forward to the second part, you should not apply a double penalty where the candidate has been shown to carry out all the steps correctly in the second part.

Bear in mind that your notional pass score (or ‘cut-off score’) may need to be adjusted in the light of candidate evidence — sometimes a test can turn out to be easier or more demanding than you intended. Note, though, that cut-off scores in NABs cannot be adjusted.

### **Assessment schemes for practical abilities and assessments such as projects, dissertations and case studies**

For practical abilities and product evaluation, your assessment scheme is most likely to be a checklist that defines in detail:

- ◆ the full range of behaviours/skills you expect to see demonstrated
- ◆ the expected performance levels
- ◆ any degree of tolerance that is to be given in the performance of some tasks

It is good practice to base this checklist on the standards of the Units you are assessing. However, it is not advisable simply to use the Unit Specification and the evidence requirements as a checklist. Doing this could lead to a fragmented approach to assessment and could tell you very little about whether your candidates are able to

transfer skills to other contexts. Instead, you need to work across all the outcomes and Units you are assessing to develop an integrated and coherent checklist for your particular assessment.

Taking time over your specimen solutions and assessment schemes will help to ensure that you offer the same assessment opportunity to all your candidates.

### **Check the assessment and assessment scheme**

It is important to carry out a check on the assessments and assessment schemes you have developed before they are offered to candidates.

The usual way of ensuring that assessments are appropriate to the task they have been designed for is to consult with the internal verifier — another experienced member of staff in the same subject area. The internal verifier is responsible for reviewing your proposed assessments and corresponding answers or solutions to confirm that they:

- ◆ are of a suitable standard
- ◆ apply to the relevant Unit Specification
- ◆ are valid, reliable and practicable

**Note:** Even after an assessment has been administered to the candidates, you might have to make further adjustments to your marking scheme. For example, for process or practical skills, you might, after assessing a few candidates, find that the observation checklist needs to be amended. For a written test, where a group of candidates are completing an assessment at the same time, you might have to make changes to the marking instructions to include more answers.

It is essential to make sure that all candidates are assessed according to the same marking instructions or checklist of requirements. Therefore, any changes that are agreed to these must be communicated promptly to all assessors and internal verifiers. These changes need also to be recorded for the information of the external verifier.

### **Assess the candidate**

You should now have a valid and practicable assessment that you can use with your candidates. However, valid assessments can be used inappropriately, so you need to be aware of how the reliability of assessment decisions can have a bearing on the fair and consistent assessment of your candidates.

When you are using an assessment, you should be aware that there are certain conditions that need to be created at the time for the assessment to be valid and reliable. There are many types of assessment conditions, but what they all have in common is that they must be applied consistently and effectively to all candidates if national standards are to be maintained. Arrangements documents, Unit Specifications and Assessment Strategies can prescribe such conditions, and you should always refer to these documents when planning assessment to ensure that you conform to the requirements. For example:

- ◆ In a **written test**, you should ensure that candidates are:
  - given a quiet environment in which to complete the assessment
  - subject to the same time restrictions for the test, unless there are arrangements for additional assessment requirements
  - subject to invigilation to ensure silence and no collaboration
  - aware of when they are able to consult text books, dictionaries or use calculators and when they are not
- ◆ Decisions about interpreting assessment conditions — eg what we mean by *open-book* and *closed-book* assessments — should be taken on a centre-wide basis and not left to individual assessors to decide.
- ◆ There are sometimes occasions when it is appropriate to arrange for candidates to write up their project work under **supervised conditions**. For instance it might be appropriate for centres to ensure that some of the assessment material for the Graded Unit in HNCs and HNDs is produced under supervised conditions. The Graded Unit Specification will tell you when this is necessary.
- ◆ Some **practical assignments** involve candidates producing artefacts (for example designing and making a product in line with specifications). Therefore you should be able to observe your candidates at first hand. These observations can also be supported by asking the candidate to explain or describe ways of working and to gather more evidence on the activity.
- ◆ In assessments involving **observation** of practical skills, you should ensure that:
  - candidates know they are being assessed
  - candidates know what skills or activities you expect them to demonstrate
  - your observation is as unobtrusive as possible

- ◆ For assessments like **projects**, where candidates may be asked to complete practical assignments, case studies or portfolios, you should ensure they are aware of:
  - how much they can confer amongst themselves
  - the level of support you will offer them
  - to what extent they are able to consult text books, dictionaries or use personal computers

## **Judge the evidence**

As the assessor, you have to decide when to say that the candidate has provided enough evidence of sufficient quality to confirm that he or she has reached the required standard. You make this judgement against the outcomes and evidence requirements for the Units.

Some candidates will work quickly through a course of learning, and others will take much longer, so your assessment procedures have to be flexible enough to meet the varied capacities and needs of your candidates.

SQA's internal assessment system helps to make assessment more flexible, but this flexibility can have a downside. You might find that you are assessing a range of candidates at different times, and this might raise resources, workload and timescale issues.

Using computer-assisted assessment might help to reduce the assessment and marking burden while continuing to offer candidates more frequent assessment opportunities.

Candidates who take longer to work through a Unit and who need to be re-assessed on several occasions should be assessed only against the standards for the Unit (and must not be compared with the quicker learners). If all candidates achieve competence for a Unit assessment, all will pass. There is no requirement to let only a certain percentage pass, or to try to allocate an order of merit to the group.

Sometimes you have to recognise that competence may not be attainable by all candidates — there is a point when you may have to accept that some candidates will not be capable of completing a Unit. Your centre will have its own guidance on when this point is reached and what you should do to help a candidate who has arrived at it.



## Check the consistency of the judgement

### Avoiding bias

As an assessor you need to be aware of the danger of your assessment decisions being biased by factors that should have no bearing on the assessment process or your judgements.

Appearance and dress should not be allowed to influence your decision, unless these are explicitly stated in the standards.

Another factor that may affect your judgement is the ‘halo and horns’ effect. The halo effect can emerge when you are familiar with your candidates, and a good performance in the past leads you to assume they are performing well at present. The opposite of this is the horns effect where, no matter how well your candidates are currently performing, your judgements of poor performance in the past are continuing to influence your assessment decisions.

Methods for enhancing objectivity and consistency include:

- ♦ well written assessments with clear marking instructions
- ♦ training for assessors
- ♦ standardisation of assessment decisions

Standardisation of assessment decisions is an important part of ensuring reliability. Internal verification should ensure that your centre continues to carry out checks on the way that all assessors are applying the standards. This will help to ensure that assessment decisions have not changed over time.

The standardisation methods you use will depend on the nature of evidence. There are a number of techniques. For example:

- ♦ When the evidence consists of scripts from written tests, you may wish to **divide up the evidence** so that the same assessor assesses the same section across all candidates. This allows each assessor a better chance to understand and apply associated assessment schemes. It also balances those assessors who might be a little hard or a little lenient in their assessment and helps to eliminate halo and horns effects. You should pay particular attention to borderline decisions.
- ♦ When assessing coursework, folios, reports or case studies, you should consider setting up **agreement trials** based on the assessment scheme. In a small centre, this can be done informally by sharing samples of candidates’ work, discussing these and reaching a consensus. In larger centres with many staff, it will require a more formal system of agreement under the direction of the internal verifier. By discussing discrepancies

and coming to a shared understanding based on the assessment criteria, a common standard will be applied. Note: you can also do this with candidates' scripts from written tests.

- ◆ When assessing practical or process skills, you will also need a form of agreement trial, perhaps involving pairs of assessors. This model is most effective if an internal verifier assesses a sample of candidates alongside the assessor. Both should initially make independent judgements, and then discuss discrepancies and reach consensus.

In smaller centres, it may be necessary to work with another centre when carrying out these activities. This can be advantageous as it encourages the sharing and dissemination of good practice.

### **Record your assessment decisions**

You must keep records of the assessments you have undertaken with your candidates. There are various reasons why record-keeping is so important, including:

- ◆ it provides a way of tracking candidates' progress
- ◆ internal and external verifiers will use the records to help them select sample assessment decisions for review
- ◆ SQA can use your records when monitoring quality assurance activities in your centre

You may decide in reviewing the evidence, however, that there is some part of the evidence that requires re-assessment before you can record your decision.

### **Make opportunities for re-assessment**

Where candidates have been unsuccessful in demonstrating their attainment, they can be re-assessed. Some qualifications may stipulate the conditions in which re-assessment can be carried out, and it is important to abide by these. If there are no such requirements, our advice is that there should normally be one, or in exceptional circumstances two, re-assessment opportunities.

You will need to consider whether your candidates need to re-take the whole assessment or only part. This will depend on:

- ◆ the assessment instrument that has been used
- ◆ the purpose of the assessment

For practical skills and practical assignments, it might not be possible to re-assess only those parts of the performance in which the candidate has failed to demonstrate competence. If you were to try to do this you would probably fragment the assessment process and would not be able to make a judgement about the candidate's actual performance in the assessment activity as a whole.

For written tests designed to identify the candidate's knowledge or understanding at a given point in time or as a whole, it might also be necessary to re-assess the whole test.

Where it is possible to isolate a discrete outcome which has not been achieved, it should be possible to re-assess just that single outcome. However, where parts of several outcomes are involved, it would be simpler and more sensible to present the candidate with a complete new assessment.

Where the evidence is generated over a period of time, such as in a project, it might be valid simply to re-do parts of an assessment. It might, for instance, be feasible for the candidate to re-submit the part of the project where there was a problem and for this then to be incorporated into the final submission. It is good practice in the case of such long-term exercises, however, to aim to assess in stages rather than to 'end-load' the process. This would allow, for example, a poor plan to be identified early on and to be re-made without jeopardising the full project.

In assessments that test knowledge and understanding and other cognitive skills, candidates should not be given the same assessments repeatedly, or be asked identical questions. If this were to happen they would be able to rehearse the expected answers without knowing why they were acceptable. In these situations, you will need to have alternative assessments available and ensure that other candidates have also not undertaken the assessment recently.

In all cases of re-assessment, the assessment must be of equal demand to the original assessment.

### **Record the final result of assessment**

Once you have carried out your assessments and have sufficient, relevant, and authentic evidence showing that your candidates have met the standards, you are in a position to make and record your final assessment decision. This provides the basis of the results information that is sent to SQA for certification purposes.

Remember that all internal assessments will be subject to internal verification and external verification. This will ensure that the assessment decisions taken by one assessor in a centre are consistent with the decisions taken by:

- ◆ other assessors in the same centre
- ◆ other assessors throughout the country

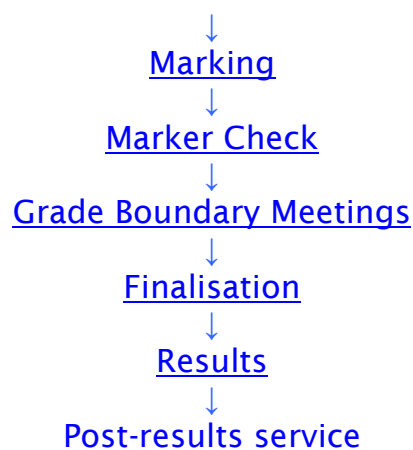
Make sure that you cross-reference evidence for certification back to the national standards. This is a requirement in SVQs, but is good practice for all qualifications as it shows that you have assessed all parts of the standards. There can be no SQA certification if external verifiers are not satisfied that your assessments meet the national standard.

## The assessment process for SQA Courses

National Courses and Standard Grades are externally assessed, some by means of written examinations, some by practical work or performance and others by projects. In all cases, the candidate evidence is subject to external marking or visiting examination. National Courses are awarded at grades A-D on the basis of the external assessment. Standard Grades are awarded at Credit, General or Foundation level and the final level is based on a combination of internally and externally assessed Elements. The details for each National Course are contained in the appropriate [Conditions and Arrangements 2007/2008](#) documents.

The following sequence outlines the process of external assessment carried out by SQA. More detailed information is available in [Appointee Services](#).

### Preparation of an external assessment



### **Preparation of an external assessment**

SQA appoints subject experts to set a question paper/ prepare an assignment brief. Their draft is discussed by the Principal Assessor for the subject. The assessment is then vetted by three other subject specialists to check content, difficulty and wording including equality issues. After printing a final quality assurance check is carried out by a scrutineer.

### **Marking**

After a written assessment, the marking scheme is finalised by experienced examiners. SQA trains markers and allocates random packets of examination scripts. Marking then takes place either at markers' homes or in a central venue. Visiting examiners are allocated centres to mark practical assessments.

### **Marker Check**

The work of markers is subject to quality checks to ensure that they are marking to the national standard.

### **Grade Boundary Meetings**

SQA is responsible for ensuring that the grade a candidate achieves in a subject represents the same standard as in the previous year or in the following year. We must also ensure that it is not easier or harder to achieve the same grade across different subjects. We do this by holding Grade Boundary Meetings with a range of people with subject knowledge and experience of applying national standards across different subjects and levels of qualifications. The meeting sets the pass mark or minimum mark which National Course candidates have to achieve to gain a grade C in that subject and the grade boundaries or the minimum marks needed to gain a grade D, grade B or grade A.

For Standard Grade, awards are determined separately for each Element of the subject. In most subjects there is one internally-assessed Element where the grade is awarded by the centre. The minimum mark for each grade of the other Elements are considered at the awarding meeting.

For Project-based National Courses, a meeting is held between the Principal Assessor and senior SQA staff to scrutinise samples of the current year's candidate project work and archived material from previous years.

## **Finalisation**

Assessments which are on the borderline between one grade and another are re-assessed. Awards for absentee candidates are also determined during this procedure.

## **Results**

SQA issues certificates annually to all Standard Grade and National Course candidates on a fixed date in August. We also issue results for all our other qualifications throughout the year.

SQA qualifications are issued on the Scottish Qualifications Certificate (SQC). They also include Core Skills and SCQF profiles. Certificates are accompanied by an information sheet which outlines the various types of qualifications, and provides candidates with additional information.

Candidates who achieve a Group Award (such as a Scottish Vocational Qualification or a Higher National Certificate) will also receive a separate Group Award commemorative certificate. Detailed information on certification is available from our [Operational Help Centre](#).

## **Post-results service**

SQA operates a telephone advice line for candidates immediately after the issue of the August results.

SQA considers formal appeals from centres on behalf of Standard Grade and National Course candidates whose result is lower than expected. SQA appeals are based on consideration of alternative, centre-generated evidence of attainment. Appeals are considered by teams of experienced examiners. Where the centre's assessment instrument(s) are valid and reliable and the candidate's demonstrated attainment merits an upgrade, an appeal will be granted. If the evidence does not show attainment at a higher level than the initial award, the examiners then review the candidate's external assessment in detail to make sure that it has been fairly marked. An appeal cannot be turned down until all this evidence has been considered.

# Best practice in assessment

## Giving feedback promptly

Assessment contributes to effective learning when the assessments are well designed and the results of assessments are fed back promptly to learners. Feedback provides learners with information on how well they are learning and how they can improve. This is an essential aspect of formative assessment, and complements learning and teaching. But it also applies to summative assessment, which also provides learners with information on their progress and can be a powerful means of motivation.

## Involving the learner in the assessment process

It is good practice to involve learners as much as possible in the assessment process, as doing so:

- ♦ will help to encourage a sense of ownership of their learning and assessment, and a greater understanding of the process
- ♦ can aid assessment planning — learners might be able to identify suitable opportunities for assessment
- ♦ will assist portfolio building (for those learners who are using portfolios)

## Integrated assessment

In SQA qualifications, it is not necessary to design an instrument of assessment to assess each Outcome or Performance Criterion separately — a more integrated approach to assessment can:

- ♦ take less time
- ♦ avoid over-assessment and improve motivation
- ♦ make the assessment process more meaningful for learners
- ♦ facilitate verification
- ♦ give assurance of overall competence and improve validity
- ♦ benefit learning

The activities that make up the integrated assessment must be included in the assessment plan and cross-referenced back to the Outcomes and evidence requirements. This will help to ensure that all Outcomes of all the Units have been achieved. This is particularly important with SVQs, where not just Elements but also Performance Criteria have to be cross-referenced to the activity and confirmed as achieved.



## **Literacy skills**

In choosing an instrument of assessment, take care to ensure that, if there are learners who would have difficulty providing written evidence, this does not become a barrier to assessment for them. For example, asking learners to produce a personal statement as evidence of their knowledge and understanding might demand higher literacy skills than required in the standard. In this case, you could choose an alternative method of assessment, such as oral questioning, to ensure your candidates have the appropriate knowledge and understanding.

## **Checklist for best practice**

These questions should help you reflect on ways of ensuring best practice.

### **What is the purpose of the assessment?**

Is it to identify individual strengths and weaknesses?

Is it to measure progress and provide feedback?

Is it to measure individual attainment against a specific learning goal or standard?

### **What is the role of the assessment in the programme of learning?**

Is there an overall plan for assessment that aligns the learning outcomes, the learning and teaching process, and the knowledge and skills to be acquired?

Does the assessment match the sequence of knowledge acquisition and/or skills development in the learning/training programme?

Have you avoided excessive assessment by considering learning workloads both within and across subjects?

Have you reduced over-assessment by identifying opportunities for using integrated assessment?

Is there a regular review of assessment practice and its impact on learners?

### **Have you thought about your own practice?**

Do you use a variety of assessment methods to minimise the limitation of any one method?

Is there an over-emphasis on written assessments that does not reflect the stated learning outcomes?

Have the learning outcomes and the criteria for success been explained to learners?

Is the level of language used in the assessment appropriate to the learning outcome?

Have you ensured that the assessments do not pose any unnecessary barriers to any individual?

Has each assessment been scrutinised by colleagues to ensure that it meets the intended purpose?

Is the assessment to be taken individually, by a group or a complete class?

How will the assessment be marked? Have you developed a set of specimen solutions/assessment scheme?

How is the marking to be standardised?

# Assessment toolbox

This section provides you with more information on the range of tools that you can use to help you carry out assessment.

## Malpractice

Malpractice issues arise when candidates are found to have received assistance from others or have plagiarised the work of other candidates or authors.

The risk of malpractice is greater when you do not have the opportunity to observe your candidates carrying out activities or producing evidence at first hand. When you do not have this *direct evidence*, you will need to take steps to confirm that your candidates' evidence was genuinely produced by them. This process is often referred to as **authentication**. Having a rigorous authentication system will help you to minimise the number of malpractice cases you encounter.

Authentication can be achieved by using one or more of:

- ◆ controlled access to online materials
- ◆ use of personal logs
- ◆ personal statements produced by your candidates
- ◆ peer reports
- ◆ questioning
- ◆ write-ups under supervised conditions
- ◆ witness testimony

## Controlled access to online materials

Written assessments can be designed to be so specific that candidates cannot simply download information from the web or copy chunks of text. Using case studies, requiring students to include information from their own experience, can also help to reduce plagiarism.

## Personal logs

Where candidates are producing evidence over an extended period of time, you can ask them to maintain a diary or 'log' of the planning, developing and reviewing activities they do in the course of the assessment. The log can be used to record success and problems, and can provide you with a basis for questioning. The log can also be used to authenticate. The log should always include dates and times for the events described.

## **Personal statements**

Personal statements, sometimes known as 'story boards' should explain the evidence, the context and the candidate's role within it. They can be a valuable tool for telling you what your candidates know, understand and can apply to the range of activities and skills they are required to demonstrate as part of their qualifications. They are also an effective way of confirming that evidence presented by candidates is their own work.

Some candidates, such as those working towards higher-level qualifications, might be comfortable producing personal statements. However, there will be qualifications where written communication skills are less critical. You must make sure that the evidence you require does not ask for more than is stipulated in the standards for the qualification. Where your candidates are unable to provide personal statements, you should consider using other methods of assessment to establish their expertise, such as questioning.

It is normal practice to have candidates sign and date personal statements.

## **Peer reports**

Where candidates have been involved in group work (a project, for example), it is useful to encourage the members of the group to report on each other's involvement in producing the evidence against the outcomes and evidence requirements of the unit. The group members can describe the part played by each member of the team. This can help to shed further light on individual involvement in the task and can lead to an element of peer assessment.

It is important with peer reports to ensure that the peers understand their role in relation to the task, so you will have to devote time to explaining how the peer reports should be made.

It would be wise, however, not to place too much reliance on this method if you are concerned about friendships or rivalries influencing these reports or if you feel that the group has an inherent distrust of the peer assessment process.

SQA is currently piloting the use of social software for group projects. This will help to tackle issues of plagiarism and malpractice.

## Questioning

When you have not been able to see the candidates perform activities at first hand, it will be useful to ask them questions about what they did and why they did it. This will help you to confirm that they have done the work presented to you as their own.

## Write-ups under supervised conditions

In write-ups under supervised conditions, candidates produce a proportion of their work in a supervised environment and partly under centre-invigilated conditions. Candidates are allowed access to prescribed resources, and time allocations for the write-up are stated for each session. Time allocations should be generous.

## Witness testimony

Witness testimony can be a valuable source of evidence where it has been produced by a reliable witness — the more reliable the witness, the more valuable the evidence.

There are various criteria you should bear in mind as you and your candidates identify witnesses to provide testimony. The most reliable kind of witness would:

- ◆ be familiar with the national standards and what is required of candidates
- ◆ know the task and what is expected of employees in the workplace
- ◆ be qualified in the Assessor/Verifier Awards or working towards them

A witness who can meet **all three** of these criteria is likely to be a most reliable source of evidence. However, this should not rule out seeking witness testimony from someone who cannot meet all the criteria — at the very least, such individuals will be able to confirm or authenticate that your candidates carried out a number of different activities at specified times. However, their witness testimony will be less valuable to you in what it can tell you about your candidates' expertise.

In deciding to use witness testimony, you must ensure that this is consistent with the national standards, and is valid and practicable. For example, witness testimony can be a useful tool in helping you to authenticate evidence that your candidates claim to have produced. However, questioning your candidates or asking them to produce personal statements could be just as effective.

Witness testimony should include the witness's signature, the date, details of the witness's relationship to the candidate, and, where appropriate, should be presented on headed letter paper. This would allow you to confirm that the witness testimony is genuine.

As with all other sources of evidence, the final decision about what the testimony can tell you about your candidates' expertise must be taken by the assessor.

**Note:** SVQ Assessment Strategies often refer to an 'expert witness'. Assessment Strategies define the skills, qualities and qualifications that expert witnesses must possess. If you are an assessor for SVQs and need to appoint expert witnesses, refer to the Assessment Strategy for your qualification to make sure that you are applying the criteria correctly.

## Simulation

A simulation can be set up to facilitate an assessment, and usually involves a specific task that seeks to reproduce real-life situations. Simulations can be useful in a number of circumstances:

- ◆ where health and safety matters prevent candidates becoming involved in activities which may endanger themselves, others, and the environment, eg the use of chemicals
- ◆ where the unit requires candidates to cope with contingencies which cannot be assessed as part of normal work activities, eg how they would cope in an emergency
- ◆ where confidentiality prevents the candidate from disclosing information, eg in financial services, where client confidentiality must be maintained
- ◆ where there might be cost implications in using the real environment

Your decision to use simulation should be guided by references to simulation stipulated in the national standards. For example, in SVQs, the evidence requirements stipulate the circumstances in which simulation is and is not allowed. Sector Skills Councils often produce separate guidance on what constitutes a realistic working environment (RWE) for the qualifications they develop, and you have to comply with these requirements.

Be careful not to confuse assessment by simulation with assessment in an RWE.

Reproducing real-life situations can be costly and time-consuming, so it is important to consider cost-effectiveness along with issues of validity and reliability. So, apart from ensuring that your plans to

use simulation are in line with the guidance given in the Unit Specification (or in the Assessment Strategy for SVQs), you should also ask yourself how critical and frequent is the activity which your candidates have to be able to demonstrate.

**If the activity is critical and routine**, the proportion and nature of the evidence for this activity is particularly important. For example, a candidate might be responsible for installing power appliances every day, but failure to meet health and safety requirement could be disastrous. You might want to think about obtaining evidence from different sources or using different instruments of assessment so that you can be absolutely certain of your judgement. In this type of case, simulation might be useful in complementing naturally-occurring performance evidence.

**If the activity is less critical but routine**, the assessment would be best carried out using naturally-occurring evidence from the workplace. However, simulation may be necessary in circumstances where direct observation may be unacceptable, for example, because confidentiality is an issue.

**If the activity is critical and rare**, then simulation may be best used as a substitute for naturally-occurring evidence. You could use simulation, for example, where you are trying to assess how a candidate would handle a contingency, but where disruption to the workflow would have health and safety, and cost, implications.

**If the activity is less critical but rare**, simulation might be required because the opportunities for assessment do not arise often. However, you would need to weigh up the costs of using simulation very carefully — since the activity being assessed is not as important as others, the evidence generated will be very limited in what it can tell you about the candidate's expertise.

# Computer Assisted Assessment

SQA's primary concern is to develop and deliver high quality qualifications which meet the needs of users and which are underpinned by a rigorous and effective quality assurance process.

Whether the assessment is computer assisted or administered through pen and paper examinations, or oral questioning, or practical tests, or other means, the principles underpinning the assessment remain the same, so all the guidance we give on:

- ♦ assessment instruments and how to use them
- ♦ assessment principles
- ♦ the assessment process

applies to computer assisted assessments.

Computer assisted assessment is likely to feature increasingly in SQA qualifications. We have a number of publications that provide specific guidance on this, and you can access these through our [E-Assessment](#) web page. Of particular interest are:

- ♦ SQA's Vision for E-Assessment
- ♦ SQA Guidelines on Online Assessment for Further Education
- ♦ E-Moderation: Guidelines for FE Staff and External Verifiers
- ♦ SQA Guidelines for E-Assessment for Schools
- ♦ Guide to Effective Practice in E-Assessment



# Specific requirements for types of qualification

All SQA qualification types have specific assessment requirements that have to be observed.

## National Units

National Units, which are internally assessed, are subject to external verification and are awarded on the basis of evidence of the successful attainment of all the Outcomes. Performance Criteria define the standard of performance required to attain the Outcomes.

Assessments for the Units are designed to elicit evidence relating to the Performance Criteria. Evidence relating to each Performance Criterion is generally required for skill-based Units, whereas for some of the more knowledge-based Units, the assessments may have a more integrated approach. The Performance Criteria can be incorporated into the marking scheme, and the cut-off score can be set at a level which ensures that candidates have achieved overall competence.

Units that contribute to National Courses are generally supported by items in the National Assessment Bank (NAB). Each assessment is accompanied by a marking scheme and, where appropriate, suggested cut-off scores.

NAB assessments are not mandatory, and you can devise your own assessment if you would prefer to. We do suggest you use the guidance on developing assessment material in this guide, and that you also seek to have your assessment verified by SQA **before** you use it ('prior verification').

## National Courses

National Courses are awarded to candidates who have achieved the individual Units and passed an external assessment, which is set and marked by SQA. Most external assessments are written examinations but practical work, performance and projects are also used. External assessments are graded A-D and are available at an annual diet.

## Higher National Qualifications

In 2003, SQA working in partnership with Scottish colleges embarked on a five-year project to modernise all HNCs and HNDs. The HN Modernisation Project developed new design principles which are designed to ensure that HNCs and HNDs provide learners with the skills that Scottish employers need.

In addition to Unit assessment, which continues as before, modernised HN qualifications include an assessment for a Graded Unit. The Graded Unit determines a candidate's ability to retain and integrate the knowledge gained in the individual Units of the HNC or HND. Each HNC/HND has its own Graded Unit, which is either a Project or an Examination, the choice as to which having been agreed when the award was validated.

Graded Units are set and assessed (marked) by centres, but are externally verified by SQA. They are graded at three levels — A, B or C. The group award documentation includes guidance on designing the Graded Unit assessment, as well as information on how candidates are to be assessed. For more information see [Guidance for the Implementation of Graded Units](#).

## Scottish Vocational Qualifications

### External quality control

Sector Skills Councils require SVQs to have some form of external quality control. These can include a form of independent assessment such as:

- ◆ some part of the candidate's assessment being carried out by a visiting assessor who is independent of the centre
- ◆ the candidate visiting an independent centre or assessment location where some part of the assessment is carried out
- ◆ the candidate taking a centrally-determined and centrally-assessed test or assignment
- ◆ the candidate taking a centrally-determined test or assignment which is locally assessed according to centrally-set guidelines, with the results being retained for external verification
- ◆ the candidate taking a centrally-set, locally-assessed and externally-moderated test or assignment
- ◆ the candidate taking a centrally-set, locally-administered and centrally-assessed test or assignment

Alternatively, other effective measures of externality can include:

- ◆ enhanced verification of assessment decisions made by assessors and internal verifiers
- ◆ a higher level of sampling of assessors and candidates to guarantee standards are being maintained
- ◆ a comprehensive strategy for sampling assessment, applied nationally by the awarding bodies
- ◆ sector-based strategies to improve networking between awarding bodies and standardisation for assessors and verifiers
- ◆ visits to centres being augmented by the scrutiny of centres' assessment plans, materials and records
- ◆ using statistical monitoring to target verification

### **Simulation in SVQs**

Sector Skills Councils are required to produce guidance on simulation, and on what constitutes a realistic or real working environment (RWE).

This means that, as an awarding body for SVQs, we will check during approval and external verification visits that our centres are complying with the guidance on simulation and when its use for generating candidates' evidence is acceptable.

You should be aware that reproducing a realistic working environment could be costly and time-consuming for centres. One way of doing this is to form a partnership with an employer who can provide the workplace environment, but who does not necessarily have the expertise in assessment.

# Sources of information

## Within SQA

The [Scottish Standard](#) explains all the work we do as an awarding body that relates to setting and maintaining qualification and assessment standards.

### SQA Academy

SQA has developed a range of online support mechanisms to support you as you carry out your assessment tasks. These are available on our website. In particular you should visit [SQA Academy](#). SQA Academy is being developed to extend and enhance the training and development opportunities available to all those who contribute to the assessment processes that underpin SQA qualifications.

The website is divided into a number of distinct sub-sites. The majority of these are only available to registered users, but registration is easy (there are clear instructions). Once you have registered, you get access to:

[A Curriculum for Excellence](#) — this website encourages discussions on the Curriculum for Excellence. You will be able to comment on documents through the discussion forums, and by completing questionnaires.

[Understanding Standards](#) — this website gives you an opportunity to understand the standards of assessment as they are applied by Examination Teams for National Courses. You will have the opportunity to mark candidate responses and compare your marks to those given by the Marking Team.

### Higher National Qualifications

The [HN Toolkit](#) provides guidance and resources on HNC and HND development requirements, including the Graded Unit.

The [Solar Project](#) is a project to develop summative assessments for a range of Higher National Certificates and Higher National Diplomas.

### SQA research

You will find information on SQA's research activities in the [Research](#) section of the SQA website.

## Beyond SQA

### **Learning and Teaching Scotland**

Learning and Teaching Scotland provides access to the websites for [Assessment is for Learning](#) and [A Curriculum for Excellence](#). The information and guidance are aimed primarily at teachers and school managers, but the websites also provide information that supports the SQA guidance on assessment.

### **Quality Assurance Agency (QAA) Scotland**

QAA has a website dedicated to [Enhancement Themes](#) for higher education institutions (HEIs). This provides useful links to publications on assessment matters. If you want to find out how HEIs are approaching many of the assessment issues discussed in this guide, this website is a good place to start.

### **Scottish Further Education Unit**

The [Scottish Further Education Unit](#) (SFEU) is the key development agency for Scotland's colleges. SFEU contributes to the work of a wide range of national committees, and delivers a range of high-quality services which promote and support changes in Scotland's colleges leading to excellence in learning effectiveness.

# **Assessment arrangements for candidates with additional support needs**

In accordance with the Disability Discrimination Act, SQA's policy on assessment arrangements for candidates with additional support needs allows reasonable adjustments to be made to published assessment arrangements.

SQA has developed a range of publications for centres and for candidates on candidates with additional support needs.

These are available on the [Assessment Arrangements](#) section of the SQA website. Please refer to the individual documents for information on arrangements.

# Equal opportunities policies for SQA in its awarding body role

As a public body, SQA has both general and specific duties under the equalities legislation. We are required to outline specifically how we will promote equality and address unlawful discrimination in the areas of disability, gender and race. You can read SQA's [Equalities Review 2007](#) on our website.

The following schemes incorporate our strategy and action plans and together they provide a meaningful framework and direction for our commitment to equality:

[Disability Equality Scheme and Action Plan](#)  
[Gender Equality Scheme 2007–10, SQA, 2007](#)  
[Gender Action Plan for 2007–2010, SQA, 2007](#)  
[Race Equality Scheme 2007–10, SQA, 2007](#)  
[Race Action Plan for 2007–2010, SQA, 2007](#)

We also provide two publications for learners on our equal opportunities policy. These are [Qualifications for All: Equality of Access to SQA Qualifications](#), and [Qualifications for All: Equality and Fairness for SQA Candidates](#).

You should also refer to the [Disability Discrimination Act 1995: Code of Practice \(Revised\) for Providers of Post-16 Education and Related Services](#), which concerns the new duties of providers of post-16 education and related services and which came into force on 1 September 2006.

# Freedom of Information

The Freedom of Information (Scotland) Act 2002 gives a general right of access to all types of recorded information held by Scottish public authorities, subject to certain exemptions.

We are committed to openness, transparency and the public interest in the exercise of our functions. Our [Publication Scheme](#) sets out the various types of information that we hold, and the ways it can be made available. Part 1 of the document gives details of the procedures for requesting information. Part 2 lists seven classes of information that can be obtained. One of these classes is Products and Services, which details information on SQA's publications, support and research material on assessment and quality assurance procedures.



# References

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[\*Guidance on Group Award Graded Units: Using the Design Principles for Higher National Certificates and Diplomas\*](#), SQA, 2007

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[\*Guide to Approval for Training Providers and Employers\*](#), SQA, 2006

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[\*Scottish Qualifications\*](#), SQA, 2006

[\*Scottish Credit and Qualifications Framework \(SCQF\)\*](#) has a number of helpful publications available on their website, including their Handbooks Volumes 1 and 2 (SCQF 2007)

[\*Guidance Documents\*](#) on the Higher National Review

# Glossary of assessment terminology

**Acceptance criteria** The standard against which performance in an assessment is judged (pass/fail, mastery/non-mastery).

**Accreditation of prior learning (APL)** A process that enables an individual to receive formal recognition through certification of prior learning, training or experience.

**Accreditation of qualifications** The process by which the regulatory authorities confirm that a qualification and the associated specification conform to the regulatory criteria.

**Achievement** Recognition of each individual's strengths and successes. Wider than formal qualifications.

**Adaptive test** A sequential test in which successive items in the test are presented as a result of the participant's response to previous items. (Adaptive tests are widely used for diagnostic purposes allowing a more detailed exploration of strong and weak areas in a learner's knowledge within a given time for a test.)

**Agreement trial** A process of standardisation where assessors of the same unit work in a group with the internal verifier to consider examples of candidates' work and to reach a shared understanding on applying a common standard. See **moderation**.

**Alternate forms** Two or more versions of a test that are considered interchangeable, in that they measure the same constructs in the same ways, are intended for the same purposes, and are administered using the same directions. (This is important in on-demand testing where candidates sitting the tests at different times are offered different but equivalent/interchangeable tests.)

**Answer key** Rubric listing correct responses to test items. Usually used in multiple choice tests. This is related but not similar to a mark scheme, which includes more detailed information about criteria and allocation of marks.

**Approval as a centre** The process by which a centre is assessed against criteria for suitability as an SQA approved centre.

**Approval to offer a specific qualification** The process by which a centre's resources for offering a particular SQA qualification are assessed against criteria for suitability to offer that qualification.

**Aptitude test** An assessment intended to measure an individual's existing or innate ability in an area, given before receiving instruction in that area.

**Assessment** The process of evaluating how effectively learning is occurring. For SQA qualifications the process of generating and collecting evidence of a candidate's attainment of knowledge, and skills and judging that evidence against defined standards for formal certification. SQA assessment can be internal, or external, or a combination of both.

**Assessment criteria** What the learner is expected to do during the assessment in order to demonstrate that a learning outcome has been achieved, whether that is for formative purposes or for defining the outcomes required for a qualification.

**Assessment on demand** The use of the standard agreed assessment procedures and instruments of assessment to confirm competence without requiring candidates to undertake further learning/training.

**Assessment for learning** The process of seeking and interpreting evidence of a learner's performance for use by learners and their teachers to identify where the learners are in their learning, where their next learning goals are, and what to do next to achieve them.

**Assessment guidelines** The section in Higher National Units which gives guidance on how best to conduct the assessment, for example by recommending the use of a particular assessment instrument. Where it applies, this includes guidance on how to integrate the assessment of the whole Outcome, or how to link the assessment holistically with other Outcomes in the Unit. Although the assessment guidelines are within the 'statement of standards' section of the Unit, it is not mandatory for centres to follow them, so anything that is mandatory should be within the evidence requirements section.

**Assessment specification** A description of the detailed methods, processes, tasks and criteria to be used to assess a learning objective (or set of objectives making up a qualification).

**Assessment strategy** Method of ensuring external quality control for SVQs.

**Assessor** The person designated in a centre to be responsible for collecting evidence of candidates' competence, judging it and recording attainment.

**Assessor and Verifier Units** Qualifications designed to approve the quality and rigour of assessment. They are required by anyone delivering government-funded training and learning programmes.

**Attainment** A measure of the accomplishment of the planned areas of the curriculum, usually in terms of 5–14 levels and SQA qualifications.

**Authentication** The process by which a mentor or assessor confirms that an assessment has been undertaken by a candidate and that all regulations governing the assessment have been observed.

**Awarding** The process through which candidates' results and/or grades are determined on the basis of available evidence.

**Awarding body** An organisation or consortium which awards qualifications. Awarding bodies must meet the requirements of regulatory bodies.

**Benchmark** Reference tools to ensure the consistency of qualifications and assessment standards over time nationally and internationally.

**Blended assessment** An assessment regime which uses multiple approaches to meet the learning outcomes or the unit or course.

**Bloom's taxonomy** Classification of educational objectives developed under the leadership of Dr Benjamin Bloom. The taxonomy comprises three learning 'domains' — cognitive, affective and psychomotor. Each domain is organised as a matrix of ascending levels of difficulty, with examples of activities for each level and key words for describing mastery of each level. These key words can be used to design and develop assessments.

**Candidate** The individual entered for an SQA qualification.

**Centre** An organisation or consortium accountable to an awarding body for the assessment arrangements leading to a qualification. A centre could, for instance, be an educational institution, training provider or employer, and it may operate across more than one organisation or site.

**Centre contact** The person in a centre who is the primary point of contact between the centre and SQA. Usually known as the SQA Co-ordinator.

**Certificate** The record of attainment in a qualification issued by an awarding body.

**Certification** The formal process of crediting candidates with a record of their achievement.

**Checklist** A means of recording the judgements made about activities performed by learners.

**Cognitive competence** The ability to use and apply knowledge and understanding.

**Comparability** The extent to which different assessment instruments or marking processes, based on the same criteria and specification, achieve equivalent results. Assessments can be said to be comparable (or not) with respect to the different individuals being assessed, the assessment centres, the awarding bodies, the delivery media and so on. (In an e-assessment context, comparability can also refer to the extent to which performance in an on-screen test matches performance in an on-paper test.)

**Competence** The ability to carry out specified activities to predetermined standards of performance.

**Competence based assessment** An assessment process in which evidence is collected, which is then used as the basis on which judgements are made concerning progress towards satisfaction of fixed performance criteria. (Competence-based assessment of an individual takes no account of the performance of others in the wider group being assessed, and can be limited to a pass/fail grading.)

**Computer assisted assessment** Assessment which makes use of ICT in the assessment process. Broadly synonymous with e-assessment.

**Core Skills** Discrete, context-free, SQA qualifications for underpinning skills: Communication; Numeracy; Problem Solving; Information Technology; Working with Others. Core Skills extend progressively through the Scottish curriculum, starting during the 5–14 age range, continuing through Standard Grade Courses and National Qualifications, and carrying on into Higher National Qualifications, and Scottish Vocational Qualifications.

**Course** SQA qualification made up of (usually) three Units plus an external assessment. The purpose of the external assessment is to allow candidates to show that they have mastered the Course content and can apply it to new situations.

**Credibility** A measure of the confidence placed in the results of any assessment.

**Credit transfer** The process by which candidates gain credit for formal qualifications gained in education and training against named Units.

**Criterion referenced assessment** A form of assessment which measures what learners can do against previously defined performance criteria, rather than on their performance relative to other learners.

**Customised awards** SQA vocational qualification tailored to meet the skill needs of an individual company or organisation.

**Cut score** A score on an assessment instrument that divides candidates into different groups, as pass-fail, qualified-unqualified, A grade-B grade. (Some assessments only have one cut score (ie pass/fail); others may have several (grades).)

**Diagnostic assessment** Non-accredited assessment used to identify a learner's strengths and weaknesses with a view to providing an appropriate learning programme.

**Demand** Measure of a question's cognitive requirements. Demand is normally expressed in terms of a recognised taxonomy such as Bloom's.

**Difficulty** A measure of a question's complexity or obscurity, or the relative (to other questions) probability of a candidate answering it correctly. In technical usage, it is sometimes expressed as a numerical value to indicate a proportion of candidates who answer it correctly. See also **facility value**.

**Differentiation between candidates** The process of distinguishing between the attainments of different candidates.

**Direct evidence** A term used to describe evidence of candidate performance according to the requirements laid down on the outcome that assessors have witnessed themselves. This can be performance or product evidence but, because the assessor has seen the evidence directly, it is a very reliable form of evidence.

**Discrimination** An item's potential to differentiate between candidates (ie weaker candidates are more likely to get it wrong than stronger candidates).

**Distracter/distractor** An incorrect response offered as one of the options for a closed/objective question (usually a multiple choice or a multiple response item). Each distracter must be plausible but incorrect in a significant respect.

**Domain-referenced assessment** A test that estimates the amount of a specified content domain that an individual has learned.

**E-assessment** The use of electronic media in the assessment process.

**Element** SVQ Units are made up of elements which break the unit into smaller tasks. Elements contain performance criteria and evidence requirements.

**Embedded assessment** Assessment that occurs simultaneously with learning such as in projects, portfolios and 'exhibitions'.

**E-moderation** Use of technology to support remote moderation of assessment materials and candidate evidence. Also known as e-verification.

**E-portfolio** An electronic portfolio, ie a file store and information management system that is modelled on the working method used for paper portfolios, but which takes advantage of the capabilities of ICT, notably allowing learners to store digital artefacts and streamlining the process of review and moderation for learners, tutors, moderators and verifiers. (In e-assessment, e-portfolios are generally related to a particular course, for assessment. In other settings portfolios can be a 'complete learning life record', where learners have access to their records, digital repository, feedback and reflection, aiding learners to achieve a greater understanding of their individual growth, career planning and CV building.)

**Evidence** Materials provided by a candidate as proof of his or her competence against specified performance criteria.

**Evidence Requirements** The mandatory evidence requirements for SQA Units. They state what candidates have to do, to what standard, and how much evidence they have to produce to demonstrate that they have achieved the outcome. The evidence requirements detail the full breadth of achievement of knowledge and/or skills required, the sampling required, and how evidence is to be produced (eg in controlled conditions).

**Examiner** a person appointed by the awarding body to conduct or mark an examination.

**Expert witness** a person who is occupationally competent in a candidate's area of work and who probably sees the candidate working on a daily basis — more often than the assessor does. The expert witness is able to make a judgement about competence in a particular job activity, but it is still the role of the assessor to incorporate these judgements into the final (or summative)

assessment decision for the qualification. Expert witnesses are particularly used in SVQs, and assessment strategies refer to them and specifically define the role they are expected to perform.

**External assessment** An assessment set and/or marked by Examiners who are not associated with the organisation providing the candidate's learning.

**External verification** The process of ensuring that national standards are being maintained consistently across all centres.

**External Verifier** A person appointed by SQA who is responsible for the quality assurance of a centre's provision and for ensuring that standards of assessment are applied uniformly and consistently across centres. An external verifier is often appointed on a subject area basis or for verification groups of units.

**Facility value** A numerical measure of an item's easiness/difficulty, often abbreviated to FV. For an item marked right/wrong the FV is usually the proportion of candidates who answer it correctly. For example, if 30 candidates attempt a question and nine answer it correctly then the FV is  $9/30 = 0.3$ . For other types of item, it may be based on the mean item mark divided by the maximum mark for the item. The FV will vary from 0 to +1. An FV of 0 means that no-one answered the question correctly; an FV of 1.0 means that everyone answered it correctly. The more difficult the question, the lower the FV. Questions with very high or very low FVs should be avoided.

**Feedback** Qualitative information about their performance given to learners after an assessment. Unlike a grade, feedback is explicitly developmental, ie oriented towards further progress on the part of the learner. Feedback is particularly important in formative assessment, when no final grade will be given. Feedback typically includes a correct or model response and an explanation of any incorrect responses made by the learner.

**5-14 National Assessments** Summative assessment materials designed to be used by teachers in Scottish schools to confirm their judgements about pupils' levels of attainment in English and/or Gaelic language (Reading and Writing) and Mathematics. National Assessments are based on the attainment targets and levels set out in the relevant [5-14 National Guidelines](#), and are available at each of levels A to F in Reading, Writing and Mathematics.

**Formative assessment** Assessment that provides developmental feedback to a learner so that they can adjust their plan for future learning. It is not recorded for external purposes. Formative assessment is often called 'Assessment for learning'.



**Grade related criteria** The criteria for distinguishing between various levels of performance in National Qualifications.

**Graded Unit** Assessment in the form of a project or examination for HNCs and HNDs which is designed to demonstrate that the candidate has achieved the principal aims of the Group Award and is able to integrate the knowledge and expertise gained from the other Units. It is also used to grade candidates.

**Group award** A combination of units gathered together to form a coherent qualification.

**High stakes test** A test which is statutory and/or has the results collected and used for statutory reporting, ie when outcomes are important to the centre and candidates (for example, affecting progress to another phase of education).

**Higher National Qualifications** Higher National Certificates and Diplomas are qualifications designed to meet the needs of local and national employers. They are developed by SQA in partnership with colleges, universities and industry.

**Holistic assessment** An assessment process which integrates key subject knowledge and/or applied skills within a larger process or activity.

**Indirect evidence** Something that someone other than the assessor has observed or said about the candidate. Corroboration is required for indirect evidence.

**Instrument of assessment** A means of generating evidence of a learner's knowledge and/or skills.

**Integration** The process of combining assessment for several outcomes or performance criteria into a single coherent activity.

**Internal assessment** An assessment marked within the institution delivering the programme of learning, including by the tutor delivering the learning. This marking will be subject to external verification.

**Internal quality assurance** The process of ensuring that the provision at centre and subject level conforms to the approved procedures and that consistency is being achieved within the centre.

**Internal verification** The process of ensuring that standards of assessment are applied uniformly and consistently within a centre.

**Internal verifier** A staff member appointed by the centre who ensures that assessors apply standards of assessment uniformly and consistently.

**Item bank** A storage facility for items that allows them to be maintained and used for automatic and manual test generation purposes (to create tests on-paper and/or on-screen). Today almost all item banks are electronic, although historically many were paper based.

**Key** The correct response for a closed/objective item (usually a multiple choice or multiple response item).

**Knowledge recall** The lowest level of learning in Bloom's cognitive domain, relating to the ability to remember and recall discrete facts.

**Learner** Someone who is following a course of study at a school, college of further education, with a training provider, or through an employer.

**Learning outcomes** Broad summary statements in the curriculum guidelines on areas of attainment.

**Low stakes test** Test which is non-statutory and has little or no external impact on the centre or learner.

**Malpractice** Any actions and/or practices that threaten the integrity of SQA's examinations and certification procedures. This can include use of unauthorised aids such as a calculator or notes, copying from other candidates, plagiarising materials, and behaving in a disruptive manner.

**Mark** The smallest component of credit that can be given in a mark scheme.

**Mark scheme** Detail of how marks are to be awarded in relation to a particular assessment task. A mark scheme normally indicates the number of marks each question or component of the task attracts. It may also indicate acceptable answers or criteria for awarding marks.

**Mentor** A person who carries out, either singly or in combination, the functions of advising a candidate, collecting evidence of his or her competence on behalf of the assessor and authenticating the work candidates have undertaken.

**Model answer** An exemplar response to an item (usually a constructed response item).

**Moderation** The process of establishing comparability standards between assessors to ensure the validity, reliability and practicality of an assessment.

**National Certificates** SQA qualifications in specific subject or occupational areas. Aimed at 16–18 years olds and adults in full-time education, normally at a college. Designed to prepare candidates for further progression to HNC/HND level or employment.

**National Qualifications** SQA's unitised system of qualifications covering academic and vocational areas. Available at five levels: Access; Intermediate 1; Intermediate 2; Higher; Advanced Higher. See Units and Courses.

**National Progression Awards** SQA qualifications designed to assess a defined set of skills and knowledge in specialist vocational areas, and to link to National Occupational Standards — the basis of SVQs. NPAs are mainly used in colleges for short programmes of study.

**Norm-related assessment** A form of assessment which compares candidates' performances with those of other candidates.

**Norm-referenced assessment** A form of assessment which compares candidates' performances with those of a control group.

**Observation** A method of assessment in which the candidate is observed carrying out tasks that reflect the performance criteria given in outcomes.

**Occupational standards** National standards of competence drawn up by Sector Skills Councils.

**On-demand assessments** Assessments where there is a high degree of flexibility in the date and time so that tests can be offered to suit the learner or their learning programme.

**Online assessment** An on-screen assessment which relies on an internet connection during the test to download subsequent questions and upload candidate responses. Sometimes termed 'conducting a test live over the internet'.

**On-screen assessment** An assessment delivered to the candidate on a computer screen.

**Open learning** Forms of learning such as flexi-study, open access, distance learning, learning by appointment and independent learning designed to make education and training widely accessible to candidates.

**Optical mark reader** A device that scans paper-based tests and converts marks made by the candidate using pen or pencil into digital data.

**Outcomes** Statements that define the products of learning. They describe the activities the candidate has to perform to achieve a National or Higher National Unit and contain evidence requirements and information on assessment.

**Pass mark** The minimum score in a graded assessment required to achieve the lowest 'pass' grade in the range. May also be used in a minimum competence test for the minimum score for which a mastery/pass award will be given.

**Peer assessment** Assessment of a learner by a fellow learner or learners, typically following the same programme of study. Peer assessors apply criteria and standards of judgement as other assessors do. This term is usually applied when each partner in a pair of learners assesses the other's work.

**Performance Criteria** Statements that describe the standard to which candidates must perform the activities that are stated in the Outcome or Element.

**Pilot** The trialling of a test or test system to determine its performance and make corrections prior to its use on a larger scale.

**Plagiarism** Learners using the work of others and passing it off as their own for assessment purposes. In some cases plagiarism might be inadvertent as learners do not realise the importance of naming their sources. In other cases they seek to access and download whole essays or other assessment submissions from the internet.

**Portfolio** A representative collection of a candidate's work, usually assembled over the period of the learning, to demonstrate or exemplify either that a range of criteria has been met, or to showcase the best that a candidate is capable of. Also used widely in reflective learning.

**Portfolio assessment** An assessment where a learner's portfolio of assembled work is assessed.

**Positive marking** A system of marking where marks are awarded for what is correct rather than deducted for what is wrong.

**Practicability** A measure of the feasibility or administrative efficiency of the assessment process. A valid and reliable assessment may not be practicable due to the cost or time required to carry it out.

**Practical competence** The ability to perform manual and/or behavioural tasks.

**Pre-test** A trial of a test or individual items by a representative selection of learners that is designed to determine the performance (validity, reliability, etc) of the items before use in live assessments.

**Predictive validity** The extent to which scores on a test predict some future performance. For example, a test that assesses job applicants has good predictive validity if candidates who pass turn out to be good at the job. It will usually be expressed in terms of a correlation coefficient.

**Process** The skills, procedures and/or thought processes displayed during an assessment activity.

**Product** Something the candidate makes or does, as part of an assessment activity, as defined in the outcome.

**Product evaluation** A method of assessment that enables the quality of a product produced by the candidate, rather than the process of producing it, to be evaluated.

**Professional Development Awards (PDAs)** SQA qualifications at post-graduate and post-experience level, spanning a wide variety of occupational areas. Offered by colleges and some universities.

**Quality assurance system** Any system at local, regional and national level that promotes confidence in a qualification by guaranteeing the attainment and maintenance of standards.

**Question type** The nature of the question, usually categorised by the way candidates give their answer (rather than the content of the question). Common question types are multiple choice, essay question, drag-and-drop, etc.

**Range statement** A statement in SVQ Units that specifies the different contexts in which the activities described in the performance criteria have to be demonstrated. Where they appear, range statements are mandatory.

**Raw score** The unmodified score achieved on an assessment, immediately after scoring. This is generally the number of questions answered correctly, or the total marks achieved. For example, if a candidate scores 37 out of 60 possible marks the raw score is 37. Raw scores are often then converted to percentile ranks, standardised scores, grades, etc.

**Realistic work environment (RWE)** Simulated conditions in which an assessment takes place.

**Reliability** In assessment, the extent to which a test's results are repeatable and fair from one candidate to the next, and from one occasion to the next (for example with a different set of candidates), ie a measure of the accuracy of the score achieved, with respect to the likelihood that the score would be constant if the test were re-taken or the same performance were re-scored by another marker, or if another test from a test bank of ostensibly equivalent items is used. Many factors affect the reliability of an assessment. Ambiguous instructions to candidates can make an assessment unreliable since candidates may be unclear about what they are required to do. Badly worded questions may be interpreted differently by different candidates or by the same candidate on different occasions. Vague marking instructions may result in different markers awarding marks for different reasons or the same marker awarding marks inconsistently between candidates.

**Remediation** The process of providing candidates with additional learning/teaching support before allowing them to be re-assessed.

**Rich feedback** Feedback that goes beyond providing the correct or model answer to an item, and a simple explanation of why the learner's selected response was wrong. Rich feedback is usually personalised to the learner's response and designed to deal with the underlying misconception.

**Rubric** A set of instructions provided as the preamble to an assessment. A scoring guide to assessment.

**Scenario** An abbreviated case study or history which can be used as part of an assessment. Also a group or cluster of items in a test, usually presented to a candidate sequentially or as a group, which share some common element or purpose in the test (eg stem or source material) and cannot easily be separated into individual items.

**Score** The total marks achieved by a learner on a test.

**Sector Skills Councils** Government sponsored industry councils made up of trade bodies, employers and specialists.

**Self-assessment** A judgement a learner makes about his/her work or level of attainment in relation to the stated learning outcomes for the activity/programme. Self-assessment is generally used to develop the individual's ability to think critically about his/her learning.

**Simulation** Any structured assessment exercise involving the organisation and achievement of a specific task which seeks to reproduce real life situations. Simulations are used where assessment is difficult to carry out (eg for safety reasons).

**Scottish Credit and Qualifications Framework (SCQF)** A matrix that explains the relationship between different types of Scottish qualifications by comparing them by credit and level.

**Scottish Survey of Achievement** An annual sample survey of performance in Scottish schools. Each SSA survey gathers evidence from P3, P5, P7 and S2, using a range of assessments. Each year the survey focuses on one curricular area — English language, mathematics, science or social subjects (enquiry skills). SSA also gathers evidence of pupils' performance in Core Skills such as numeracy, communication, using ICT, problem solving and working with others.

**Scottish Vocational Qualifications** Qualifications based on National Occupational Standards and developed by SQA in partnership with Sector Skills Councils.

**Skills for Work Courses** SQA qualifications that offer school-age candidates practical experiences linked to particular careers. They are normally delivered by a school and college working in partnership.

**Standard** The criteria for success at a particular level. A pre-determined national level of attainment for SQA certification.

**Standard Grades** SQA qualifications, generally taken over two years of study in third and fourth year at secondary school. Available at three levels: Foundation; General; Credit.

**Standardisation** Process to check, adjust and ensure that assessment processes and criteria (including both the administration of the assessment itself, and its marking) are applied consistently by assessors, moderators and verifiers so that comparisons of results can be made between groups (eg over time, between different ages and sexes, etc.) Standardisation can be carried out within centres (internal standardisation) as well as by awarding bodies. (In statistical analysis, standardisation is transforming a variable so that its standard deviation is 1.0 for some specified population or sample.)

**Statistical validity** A measure of the statistical reliability and integrity of a test.

**Subjective errors** Shortcomings in the interpretation of candidate performance which arise from the personal judgement of the assessor.

**Summative assessment** Assessment, generally undertaken at the end of a learning activity or programme of learning, which is used to make a judgement on the candidate's overall attainment. A key purpose of summative assessment is to record, and often grade, the candidate's performance in relation to the stated learning objectives of the programme.

**Synoptic assessment** A form of assessment that tests understanding of the connections between the different elements of a subject.

**Test specification** The detailed requirements of what a test must contain, in terms of duration, type and quantity of questions, number of marks, spread of curriculum topics, rules for sampling etc. The test specification is used as the reference guide by a test setter.

**Unit** The basis of SQA's qualification system. Each Unit is a qualification in its own right and also acts as a building block for specific qualifications.

**Unit Specification** The statement of standards and guidance that is the basis of certification for NQs and HNQs.

**Validation** The process of checking that a qualification is coherent, meets the needs of users and that SQA Units are technically well written.

**Validity** The degree to which an assessment tests the actual abilities that it is supposed to test. The appropriateness of the interpretation and use of the results for any assessment instrument. (Eg a driving test where a candidate is observed driving is highly valid. A test where a candidate describes how they would drive is less valid). There are many different measures of validity.

**Verification** The process of ensuring that quality assurance systems are being maintained. Verification can be either internal, ie within the centre or external, ie supplied by the awarding body.

**Verification group** A grouping of similar SQA Units (eg Computing, Mechanical Engineering, etc) for external verification purposes.