

4 Assessment

4.1 The Purposes of Assessment within Industry Curriculum Frameworks

Assessment for Higher School Certificate VET courses within industry curriculum frameworks has two distinct purposes.

1. Assessment for Australian Qualifications Framework (AQF) VET qualifications. This is competency-based assessment which:
 - applies to all courses within frameworks
 - provides industry recognition.
2. Assessment for the Universities Admissions Index (UAI) which:
 - is for 240-hour courses only
 - involves a written HSC examination¹.

4.2 Assessment for AQF VET Qualifications

Assessment for AQF VET qualifications:

- is competency-based
- must be reliable, flexible, fair and valid. Judgements are made on the basis of evidence, which may be in a variety of forms
- must be conducted by qualified assessors and be consistent with Training Package Assessment Guidelines
- assesses students as competent or not yet competent.

An integrated or holistic approach to competency-based assessment should be adopted.

4.2.1 Guiding principles for assessment materials

The following information (pp 127–133) is reproduced from the *Assessment Guidelines* of the *Information and Communications Technology Training Package (ICA05)*² incorporating the *AQTF Standards for RTOs*³.

4.2.1.1 Australian Quality Training Framework assessment requirements

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the Standards for Registered Training Organisations.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering/Course Accrediting Body in accordance with the Standards for Registered Training Organisations. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration. See Section 1 of the Standards for Registered Training Organisations.

¹ Refer to Section 11.4 and 11.5 in Part A of the Syllabus.

² DEST, 2005, *Information and Communications Technology Training Package (ICA05)* Volume One Section 1.5, pp 1-119 – 1-125. The *Assessment Guidelines* of *Information and Communications Technology Training Package* may also be accessed via the National Training Information Service website (www.ntis.gov.au).

³ The *Australian Quality Training Framework Standards for RTOs* can be accessed via the Australian Government Department of Education, Science and Training website (http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/aqtf/standards_2005.htm).

Quality Training and Assessment

Each RTO must have systems in place to plan for and provide quality training and assessment across all its operations. See Standard 1 of the Standards for Registered Training Organisations.

Assessor Competency Requirements

Each person involved in training, assessment or client service must be competent for the functions they perform. See Standard 7 of the Standards for Registered Training Organisations for assessor competency requirements. Standard 7 also specifies the competencies that must be held by trainers.

Assessment Requirements

The RTO's assessments must meet the requirements of the endorsed components of Training Packages within its scope of registration. See Standard 8 of the Standards for Registered Training Organisations.

Assessment Strategies

Each RTO must identify, negotiate, plan and implement appropriate learning and assessment strategies to meet the needs of each of its clients. See Standard 9 of the Standards for Registered Training Organisations.

Mutual Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See Standard 5 of the Standards for Registered Training Organisations.

Access and Equity and Client Services

Each RTO must apply access and equity principles, provide timely and appropriate information, advice and support services that assist clients to identify and achieve desired outcomes. This may include reasonable adjustment in assessment. See Standard 6 of the Standards for Registered Training Organisations.

Partnership Arrangements

RTOs must have, and comply with, written agreements with each organisation providing training and/or assessment on its behalf. See Standard 1.6 of Standards for Registered Training Organisations.

Recording Assessment Outcomes

Each RTO must have effective administration and records management procedures in place, and must record AQF qualifications and Statements of Attainment issued. See Standards 4 and 10.2 of the Standards for Registered Training Organisations.

Issuing AQF qualifications and Statement of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued where the individual is assessed as competent against fewer units of competency than required for an AQF qualification. See Standard 10 and Section 2 of the Standards for Registered Training Organisations.

Licensing/Registration Requirements

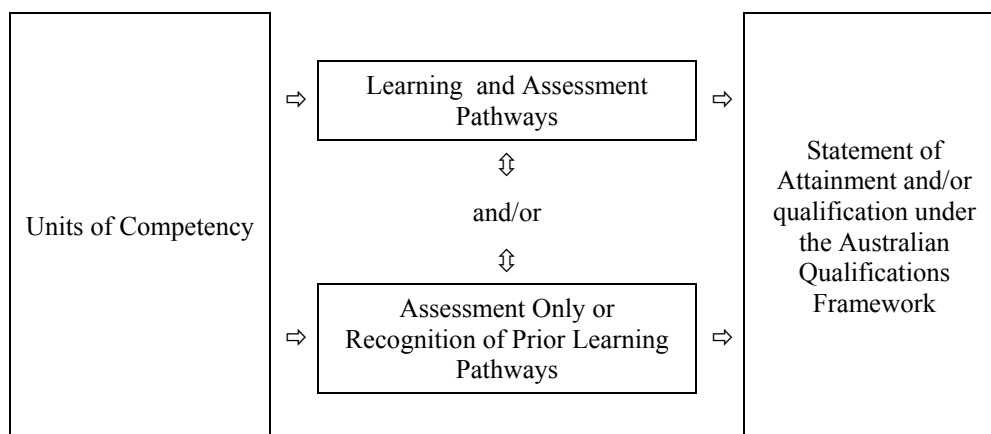
The developers of this Training Package, and DEST, consider that no licensing or registration requirements apply to RTOs, assessors or candidates with respect to this Training Package. Contact the relevant State or Territory Department(s) to check if there are any licensing or registration requirements with which you must comply.

4.2.1.2 Pathways

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two as illustrated in the following diagram.



Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired.

Assessment, by any pathway, must comply with the assessment requirements set out in the *Standards for Registered Training Organisations*.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit New Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

Assessment-Only or Recognition of Prior Learning Pathway

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were achieved.

In an assessment-only or Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor, such as in the compilation of portfolios; or directed by the assessor, such as through observation of workplace performance and skills application, and oral and/or written assessment. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of Standard 8.2 of the *Standards for Registered Training Organisations* must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, and work samples. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work)
- valid (directly related to the current version of the relevant endorsed unit of competency)
- reliable (shows that the candidate consistently meets the endorsed unit of competency)
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency), and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

The assessment only or recognition of prior learning pathway is likely to be most appropriate in the following scenarios:

- candidates enrolling in qualifications who want recognition for prior learning or current competencies
- existing workers
- individuals with overseas qualifications
- recent migrants with established work histories
- people returning to the workplace, and
- people with disabilities or injuries requiring a change in career.

Combination of Pathways

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

4.2.1.3 Assessor requirements

This section identifies the mandatory competencies for assessors, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Each person involved in training, assessment or client service must be competent for the functions they perform. See Standard 7 of the Standards for Registered Training Organisations for assessor competency requirements. Standard 7 also specifies the competencies that must be held by trainers.

The standards identify the mandatory minimum qualifications for those conducting assessments. They also clarify how more than one person may contribute to the assessment process where all the required assessor competencies are not held by one person.

There are mandatory requirements that must be met by individual assessors or collectively by the members of an assessment team or panel conducting assessments against this Training Package. The AQTF requires that assessors must be competent in the relevant vocational competencies, at least to the level being assessed.

They should also have appropriate interpersonal and communication skills and knowledge of language, literacy and numeracy issues in the context of assessment. Skills, knowledge and attributes of assessors may be developed and demonstrated through at least one of the following:

- participation in professional development;
- relevant work experience in information technology;
- participation in professional/industry networks;
- recent planning and review of assessment activities in information technology;
- participation in assessment moderation/validation processes; and

- recent workplace assessment and/or training activities.

All assessors who are engaged in assessing against this Training Package or units of competency from this Training Package must be:

- employed by an RTO, or
- acting under the registration of an RTO (for example, an assessor working in an enterprise that has a partnership arrangement with the RTO).

This Training Package provides a range of options for meeting these assessor requirements. Assessments can be undertaken in a variety of workplace and institutional contexts by individual assessors, partnerships involving assessors and technical experts, and teams of assessors.

In information technology, competence of assessors in the relevant standards should ideally be complemented by relevant industry experience. This may be demonstrated by work experience in more than one enterprise over a period of at least two years. Supervisory and/or management experience may also be of benefit.

In addition to the above, it is recommended that assessors have comprehensive current knowledge of information technology and the likely job or role against which performance is being assessed.

Options for meeting the requirement to use qualified assessors

The options listed below show how the requirement to use qualified assessors can be met.

Options	Assessors, Technical Experts, Workplace Supervisors and Assessment Teams
Single Assessor An individual assessor conducts the assessment	<p>An Assessor is:</p> <ul style="list-style-type: none"> • required to hold formal recognition of competence in the relevant units in the Training and Assessment Training Package; • deemed competent and, where possible, holds formal recognition of competence in the specific units of competency in this Training Package, at least to the level being assessed. <p>In addition, it is recommended that the assessor is able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed; • demonstrate current knowledge and skill in assessing against this Training Package in a range of contexts; and • demonstrate the necessary interpersonal and communication skills required in the assessment process.

Options	Assessors, Technical Experts, Workplace Supervisors and Assessment Teams
<p>Partnership arrangement</p> <p>An assessor works with a technical expert to conduct the assessment</p>	<p>An Assessor is required to:</p> <ul style="list-style-type: none"> • hold formal recognition of competence in the relevant units in the Training and Assessment Training Package. <p>In addition, it is recommended that the assessor is able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge and skill in assessing against this Training Package in a range of contexts; and • demonstrate the interpersonal and communication skills required in the assessment process. <hr/> <p>A technical expert shall be a person who:</p> <ul style="list-style-type: none"> • is deemed competent and, where possible, hold formal recognition of competence in the specific units of competency from this Training Package, at least to the level being assessed. <p>In addition, it is recommended that the technical expert is able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed; • communicate and liaise with the assessor throughout the assessment process.
<p>Partnership arrangement</p> <p>An assessor works with workplace supervisor in collecting evidence for valid assessment</p>	<p>An assessor is required to:</p> <ul style="list-style-type: none"> • hold formal recognition of competence in the relevant units in the Training and Assessment Training Package; and • make the assessment decisions. <p>In addition, it is recommended that the assessor is able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge and skill in assessing against this Training Package in a range of contexts; • demonstrate the interpersonal and communication skills required in the assessment process; • communicate and liaise, where appropriate, with the workplace supervisor throughout the assessment process. <hr/> <p>A workplace supervisor is required to:</p> <ul style="list-style-type: none"> • be deemed competent and, where possible, is to hold formal recognition of competence in the specific units of competency from this Training Package, at least to the level being assessed. <p>In addition, it is recommended that the workplace supervisor is able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed; • communicate and liaise, where appropriate, with the assessor throughout the assessment process; and • use agreed practices to gather and record evidence for the assessor to use in making a valid judgment on competency.

Options	Assessors, Technical Experts, Workplace Supervisors and Assessment Teams
<p>Assessment team/panel</p> <p>A team or panel working together to conduct the assessment</p>	<p>Members of an assessment team or panel that comprises assessment and industry experience and expertise works together in the collection of evidence and in making judgments about competency. The members of the team must include at least one person who:</p> <ul style="list-style-type: none"> • holds formal recognition of competence in the relevant units of the Training and Assessment Training Package; • is deemed competent and, where possible, holds formal recognition of competence in the specific units of competency from this Training Package, at least to the level being assessed. <p>In addition, it is recommended that members of the assessment team or panel involved in the assessment are able to:</p> <ul style="list-style-type: none"> • demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed; • demonstrate current knowledge and skill in assessing against this Training Package in a range of contexts; • demonstrate the interpersonal and communication skills required in the assessment process and liaise with other team/panel members throughout the assessment process.

4.2.2 Integration of key competencies in Training Packages

The following information (pp 133–135) is reproduced from the *Competency Standards of the Information and Communications Technology Training Package (ICA05)*⁴.

4.2.2.1 The key competencies in the Information and Communications Technology Training Package

All Training Packages require the integration of Key Competencies either in each unit of competency, or across a qualification, depending on industry needs and preferences.

The Key Competencies were first defined in 1992 in the project report, *Putting General Education to Work: The Key Competencies Report* (Mayer Committee 1992). The skills and knowledge they describe are essential for effective workplace participation and involve the sorts of capabilities commonly used by employers as selection criteria. They underpin the ability of employees to adapt to technological, organisational, societal and functional change.

The Key Competencies are generic, in that they apply to work in general, rather than to particular occupations or industries. They focus on the application of knowledge and skills in an integrated way in workplace situations. The seven Key Competencies are:

1 Collecting, analysing and organising information

The capacity to locate, sift and sort information in order to select what is required and to present it in a useful way, and evaluate both the information itself and the sources and methods used to collect it.

2 Communicating ideas and information

The capacity to communicate effectively with others using the range of spoken, written, graphic and other non-verbal means of expression.

⁴ DEST, 2005, *Information and Communications Technology Training Package (ICA05)* Volume One Section 1.5, pp 1-174 – 1-176. The *Assessment Guidelines of Information and Communications Technology Training Package* may also be accessed via the National Training Information Service website (www.ntis.gov.au)

3 Planning and organising activities

The capacity to plan and organise one's own work activities, including making good use of time and resources, sorting out priorities and monitoring one's performance.

4 Working with others in teams

The capacity to interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of a client and working effectively as a member of a team to achieve a shared goal.

5 Solving problems

The capacity to apply problem-solving strategies in purposeful ways, both in situations where the problem and the solution are clearly evident and in situations requiring creative thinking and a creative approach to achieve a desired outcome.

6 Using mathematical ideas and techniques

The capacity to use mathematical ideas, such as number and space, and techniques such as estimation and approximation, for practical purposes.

7 Using technology

The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.

Performance Levels

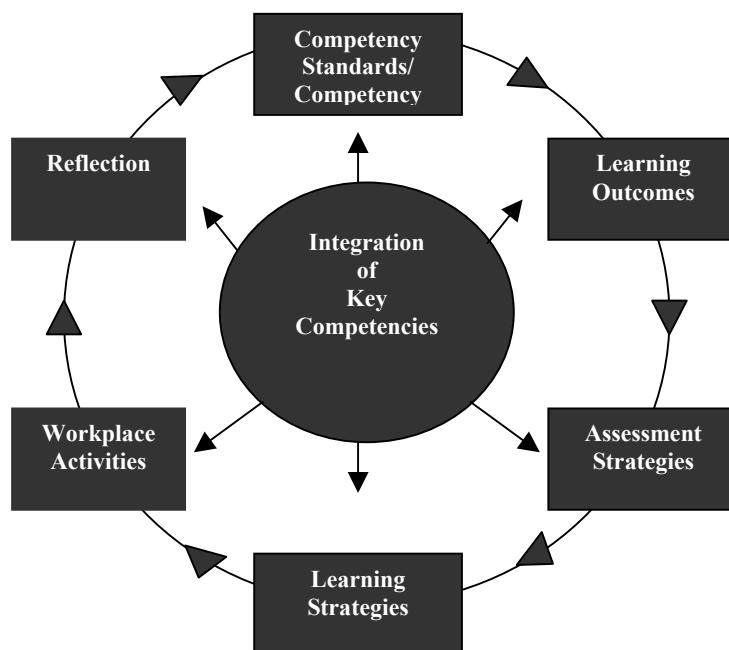
There are three levels of performance defined within the Key Competencies. These are stand-alone levels and do not correspond to the AQF qualification levels.

- **Performance Level 1** is concerned with the level of competence needed to undertake activities efficiently with sufficient self-management to meet the explicit requirements of the activity, and to make judgements about the quality of outcomes against established criteria.
- **Performance Level 2** describes the competence needed to manage activities requiring the selection, application and integration of a number of elements, and to select from established criteria to judge quality of process and outcome.
- **Performance Level 3** describes the competence needed to evaluate and reshape processes, to establish and use principles in order to determine appropriate ways of approaching activities, and to establish criteria for judging quality of process and outcome.

However, relating performance to the specific industry or workplace context may be more useful than interpreting the somewhat abstracted performance levels provided above. Also, in evaluating the level of performance for the Key Competencies, consider the performance expectations at the AQF qualification level involved.

Delivery and Assessment of Key Competencies

The Key Competencies are integral to workplace competency, and, as such must be explicitly considered in the design, customisation, delivery and assessment of vocational education and training programs as represented diagrammatically below:



4.2.2.2 Implications for vocational education and training

The key competencies need to be explicitly developed and applied in vocational education and training delivery and assessment in order to ensure the ongoing flexibility and adaptability of the Australian workforce.

This means that the key competencies cannot be considered as supplementary to vocational competency but integral to it. They are part of good learning and essential to good practice. It is critical, therefore, that Training Package developers, support material developers, teachers and trainers deliberately incorporate the key competencies into the design, customisation, delivery and assessment of vocational education and training programs.

The traditional training focus has been on technical skills. However, these skills must be developed in ways that enable them to be transferable across different applications and work contexts. This requires a conscious and deliberate effort to incorporate the key competencies explicitly into every stage of the training cycle through units of competency and Training Package development, delivery, learning, assessment and reflection.

There is a need to move from an approach centred on the classroom to a contextualised problem-solving approach in which the learner is central to the process and the learning reflects the realities, processes and procedures of the workplace.

Such an approach is characterised by:

- a focus on the development of thinking skills in relation to vocational competency
- assessment integrated with training
- collaborative learning reflecting work-based teams
- competencies learnt and assessed in the context of real problems in actual or closely simulated workplace environments
- learner-centres with teachers/trainers/work supervisors as facilitators and mentors
- the explicit development of the key competencies to enhance competency in reasoning and making sound and defensible judgements.

The move to a problem-solving approach means recognising the learner and his/her learning and vocational contexts as central to the learning process. Achieving competency should not be viewed as a progression through learning and assessment activities, but rather as an individual interacting in a structured way with knowledge, skill and vocational contexts in order to better understand and work with them.

4.2.3 Principles for designing and conducting assessments

This section (pp 136–144) is reproduced from the *Assessment Guidelines of the Information and Communications Technology Training Package (ICA05)*⁵

4.2.3.1 Designing assessment tools

Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these are benchmarked, or mapped, against the current version of the relevant unit of competency. This can be done by checking that the materials are listed on the National Training Information Service (www.ntis.gov.au). Materials on the list have been noted by the National Training Quality Council as meeting their quality criteria for Training Package support materials.

Developing Assessment Tools

When developing their own assessment tools, assessors must ensure that the tools:

- are benchmarked against the relevant unit or units of competency
- are reviewed as part of the validation of assessment strategies as required under 9.2i of the Standards for Registered Training Organisations, and
- meet the assessment requirements expressed in the Standards for Registered Training Organisations, particularly Standards 8 and 9.

A key reference for assessors developing assessment tools is TAA04 Training and Assessment Training Package.

4.2.3.2 Checklist for developing assessment materials

The following checklist is offered as guidance for developing assessment materials.

Checklist

- **Select the unit/s of competency to be assessed**

Identify the unit of competency in this Training Package that is to be assessed. The assessment resource may focus on a single unit of competency or a cluster or group of related units of competency.

⁵ DEST, 2005, *Information and Communications Technology Training Package (ICA05)* Volume One Section 1.5, pp 1-125 – 1-158. The *Assessment Guidelines of Information and Communications Technology Training Package* may also be accessed via the National Training Information Service website (www.ntis.gov.au)

- **Analyse the unit of competency**

The unit of competency describes the work and the required standards of performance. Read the full unit of competency carefully and familiarise yourself with the:

- *Unit Description* – this outlines the aspect of work to be assessed
- *Elements and Performance Criteria* – these describe the nature of the task to be assessed and the standard of performance that is expected of the candidate
- *Range of Variables* – this describes the conditions under which the task must be performed
- *Evidence Guide* – this provides information on the key tasks which a candidate must be able to do [critical aspects of competency], the underpinning knowledge and skills required to perform the task [underpinning knowledge and skill] and units of competency that may be grouped for assessment purposes [interdependent assessment of unit].

Identify the key skills that the candidate will require to perform the work activity described in the unit of competency. These are:

- *Task Skills* – these involve performing the task to the required standard as described in the unit of competency
- *Task Management Skills* – these involve managing a number of different tasks within the job
- *Contingency Management Skills* – these involve fulfilling the responsibilities and expectations of the workplace.

- **Identify the type and amount of evidence to be collected**

Prepare a list of the evidence that might be collected to show that the candidate is able to perform the work activity described in the unit of competency. There are three broad categories of assessment evidence that may be used in conducting competency assessments. These are:

- *Product* – this refers to an item that is constructed or a service that is delivered
- *Process* – this refers to the way in which a product is produced or achieved
- *Knowledge* – this refers to the information that is required to perform the aspect of work described in the unit(s) of competency. This may include knowledge of specific information, knowledge of specific laws, regulations and Codes of Practice and knowledge of principles, processes and procedures.

This evidence may be collected through a variety of methods. These include:

Direct

- observation of workplace activities
- demonstration of specific tasks
- observation of activities under simulated workplace conditions.

Indirect

- questioning – oral questioning, written tests, interviews.

Supplementary Evidence

- supervisor reports
- employer references
- documentation about past or prior achievements
- portfolios.

The assessor must determine the type and amount of evidence that is required and how this will be collected.

- **Plan the assessment activity**

Prepare a brief written description of the assessment activity that will be used to collect the required evidence. For example, this may be an observation of workplace activity, a simulation, a test or some other form of evidence gathering technique. The description does not have to be detailed but should at least describe, in broad terms, the nature of the activities to be undertaken. The description should detail the:

- type of evidence gathered under each evidence requirement (direct, indirect, supplementary)
- tasks which the candidate is required to do.

In planning the activity consideration should be given to using evidence gathering methods that:

- are appropriate to the industry context
- are gender and culturally inclusive

- take into account the language, literacy and numeracy skills of both the assessor and the candidate
 - minimise the cost of assessment
 - involve the collection of a variety of forms of evidence
 - may be customised to take into account local conditions, site requirements and enterprise specific practices
 - utilise industry and enterprise reference materials, such as standard operating procedures and quality systems
 - allow for updating of evidence requirements and work practices in line with changes to legislation, regulations and Codes of Practice
 - take account of safety considerations and the assessment environment, especially for New Apprenticeship pathways, which are likely to have first time workers and for assessment of high-risk operations or in high-risk industries.
- **Prepare the assessment materials**

The assessment materials are developed in accordance with the plan for the assessment activity. The assessment materials should:

 - address the relevant unit[s] of competency
 - require the candidate to demonstrate the five key components of competency
 - identify the evidence requirements and evidence collection methods
 - include the resources needed to conduct the assessment activity/activities
 - include instructions for candidates and those involved in administering the assessment activity/activities
 - be checked for ease of use, validity, reliability, fairness and flexibility
 - incorporate allowable adjustments to the assessment procedure.
 - **Validate the assessment materials**

The assessment materials should be piloted with a small sample of assessors. Information gathered through this process should be analysed to establish any amendments that may be required. The assessment materials are redrafted incorporating suggested amendments as appropriate.
 - **Prepare the final version of the assessment materials**

The assessment materials are published in an appropriate format, either print or electronic, and made available to assessors within the relevant organisation. Arrangements are put in place for the ongoing maintenance and cyclic review of the assessment resource.

4.2.3.3 Conducting assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

Mandatory Assessment Requirements

Assessments must meet the criteria set out in Standard 8 from the *Standards for Registered Training Organisations*.

4.2.3.4 Formative and summative assessment

Some competencies within the ICT Training Package contain references to formative and summative assessment. The following text provides an explanation of these terms.

Assessment can be done at various times throughout a learning/assessment process and a comprehensive assessment plan should include both formative and summative assessment. The point at which the assessment occurs in a program distinguishes these two categories of assessment.

Formative Assessment

Formative assessment refers to assessment tasks that occur regularly throughout the learning program and one of its primary objectives is to provide constructive feedback to the learner and guide their learning.

Formative assessment is often done at the beginning or during a learning program, thus providing the opportunity for immediate evidence for student learning in a particular element, unit or course or at a particular stage in an overall program.

It gives students the opportunity to demonstrate a selection of Performance Criteria for the purpose of self-assessment, or to receive feedback on their progress and identify gaps in their knowledge or skills. It is also a method for the collection of evidence (of either individual Performance Criteria or a complete Unit of Competency), and a determination of a candidate's readiness for final assessment. Formative assessment is more a process than an event, allowing students the opportunity to gain confidence through practice and application, ideally in an environment that is conducive to the achievement of competence without fear of failure.

The case study approach allows students to develop competencies by completing simulated work-based projects and receiving guidance and feedback. This work, along with the feedback received, could serve the purpose of a type of formative assessment as it assists in development of the required competencies and in the formation of the final performance.

Classroom assessment is a common formative assessment technique in institutional delivery. The purpose of this technique is to aid and improve quality of student learning and should not be evaluative or involve grading students. This can also lead to curricular modifications when specific courses have not met the student learning outcomes. Classroom assessment can also provide important program information when multiple sections of a qualification are taught because it enables programs to examine if the learning goals and objectives are met across the qualification. It also can improve instructional quality by engaging the trainer or assessor in the design and practice of the goals and objectives.

Summative Assessment

Summative assessment requires learners to demonstrate the knowledge, skills and competencies they have learned throughout the learning program.

Summative assessment is the final assessment of competence, and is only applied when the student feels confident of his or her ability to perform the task successfully. A student who is ready for summative assessment possesses skills and knowledge that are sufficiently developed to a point where they can be demonstrated as an assessment 'event' or 'situation', either in the workplace or in a simulated environment. Summative assessment requires the assessor to make a final judgement as to whether the student is 'competent' or 'not competent'.

Summative assessment is comprehensive in nature, provides accountability and is used to check the level of learning at the end of the program. For example, if upon completion of a program learners will have the knowledge to pass an accreditation test, taking the test would be summative in nature since it is based on the cumulative learning experience. Program goals and objectives often reflect the cumulative nature of the learning that takes place in a program. Thus the program would conduct summative assessment at the end of the program to ensure students have met the program goals and objectives. Attention should be given to using various methods and measures in order to have a comprehensive plan. Ultimately, the foundation for an assessment plan is to collect summative assessment data and this type of data can stand-alone. Formative assessment data, however, can contribute to a comprehensive assessment plan by enabling trainers and assessors to identify particular points in a program to assess learning (i.e. entry into a program, impact of specific units etc.) and monitor the progress being made towards achieving learning outcomes.

4.2.3.5 An industry assessment model

The following notional industry assessment model offers a valuable checklist plus generic methodology for conducting assessments against units of competency in this Training Package. This process can potentially apply to all assessments conducted for the purposes of national recognition in both institutional and workplace contexts.

Assessment resources provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency. In some cases, assessors may use prepared assessment materials, such as those specifically developed to support this Training Package. Alternatively, they may develop their own assessment materials to meet the needs of their clients.

If using prepared materials, assessors should ensure that the materials are benchmarked, or mapped, against the current version of the relevant unit/s of competency. This can be done by checking that the materials are listed on the National Training Information Service website (www.ntis.gov.au).

<p>Step 1 Establish the assessment context</p>	<p>The assessor:</p> <ul style="list-style-type: none"> • establishes the context and purpose of the assessment; • identifies the relevant units of competency, assessment guidelines and qualification framework in this Training Package; • identifies any NTQC noted support materials that have been developed to facilitate the assessment process; • analyses the competency standards and identifies the evidence requirements; and • identifies potential evidence collection methods.
<p>Step 2 Prepare the candidate</p>	<p>The assessor meets with the candidate to:</p> <ul style="list-style-type: none"> • explain the context and purpose of the assessment and the assessment process; • explain the competency standards to be assessed and the evidence to be collected; • advise on self-assessment, including processes and criteria; • outline the assessment procedure, the preparation the candidate should undertake, and answer any questions; • assess the needs of the candidate and, where applicable, negotiate reasonable adjustment for assessing people with disabilities without compromising the integrity of the units of competency; • seek feedback regarding the candidate’s understanding of the units of competency, evidence requirements and assessment process; • determine if the candidate is ready for assessment and, in consultation with the candidate, decide on the time and place of the assessment; and • develop an assessment plan.
<p>Step 3 Plan and prepare the evidence gathering process</p>	<p>The assessor must:</p> <ul style="list-style-type: none"> • establish a plan for gathering sufficient quality evidence about the candidate’s performance in order to make the assessment decision (and involve industry representatives in the development of plans for the validation of assessment); • source or develop assessment materials to assist in the evidence gathering process; • organise equipment or resources required to support the evidence gathering process; • coordinate and brief other personnel involved in the evidence gathering process.
<p>Step 4 Collect the evidence and make the assessment decision</p>	<p>The assessor must:</p> <ul style="list-style-type: none"> • establish and oversee the evidence gathering process to ensure its validity, reliability, fairness and flexibility; • collect appropriate evidence and assess this against the elements, Performance Criteria, Range Statement and Evidence Guide in the relevant units of competency; • evaluate evidence in terms of the four dimensions of competency – task skills, task management skills, contingency management skills, and job/role environment skill; • incorporate allowable adjustments to the assessment procedure without compromising the integrity of the competencies; • evaluate the evidence in terms of validity, consistency, currency, equity, authenticity and sufficiency; • consult and work with other staff, assessment panel members or technical experts involved in the assessment process; • record details of evidence collected; and • make a judgement about the candidate’s competency based on the evidence and the relevant unit(s) of competency.

<p>Step 5 Provide feedback on the assessment</p>	<p>The assessor must provide advice to the candidate about the outcomes of the assessment process. This includes providing the candidate with:</p> <ul style="list-style-type: none"> • clear and constructive feedback on the assessment decision; • information on ways of overcoming any identified gaps in competency revealed by the assessment; • the opportunity to discuss the assessment process and outcome; and • information on reassessment and the appeals process.
<p>Step 6 Record and report the result</p>	<p>The assessor must:</p> <ul style="list-style-type: none"> • record the assessment outcome according to the policies and procedures of the RTO; • maintain records of the assessment procedure, evidence collected and the outcome according to the policies and procedures of the RTO; • maintain the confidentiality of the assessment outcome; • organise the issuing of qualifications and/or Statements of Attainment according to the policies and procedures of the RTO.
<p>Step 7 Review the assessment process</p>	<p>On completion of the assessment process, the assessor must:</p> <ul style="list-style-type: none"> • review the assessment process; • report on the positive and negative features of the assessment to those responsible for the assessment procedures; • if necessary, suggest to appropriate personnel in the RTO ways of improving the assessment procedures.
<p>Step 8 Participate in the reassessment and appeals process</p>	<p>The assessor must:</p> <ul style="list-style-type: none"> • provide feedback and counsel the candidate, if required, regarding the assessment outcome or process, including guidance on further options; • provide the candidate with information on the reassessment and appeals process; • report any disputed assessment decision to the appropriate personnel in the RTO; and • participate in the reassessment or appeal according to the policies and procedures of the RTO.

4.2.3.6 Holistic or integrated assessment

Learning for the development of competencies in the Information and Communications Technology Training Package is directly related to the working environment, and, as such, should be demonstrated either on the job, or in a simulated working environment. In the workplace, individual competencies are seldom demonstrated in isolation; therefore, any given task may contain a variety of units. Where present, these related competencies are identified in the Assessment Guide of each ICA05 unit.

When related competencies are assessed simultaneously or through a task that requires the student to integrate them, this is called a ‘holistic’ or ‘integrated’ assessment. This form of assessment relates to the whole unit or grouping of units, and requires observation of performance, questioning, and in some cases, review of documentation or other forms of evidence.

Competency includes the ability to manage and organise a normal workload and work environment and to manage contingencies which arise, as well as the ability to complete each individual task making up a job. As far as possible, the underpinning knowledge, the skills and the attributes required of a competent performer should be incorporated into one holistic assessment event. Although integration of appropriate competencies is important, it is still essential that evidence is gathered to meet Performance Criteria for each competency involved, and that achievement is identified and recorded for each individual competency.

To support these principles, the preferred approach to assessment in ICA05 is project-based assessment. That is, students are assessed over the duration of a project that is work-based or closely simulates the need to manage and organise themselves and to handle contingencies in applying their knowledge and skills, as they would in an actual ICT work environment. Case studies and scenarios

provided in some supporting resources are a good starting point for simulating actual workplace projects.

The project method of assessing competence usually requires students to compile a portfolio of work and other documents as evidence of what they can do, but they might also be assessed in other ways for some competencies, or to concentrate on underpinning knowledge or skills. Other methods may include observation checklist, interview or written test, oral presentation or third-party report.

Holistic or integrated assessment may apply in a variety of ways depending on where assessment occurs and at what qualification level.

4.2.3.7 Key players in assessment

For the assessment system to work efficiently, the process must be coordinated with each participant being aware of his or her role.

The Candidate

The candidate is at the centre of the process. The candidate will initially determine his or her own readiness for assessment. This involves undertaking an initial self-assessment to determine if they are ready for an assessment. An individual may wish to be assessed for a range of reasons such as, advanced standing in a course, for recognition of current competencies (RCC) to gain a qualification or a statement of attainment or for career purposes.

Self-Assessment

Self-assessment provides the candidate with an opportunity to assess his or her own performance. It also allows them to understand more clearly what is considered effective performance in their current and other similar work environments. The candidate is given the competency standards on which they will be assessed. They will decide which normal day to day work processes provide the best opportunity to demonstrate the performance criteria. This increases the candidate's likelihood of being able to transfer the effective use of the competencies to other work places and new contexts. Self-assessment promotes the candidate's ability to undertake continual improvement of their own work, by introducing them to a process of self-review

The candidate may wish to document the process and outcome of their self-assessment. If they consider that they are ready for a formal assessment, the candidate will discuss their self-assessment with the assessor. This discussion should consider why a particular process was chosen, and whether this affected competent performance. This process helps the candidate decide whether they are ready for an assessment. It also reduces the number of potential appeals and provides the assessor with some information on the candidate's underpinning knowledge and skills for the units being assessed. Additional tools to aid this process are contained in the non-endorsed part of this Training Package.

The self-assessment process may:

- clarify the purpose and goal of the assessment;
- identify processes which lead to effective demonstration of the performance criteria;
- produce an outcome (product or role process) which successfully demonstrates competency;
- enable the candidate to evaluate the process and outcome; and
- enable the candidate to critically reflect on the process and outcome.

This means the candidate will become more practised in evaluating their own processes and standard of work.

The Employer

The assessment system provides employers with a valid and reliable process for appraising the skill levels of their current and future work force. An employer may request an individual to be assessed for a range of reasons such as, training and development purposes, internal recruitment and promotion, and external recruitment. The employer requesting an assessment must ensure that the candidate has access to all information relating to the assessment process. This should include as a minimum what is going to be assessed and what the appeals process involves. An employer may also be an assessor, but must be working under the auspices of a Registered Training Organisation (RTO) if a credential is to be issued.

The Assessor

The integrity of the assessment system relies on the assessor providing a fair, valid and reliable assessment. The assessor will ensure that the candidate understands what the assessment process involves and what will be assessed. The assessor also informs the candidate and employer of the appeal process. The appeal process is the responsibility of the Registered Training Organisation and information on the appeal system will be provided to assessors working for or in affiliation with the RTO. The assessor should assess in the workplace wherever practical, and attends to assessment administration tasks. An important aspect of the assessor's role is to provide the candidate with feedback on competency gaps.

Feedback is an important role of the assessor, and should provide information on where and how performance can be improved. An assessor may also be able to provide information on resources, such as training programs, that can be undertaken to become competent. It is important that feedback is provided in a positive and informative manner rather than a negative or punitive way.

Assessment against ICA05 units should be as holistic and integrated as possible. One option is for assessment to cover a range of interconnected or linked units of competency. Natural linkages between units in ICA05 are reflected in the text of each unit where relevant.

Assessments which occur outside a training program or which do not use integrated assessment should ensure that:

- assessment procedures are the most effective for the context and purpose of the assessment;
- assessment materials developed for the assessment, conform to the guidelines in the non-endorsed section of this training package;
- evidence is gathered in an integrated manner;
- assessment is conducted as a holistic practice;
- the time frame for assessment is kept to a minimum;
- feedback is provided in a positive and timely manner; and
- the assessment is not seen as punitive.

4.2.3.8 Code of practice

The Assessors Code of Practice detailed below is based on international standards and included for guidance.

Assessors Code of Practice

- The differing needs and requirements of the person being assessed, the local enterprise and/or industry are identified and handled with sensitivity.
- Potential forms of conflict of interest in the assessment process and/or outcomes are identified and appropriate referrals are made, if necessary.
- All forms of harassment are avoided throughout the planning, conduct, reviewing and reporting of the assessment outcomes.
- The rights of the candidate are protected during and after the assessment.
- Personal or interpersonal factors that are not relevant to the assessment of competency must not influence the assessment outcomes.
- The candidate is made aware of right and process of appeal.
- Evidence that is gathered during the assessment is verified for validity, reliability, authenticity, sufficiency and currency.
- Assessment decisions are based on available evidence that can be produced and verified by another assessor.
- Assessments are conducted within the boundaries of the assessment system policies and procedures.
- Formal agreement is obtained from both the candidate and the assessor that the assessment was carried out in accordance with agreed procedures.
- Assessment tools, systems, and procedures are consistent with equal opportunity legislation.
- The candidate is informed of all assessment reporting processes prior to the assessment.
- The candidate is informed of all known potential consequences of decisions arising from an assessment, prior to the assessment.
- Confidentiality is maintained regarding assessment outcomes.

- Outcomes of the assessment are only released with the written permission of the candidate.
- The assessment outcomes are used consistently with the purposes explained to the candidate.
- Self-assessments are periodically conducted to ensure current competencies against the Training and Assessment Training Package.
- Professional development opportunities are identified and sought.
- Opportunities for networking among assessors are created and maintained.
- Opportunities are created for technical assistance in planning, conducting and reviewing assessment procedures and outcomes.

4.2.4 Diversity, equity and accessibility

This section (pp 144-151) is reproduced from the *Assessment Guidelines of the Information and Communications Technology Training Package (ICA05)*⁶.

Diversity and Equity

The information and communications technology (ICT) industry is characterised by a global workforce, diverse clientele and international relationships. The issue of diversity is a reality in most if not all workplaces and managed effectively can provide opportunity for market growth and access to the widest possible range of available skills and expertise.

A useful definition of diversity is ‘the quality of being different and unique at an individual or group level’. Diversity is often discussed in relation to ethnicity, culture, gender, race, age, functional diversity, personality and learning styles. Recognising and valuing diversity means creating and sustaining an environment in which everyone can achieve their full potential. This may include removing systemic barriers and creating new ways of doing business.

In appropriately acknowledging the needs of all individuals engaged in learning or assessment processes, several principles of best practice in working with members of equity groups should be kept in mind:

- the learning and assessment environment should not disadvantage the candidate
- practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English and where appropriate and possible communication in languages other than English needs to be allowed for
- language and literacy demands of the assessment task should not be higher than those of the work role
- the demands of assessment and the methods used need to take into account the key competencies performance level of the unit in question
- adjustments to assessment practices are considered ‘reasonable’ if they do not impose an unjustifiable hardship on a training provider or employer and do not change the competency outcomes.

4.2.4.1 Information on training and assessment for people with special needs

Good vocational training and assessment, like customer service, is often about making adjustments to what we do to meet individual needs. When learning to work, every person has slightly different needs. Rarely do stereotypes, clichés or generalisations hold true. This section is intended to assist ICT employers, trainers and assessors to meet the reasonable adjustment needs of learners with disabilities.

What is a Disability?

A disability presents some impairment to everyday activity. In practice, some people with a disability do not have any impairments resulting from their disability. For example, a person who has a hearing impairment that is compensated for by a hearing aid may function without any adjustments.

⁶ DEST, 2005, *Information and Communications Technology Training Package (ICA05)* Volume One Section 1.5, pp 1-125 – 1-158. The *Assessment Guidelines of Information and Communications Technology Training Package* may also be accessed via the National Training Information Service website (www.ntis.gov.au)

Disabilities may affect or relate to a range of human functions including mobility, stamina, lifting ability, memory, vision, hearing, speech, comprehension and mood swings. This may be due to accidents, illness or birth.

Detailed information on how to adjust training and assessment for each of these areas cannot be provided within this section, however, there are additional resources available, many of which are listed [in the *Information Technology Resource List*].

4.2.4.2 Adjustments in training and assessment

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package.

Reasonable adjustments can be made to ensure equity in assessment for people with disabilities. Adjustments include any changes to the assessment process or context that meet the individual needs of the person with a disability, but do not change competency outcomes. Such adjustments are considered 'reasonable' if they do not impose an unjustifiable hardship on a training provider or employer. When assessing people with disabilities, assessors are encouraged to apply good practice assessment methods with sensitivity and flexibility.

The Disability Discrimination Amendment (Education Standards) define disability as:

- total or partial loss of the person's bodily or mental function; or
- total or partial loss of a part of the body; or
- the presence in the body of organisms causing disease or illness; or
- the presence in the body of organisms capable of causing disease or illness;
- the malfunction, malformation or disfigurement of a part of the person's body; or
- a disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction; or
- a disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgment or that results in disturbed behaviour.

Training Package developers and Registered Training Organisations are required under the Standards to take reasonable steps to ensure that Packages are designed in such a way that the learner is, or any learner with a disability is, able to participate in the learning experiences (including assessment and certification requirements) of the program, and any relevant supplementary program, on the same basis as a learner without a disability, and without experiencing discrimination.

There are a number of practical things that can be done as part of providing reasonable adjustment to employees and learners with special needs to enable them to undertake their training and assessment. Some suggestions are included below.

Type of Disability	Reasonable Adjustments
Mobility impairment	Provision of wheelchair accessibility, access to aids such as for holding documents, adjustable tables, note taking support, oral rather than written presentations or exams, use of a personal computer, lifting limits
Vision impairment or people who are blind	Use of audio tapes, enlarged text and images, enlarged computer screen images, use of voice synthesisers on computers, good lighting or reading lamps, Braille translations, provision for guide dogs, avoid moving furniture without informing the person, provision of additional writing time for assignments/tests
Hearing impairment or people who are deaf	Use of telephone typewriters, audio loops for people using hearing aids, use of Plain English documents, sign language interpreters for training and assessment, fire and alarm systems fitted with flashing lights.

Type of Disability	Reasonable Adjustments
Intellectual disability	Practical learning sessions, repetition of learning exercises, use of Plain English, use of mentors, assessment that is appropriate to the skill, i.e. avoiding written test for practical tasks, providing additional time
Psychiatric disability	Use of reflective listening skills, identification and avoidance of stresses, use of on-going rather than formal assessments, providing 'time-out' breaks in assessment
People with acquired brain injury	Providing time and patience during training and assessment, using reflective listening skills, providing memory aids, e.g. posters, notes, minimisation of stress
Speech impairment	Provision of time and patience, paraphrasing, getting them to put things in writing, minimising stress

Clearly, each case will be different and will need to be discussed with the learner, and in many cases expert help may be needed, at least in the initial stages. There are many sources of help to assist in employment, training and assessment of a person with a disability.

4.2.4.3 Information on training and assessment for people from Aboriginal or Torres Strait Islander backgrounds

The ICA05 Information and Communications Technology Training Package has very broad application across all community and workforce areas in Australia. Indigenous communities are finding increasing value in accessing and using information technology resources and online services as part of their work and non-work lives. The 'tyranny of distance' is being overcome through the innovative use of technology and the internet. In the context of this Training Package, it is expected that an individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the specific outcomes required by this package.

Where ICA05 or elements of it are being used in Aboriginal or Torres Strait Islander communities, local stakeholders should be involved in the development and implementation of its training and assessment arrangements. When considering the rollout of information technology training in indigenous communities, some of the issues to be considered include the need for effective training and assessment planning, appropriateness of delivery approaches, suitability of venues, availability of resources and the development of appropriate learning exemplars and activities. Suggestions for consideration against a number of these issues are provided in the following sections.

General Cultural Issues that May Impact Training

There are hundreds of Aboriginal or Torres Strait Islander cultures and languages and therefore training and assessment should be encouraged to have a local focus to maximise effectiveness. Individual Aboriginal or Torres Strait Islander communities need to be involved in the development and implementation of training and assessment and in some circumstances communication in languages other than English may need to be allowed for. This could be particularly relevant for those people completing qualifications in remote communities.

Some of the issues to be considered include:

- ownership and/or custodial rights and responsibilities within Aboriginal or Torres Strait Islander cultures and nations, including the rights of people to 'identify with' people and Country and exercise affiliations, even where these have not been previously known, recognised or exercised
- cross-cultural issues, not only in terms of Aboriginal or Torres Strait Islander/non- Aboriginal or Torres Strait Islander interactions but also between and within Aboriginal or Torres Strait Islander cultures, nations and sub-groupings where inter-relationships can be extremely complex and sensitive
- 'rights' of people to speak on behalf of and represent groupings, these being generally invested in Elders or other Aboriginal or Torres Strait Islander people who are recognised by their community as custodians of cultural knowledge

- attitudes towards cultural heritage aspects that can be shared without compromise and the ways in which this can be achieved. For example, this may impact on who teaches knowledge, who studies units and the cultural protocols that govern the ways in which this is done
- recognition that Aboriginal or Torres Strait Islander arts and cultures are dynamic and are continually growing and developing and not fixed in a particular view of the past
- respect for the rights of Aboriginal or Torres Strait Islander peoples to refuse to pass on information, including details about family history, kinship systems, Country, significant sites and other cultural knowledge
- awareness of the sensitivities that may be felt by some Aboriginal or Torres Strait Islander people when researching their own culture, Country and family systems, particularly when such research impacts on personal identity.

Planning for Training and Assessment

There are a number of issues that should be considered when planning for the delivery of training or the assessment of individuals, these include:

- consulting Elders or other Aboriginal or Torres Strait Islander people who are recognised by their community as custodians of cultural knowledge about appropriate methods for accessing and using local knowledge
- inviting the involvement of the local Aboriginal or Torres Strait Islander community, particularly Elders, at all stages of the planning, development, training and assessment process. Elders are the custodians of knowledge, as well as the authorities from whom permissions must be sought for in relation to issues such as which knowledge can be shared, the ways in which this sharing must occur and how its application can be best assessed
- setting up local Aboriginal or Torres Strait Islander reference groups to advise on training development (may include organisations such as Local Aboriginal Land Council, local community arts centre, Aboriginal Education Consultative Group)
- allowing time to develop rapport and trust, to develop and explore viewpoints, on-going consultation, communication and problem-solving
- ensuring participation of local Elders – sitting in on sessions/activities, as presenters, mentors, advisors and ‘supporters’, providing context and ‘grounding’. This ‘authority’ aspect is very important and in many instances, the mere presence of key Elders, even if they are not taking an active role, lends both authority and permission
- locating training and development activities in the local community and promoting and ensuring a sense of community ownership, involvement, partnership and control.

Approaches to Training and Assessment

In order to ensure that Aboriginal or Torres Strait Islander people are not disadvantaged in ICT VET processes, a number of ideas could be considered where appropriate, including:

- orally-based training and assessment with explanation and demonstration
- working in pairs for training and assessment
- small or large group work for training and assessment: assessment dimensions for Aboriginal or Torres Strait Islander peoples may include a ‘group’ component as well as an ‘individual’ component
- culturally appropriate presentations for training and assessment, e.g. presentations or art pieces in a medium appropriate to local culture
- using artwork or illustrated oral presentations/talks, for presentation and assessment
- consulting learners about preferences and how they feel they can best demonstrate their competence
- taking a flexible approach to time and achievement of outcomes
- flexible delivery and assessment processes
- identifying culturally appropriate and sensitive trainers and assessors with a demonstrated ability to work effectively with local Aboriginal or Torres Strait Islander communities
- training external trainers in appropriate and localised approaches and providing essential community and cultural background information/support
- developing all training as part of an overall empowerment and confidence-building program
- accommodating priorities and obligations within local communities to avoid conflict with training and assessment activities
- exploring perceptions and understandings ‘in community’
- allowing multiple, holistic and personalised assessment opportunities

- identifying appropriate materials/methods through community and potential learner consultations
- tailoring training and assessment for specific communities rather than applying ‘blanket’ solutions/methods, recognising that there are many localised Aboriginal or Torres Strait Islander ‘cultures’ and not a single one
- personalising training materials with appropriate, local illustrations and applications
- training and assessment integrated with work activities as much as possible
- structuring training and assessment as on-going work experience.

Training and Assessment Venues

A number of basic operational issues should also be considered, including:

- What are locally familiar, appropriate, preferred and available venues?
- Are ‘classrooms’ or other interior settings available or appropriate?
- Is an outdoors location preferred/more appropriate/feasible?
- What innovative technologies (e.g. mobile and wireless) could be used in the field?
- Are assistive technologies needed and available?
- Is on-the-job training and assessment most appropriate and how is this best organised?
- Are occupational health and safety issues addressed?
- Do local climatic conditions affect training and assessment locations and approaches?

Training and Assessment Resources

The appropriateness of resources can be pivotal to the success or failure of training and assessment activities, particularly where cultural differences may be present. The presentation of training and assessment of individuals against ICT competencies may present considerable challenges in this regard, particularly in remote communities. The following ideas should be considered when selecting or developing resources:

- selection of appropriate trainers and assessors
- availability, accessibility and appropriateness of written, audio-visual, photographic, electronic or other resource materials such as necessary equipment
- development or adaptation of appropriate resource materials
- availability of electricity or availability at required times in remote training and assessment locations
- availability of internet access for online research, training and assessment, where appropriate.

The actual materials, exemplars and activities utilised in ICT VET training and assessment should be carefully reviewed with the following issues taken into consideration:

- Do existing training resources meet the needs of Aboriginal or Torres Strait Islander candidates or is there a need for additional material?
- Are learners going to meet visitors from outside local cultural groupings?
- Can activities be developed that bridge traditional cultural needs and obligations and those of varied outside visitors who also have great cultural diversity?
- Are activities contained completely within a limited cultural world sufficient to achieve the outcomes required by the standards?
- Do set activities enable learners to demonstrate their competence and satisfy the requirements of the competency standard/qualification level? The challenge is in balancing local situations and needs with national competency standards and qualifications. Qualifications are national and therefore ‘portable’ and these aspects must be considered
- Are existing activities within resources relevant, able to be adapted according to local needs or do they need replacing with your own or others?

Clearly, each case or set of circumstances will be different and will need to be discussed with the learner(s). In some case expert help may be needed, at least in the initial stages. There are sources of help to assist in training and assessment of Aboriginal or Torres Strait Islander candidates, some are listed [in the *Information Technology Resource List*].

4.2.4.4 Language, literacy and numeracy

In everyday workplace tasks it is common for a person to use and respond to spoken and written language and use numeracy skills at the same time. These skills are applied within a cultural context that needs to be interpreted and responded to appropriately.

When designing workplace learning and assessment tasks, the trainer and assessor should be aware of this interlinking of language, literacy and numeracy. However there will also be situations in which only one of these skills is the focus of the training, for example calculation skills for analysing the characteristics of website traffic.

Although you will find the terms ‘language, literacy and numeracy’ generally used together they are not interchangeable or always linked. The terms are defined below.

Language

In its broadest sense, language involves the words, verbal structures and gestures we use to convey meaning. In using language we generally use a combination of communication forms such as speaking, listening, reading, writing and visual communication. Visual communication skills underpin the agreed language of the Australian deaf community, Australian Sign Language (AUSLAN).

Language can also refer to individual languages such as English, Mandarin, Warlpiri. Our workplaces often involve a mix of language groups and sometimes workers can hold technical competency without English language competency.

Language changes over time and context. Industries have their own vocabulary, including jargon, technical terms and acronyms that workers must understand. This can be very challenging for some people, particularly those for whom English is not their first language. Take the word ‘cookie’ for example. A baker may bake it, a photographer may attach it to a light stand and an ICT specialist may stop it being transmitted over the internet.

Effective cross-cultural communication requires a range of skills including the ability to appreciate that there may be variations in the value placed on the communication forms of language. For example, while written language is highly regarded in the English language, Indigenous languages place higher value on verbal and visual communication forms.

Literacy

Literacy is the ability to read and use written information as well as to write appropriately, in a range of contexts. Literacy involves the integration of speaking, listening, and critical thinking with reading and writing. Literacy skills enable us to interact with one another to achieve particular purposes: to explain, debate, retrieve and provide information, explore issues, entertain and create.

Literacy is about our social application of language, for example in our homes, communities, schools and workplaces. Like language, literacy practices change over time and context. We have seen this over the last decade with emerging multimedia and information technologies and our multi cultural society.

The literacy demands placed on individuals also change throughout their lifetimes. As we experience new situations we need to continually adapt and extend our literacy skills.

Numeracy

Numeracy involves the practical application of mathematical skills to absorb, use and critically evaluate information in numerical or graphical form.

Depending on the context this can include basic number skills, spatial and graphical concepts, the use of measurement and problem solving. Numeracy may also involve literacy, for example when extracting mathematical information from written text.

In the workplace the methods used to achieve certain numeracy tasks will differ according to the workplace requirements, technology and culture.

Once again it is important to reiterate several important principles:

- the learning and assessment environment should not disadvantage the candidate

- practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English and where appropriate and possible communication in languages other than English needs to be allowed for
- language and literacy demands of the assessment task should not be higher than those of the work role
- the demands of assessment and the methods used need to take into account the key competencies performance level of the unit in question
- adjustments to assessment practices are considered ‘reasonable’ if they do not impose an unjustifiable hardship on a training provider or employer and do not change the competency outcomes.

LLN in ICA05

Individual units within the ICA05 Training Package have considered the issue of language, literacy and numeracy skills in the context within which the competencies are expected to apply in the workplace. Where these aspects are central to the competency, appropriate text has been provided in Elements, Performance Criteria, Knowledge and Skills and Key Competencies.

As a rule, the LLN skills listed are more broad than definitive statements and rely on the trainer and assessor to use the content and context of the whole unit as a guide. Aspects such as the level of the unit, its context within a qualification, whether there are prerequisite units that apply, other knowledge and skills listed and the level of the respective key competency are all relevant in this regard.

This package does however, contain a significant proportion of content of a highly technical nature, a characteristic most evident in qualifications from Certificate IV upwards. In view of this, the package now specifically includes a number of lower level ‘prerequisite’ type units in the application of mathematical techniques, for example *ICAB4225A Automate processes* and *ICAB4224A Apply mathematical techniques for software development*. The incorporation of these new units clearly underpins streams of higher order units that require underpinning arithmetic and related skills. Care should be taken in the learning and assessment processes for such units to ensure that methods are used which do not disadvantage particular equity groups while still maintaining the rigour and robustness of the competency.

4.2.4.5 Schools and institutional contexts

A number of issues facing learning and competency assessment organisations that operate predominantly within an institutional environment are discussed here.

Following are some practical suggestions around ICT work placements and the use of simulated environments for learning and assessment.

ICA05 in a School Environment

Schools in particular face challenges around ICT competency based learning and assessment processes.

Vocational education and training ‘(VET) in schools’ is nationally recognised training made available to senior students as part of their normal school curriculum. Students can select options and programs that range from a couple of hours a week to part-time school-based apprenticeships, where students actually become trainees and employees. They have the opportunity to complete their secondary education with all of these:

- a senior secondary certificate qualification,
- university entrance score or equivalent, and
- practical work skills and a VET qualification.

Within school sectors nationally, many ICA05 units are taught and assessed either separately or in conjunction with senior secondary school curriculum. A number of these ICT units are only offered individually and may result in Statements of Attainment. However, there are a significant and growing number of complete qualifications being issued, particularly at the lower package levels of Certificates I and II.

The issuing of full qualifications at Certificates I and II is consistent with the prevailing national VET in Schools policy and generally supports state/territory government initiatives in ICT literacy, fluency, connectivity and 'job readiness' agendas.

Furthermore, skills at these levels are generally well accepted in the workplace either as basic ICT 'user' skills or as the foundation for more advanced ICT user or the more junior technical specialist tasks. In fact the ICT Training Package has specified the 8 core units from *ICA20105 Certificate II in Information Technology* as containing the essential underpinning knowledge and skills for all Certificate III and above qualifications in the package.

A number of excellent operational resources are available from those agencies that support VET in Schools programs at State and Territory level. It is recommended that these be accessed and utilised in support of ICA05 delivery in schools.

While much of the following discussion specifically addresses and references VET in Schools and the school as a particular type of 'institutional' delivery, the broad guidance offered apply equally to other delivery sectors most notably vocational education and training (both public and private providers) as well as the adult and community education sector (ACE). In these contexts the same or similar issues are present where there is an institutional delivery model operating within a 'workplace competency' philosophy.

4.3 List of Assessment Resources

A list of resources and organisations is provided in the *Information Technology Resource List* (www.boardofstudies.nsw.edu.au) to assist assessors in planning, designing, conducting and reviewing assessments against the Information and Communications Technology Training Package.

4.4 Programming Assessment

An integrated approach to assessment, in which a number of elements or units of competency are assessed together, should be adopted. This accords with the idea that competence involves the integration of a wide range of skills, knowledge and attitudes.

This approach also reduces the danger of over-assessment, which can easily occur if units and elements of competency are assessed individually.

In addition, it is preferable that assessment be integrated with training delivery.

Some forms of assessment will be ongoing. Evidence of competence gathered through the observation of student performance in the classroom, in the workplace or in a simulated work environment will provide one means of ongoing assessment. Questioning of students in the course of teaching and learning activities, self-assessment and peer assessment and reports from workplace supervisors will also allow evidence of competence to be gathered on an ongoing basis.

Other evidence may be collected through specific assessment tasks and events such as projects and assignments, portfolios, written and practical tests and presentations, role-plays and simulations.

It is advisable for teachers and assessors to decide in advance on the forms of assessment and evidence-gathering methods to be used for various units or groups of units and devise a planned program of assessment.

Where specific assessment events are to be used these should be scheduled well in advance, keeping in mind the assessment demands placed on students in their other HSC subjects. As with other HSC courses, students should be informed in writing of school (or other RTO) requirements for assessment in each course.

4.5 Recording Assessment

It is advisable that a competency record be maintained containing information about units and elements of competency. The *Information Technology Competency Record* developed by the Board of Studies as part of the syllabus documentation may be used for this purpose. Alternatively, Registered Training Organisations (RTOs) may use records designed by themselves or by industry bodies. Schools and other RTOs will be required to report to the Office of the Board of Studies on units of competency for which students have been assessed as competent.

A sample record sheet for an individual unit of competency from the Board of Studies competency record is shown below.

The competency record also contains the following proformas:

- forms for recording student, school, RTO and work placement host employer details
- a summary list of units of competency for each available (or partly available) AQF VET qualification
- a verification statement.

4.5.1 Competency Record – sample unit of competency record sheet

ICAU1128A Operate a personal computer

Element of Competency	Competent (Assessor Signature)
1 Start the computer	
2 Access basic system information	
3 Navigate and manipulate desktop environment	
4 Organise basic directory/folder structure and files	
5 Organise files for user and/or organisation requirements	
6 Print information	
7 Shut down computer	

VERIFICATION OF ACHIEVEMENT OF UNIT OF COMPETENCY

I, _____, of _____
 (name of assessor) (Registered Training Organisation)

certify that

 (name of student)

has demonstrated competence in the unit of competency

ICAU1128A Operate a personal computer

Signature _____ Date _____

4.6 Sample Assessment Items

It is preferable that assessment be integrated with training delivery. The programs provided in Section 3 of this document provide samples of integrated approaches to programming and assessment.

Each of the sample programs in Section 3 of this document include sample assessment tasks.

It should be noted that this is **NOT** the only way to organise assessment for the Information Technology Curriculum Framework; rather, it is *one possibility*. The performance criteria to be assessed by the sample tasks will *depend on the teacher's interpretation, development and delivery* of each task.

Some additional sample assessment items include the following:

Task 1 Industry file

Throughout the course, students collect newspaper and other articles that refer to careers and current issues in the IT industry, and emerging technologies. Students annotate their articles, categorise them and keep them in a file.

Task 2 Asset management

Students investigate policies and procedures for IT asset management within the school and do the following:

- build an assets register database to store data on hardware and software in the school
- design an audit data collection form
- conduct a hardware and software audit of the school
- update the database.

Task 3 Industry specialisation presentation

Students prepare a written report and verbal presentation for the class. Each student is allocated a different specialisation area as the focus of their discussion. Students will address the career and work aspects of the specialisation in their presentation.

Task 4 Workstation configuration

Students configure a workstation to meet the specific needs of an identified client:

- identify requirements with the client
- format and install the operating system
- install applications to meet the client's requirements
- configure the desktop to the client's requirements
- apply security settings
- follow up with the client.

Task 5 Workstation design

Students design a workstation to meet the special needs and OHS standards for a person with limited mobility.

Task 6 OHS induction

Develop an OHS induction package for a new employee.

Task 7 Maintenance manual

Design a maintenance manual for a specified piece of hardware outlining an appropriate maintenance schedule, tasks to be undertaken and instructions on how to maintain the hardware.

Task 8 Workplace documentation

Use an appropriate application to design a set of workplace document templates following agreed principles of document design. Documents to be developed are to include a memo, report, letterhead and fax cover sheet.

Task 9 Mail merge

Create a client contact list using appropriate software and using appropriate field characteristics. Design a form letter and mail-merge the list with the form letter.

The following tasks might also be used for assessment:

- Year 11 half-yearly examination
- Year 11 yearly examination
- Year 12 half-yearly examination
- Year 12 trial examination.

4.7 The HSC Examination

The HSC examination:

- is independent of the competency-based assessment requirements for AQF VET qualifications
- is optional for students of Information Technology (240 indicative hours) and is intended for Universities Admission Index (UAI) purposes only
- is a two-hour written paper.

4.7.1 Internal examinations

Teachers and trainers need to be aware that students enrolled in Information Technology (240 indicative hours) may elect to undertake the optional written HSC examination. These students should have the opportunity to practise appropriate written tasks under examination conditions. As far as possible internal examinations set for this purpose should reflect the specifications and conditions of the HSC examination.

For this reason, it is highly recommended that students undertake at least a trial HSC examination.

Schools must provide an estimated examination mark for all students entered for the optional HSC examination. This mark will be an estimate of likely performance in the Higher School Certificate examination and will be used only in the case of a successful illness/misadventure appeal.

Note that a trial HSC or other written internal examination may also be used as a source of evidence of competency in some units and elements of competency and may therefore contribute to the competency-based assessment program.