

Built Environment Training Alliance

Project Centred Assessment

Introduction

The BConstructive programme provides a unique opportunity for schools and providers to explore their potential for providing learning and assessment in realistic working situations.

Many teachers and tutors are more experienced in working with groups rather than individuals. They may require assistance to develop the confidence and skills to provide the appropriate constructive feedback on a one to one basis and also encourage students to develop their own self assessment methods.

Flexible and personalised learning requires students to be active and involved learners. There should be an emphasis on:

- the process of learning and each student's ability to learn;
- problem solving;
- interpreting situations;
- taking the initiative; and
- obtaining, relating, considering and applying information.

This proactive approach to learning is particularly appropriate in a world where there is a vast amount of information available from many sources. This information needs to be accessed, evaluated and used intelligently by students to ensure that their intended outcomes are achieved.

The BConstructive programme stimulates the whole learning process through participation in practical situations and encourages students to take an active role in their own learning and personal development.

Assessment

The purpose of assessment is to find out whether a person can do a task to the required standard or not. Assessment is about gathering evidence to prove a student/trainee has met the specified outcomes of a unit standard. In doing so, it enables the student /trainee to receive formal recognition for their performance against the unit standard and achieve credits towards a National Certificate.

Assessment is not about "passing" or "failing", but about determining competence.

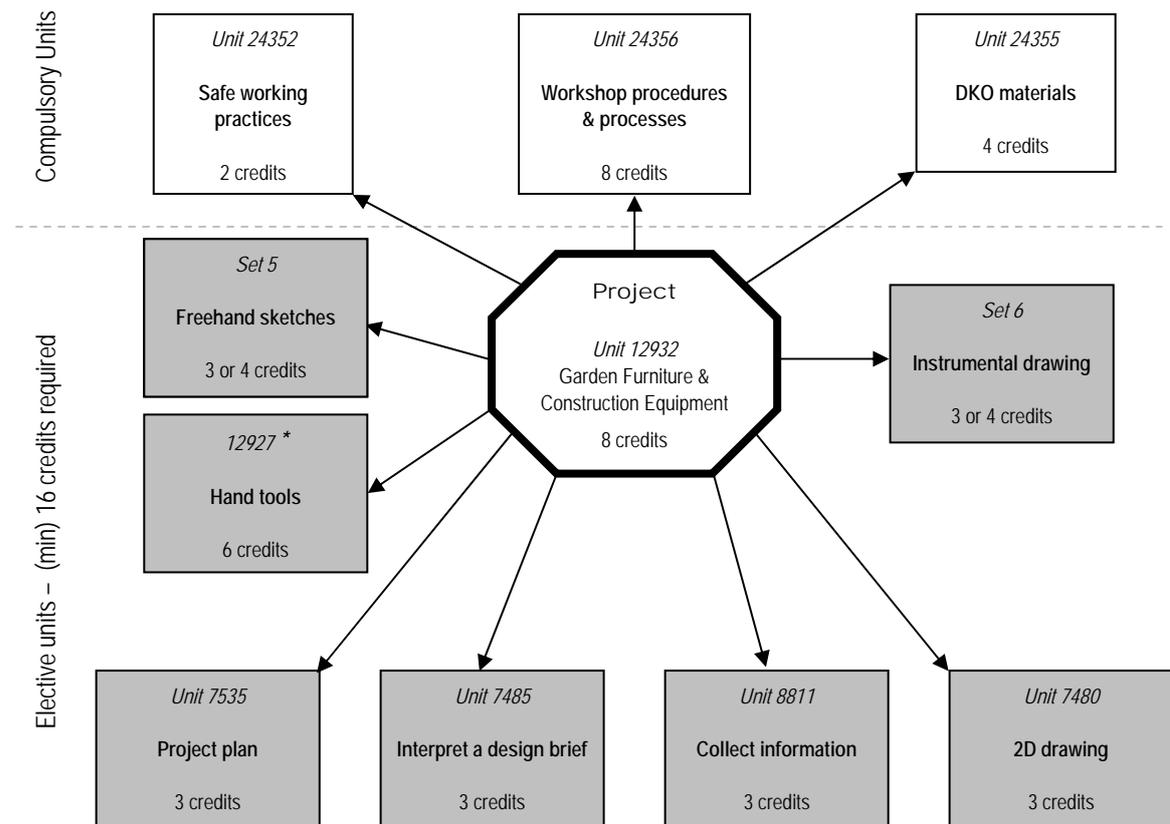
Internal and external moderation

The primary tool for monitoring the quality of assessment is a dual process through *internal moderation* of assessments conducted by schools and providers and *external moderation* of assessment conducted by standard setting bodies.

Internal moderation is the process used by schools and providers to ensure that their assessment processes are sufficiently robust – in other words consistent, sufficient, fair and valid.

Level 1 Example

Please note that some of these unit standards have expired but the principles illustrated by the diagram remain



* This unit requires that tools must be completed for 3 projects. If 12932 completes 2 projects, this will not be sufficient to achieve the unit but it can be partially assessed and completed either with a different project, or as part of the level 2 qualification.

A year 11 student decides to make an outdoor garden chair as one of the two projects required to achieve unit standard 12932 (*Construct timber garden furniture and basic construction equipment as a BCATS project*). (Note: this is a level 2 unit standard but is also included in the level 1 qualification.)

During the construction of this project unit standard 12932 requires the student to be assessed as competent in:

- identifying the components and preparing a cutting list;
- marking out and machining the components ;
- finishing and assembling the project;

- safe working practices;
- keeping the work area clean and disposing of waste; and
- cleaning and storing plant and equipment.

In addition to the assessment requirements for 12932, there are a number of other unit standards that the student can have fully or partially assessed during the construction of the project. These may include:

24352 *DKO and apply safe working practices in the construction of a BCATS project*

The assessment of this unit requires the observation of the student following safe practices, and identifying and managing hazards during the construction of a project. For assessments related to making an outdoor garden chair in unit standard 12932, the practical requirements are specifically about:

- reading and/or listening to the instructions for a job and checking any instructions they are unsure about;
- identifying dangers and explaining what they will do to stop them happening;
- carrying out the job safely and correctly;
- identifying what personal protective equipment (PPE) will need to be used;
- the correct use of five items of PPE – for example, clothing, safety footwear, ear muffs or plugs, eye protection, UV protection, barrier creams, dust masks and/or breathing apparatus, hard hats, gloves; and
- checking, cleaning and storing the PPE, and identifying if anything is wrong with it.

All of these practical requirements for unit standard 24352 can be demonstrated while making a piece of outdoor garden furniture for unit standard 12932.

We have shown how two unit standards can be linked together for assessment purposes – but it doesn't stop here. The next unit standard that can be linked is:

12927 *Identify, select, maintain and use hand tools for BCATS projects*

Because of the large number of hand tools identified in the range statement in element 1 of this unit, it is expected that assessment for this unit standard would be progressively completed over a number of projects. Students will need a full understanding of the tools they are using and also how to care for, maintain, and use them correctly. However during the construction of a piece of garden furniture, students should do all of the following for each of the hand tools they are required to use:

- describe each tool and what it can and cannot be used for;
- describe how to use the tool safely;
- select the correct tool for the job;
- grind and hone any cutting edges;

- clean the tools, keep them free of rust, and store and maintain them correctly; and
- identify and report any blunt or damaged tools.

On top of correctly answering the questions in the worksheet, the assessment of 12927 (hand tools) requires the student to correctly identify and select the range of hand tools identified in element 1 and complete the Assessment Record sheet.

All of the practical requirements for one of the three project requirements for unit standard 12927 can be demonstrated while making a piece of outdoor garden furniture for unit standard 12932.

We have shown how three unit standards can be linked together for assessment purposes – but it doesn't stop here. The next unit standard that can be linked is:

24355 *DKO construction and manufacturing materials used in BCATS projects*

The assessment of 24355 (materials) requires the student to identify specific job requirements, along with the selection, properties, reasons, and use of the materials selected using the Assessment record sheet. That means the student will need to:

- read and/or listen to instructions and check any they are unsure about;
- make the correct choice of materials for the project;
- explain the reasons for the choice of these materials; and
- evaluate the material's suitability for the project.

People credited with unit standard 24355 are able to establish job requirements and select construction and manufacturing materials for a BCATS project, and describe the properties of selected materials and evaluate their suitability to meet project requirements. The practical requirements for unit standard 34355 can be demonstrated while making a piece of outdoor garden furniture for unit standard 12932.

We have shown how four unit standards can be linked together for assessment purposes – but it doesn't stop here. The next unit standard that can be linked is:

24356 *Apply elementary workshop procedures and processes for BCATS projects*

In order to achieve this unit standard, a student will need to complete a substantial construction project (for example, a table, cabinet, seating, storage chest or complex shelving unit) where they can establish the job requirements, get the materials ready, mark out, cut, shape, join and assemble the materials, and finish the project. They will need to use timber and three other materials along with five workshop processes.

The assessment of 24356 (workshop processes) requires the student to successfully complete the project. That means the student will need to:

- read and/or listen to the instructions for a job and check anything they are unsure of;
- select the right materials for the job;

- mark out the materials using the correct tools and methods;
- cut and shape the materials using the correct tools and methods;
- join and assemble the materials using the correct tools and methods;
- finish the project correctly;
- complete all operations safely;
- clean the work area and dispose of waste; and
- clean and store tools, plant and equipment correctly.

All of the practical requirements for unit standard 24356 can be demonstrated while making a piece of outdoor garden furniture for unit standard 12932 – provided the piece of garden furniture is sufficiently complex to meet the requirements of the unit standard.

Cross curriculum assessment

It is also possible for students to achieve (or partially achieve) unit or achievement standards associated with the BConstructive programme by introducing cross-curriculum assessment. Evidence for a number of the tasks associated with core curriculum standards could be gathered while making a piece of outdoor garden furniture for unit standard 12932.

Here are examples:

8811 *Collect information using a range of oral, written and visual sources and methods*

A student could provide the evidence for the assessment of this unit by:

- planning the process for completing a project;
- collecting and recording all the relevant information relating to the project; and
- discussing the relevance of the information.

Written language

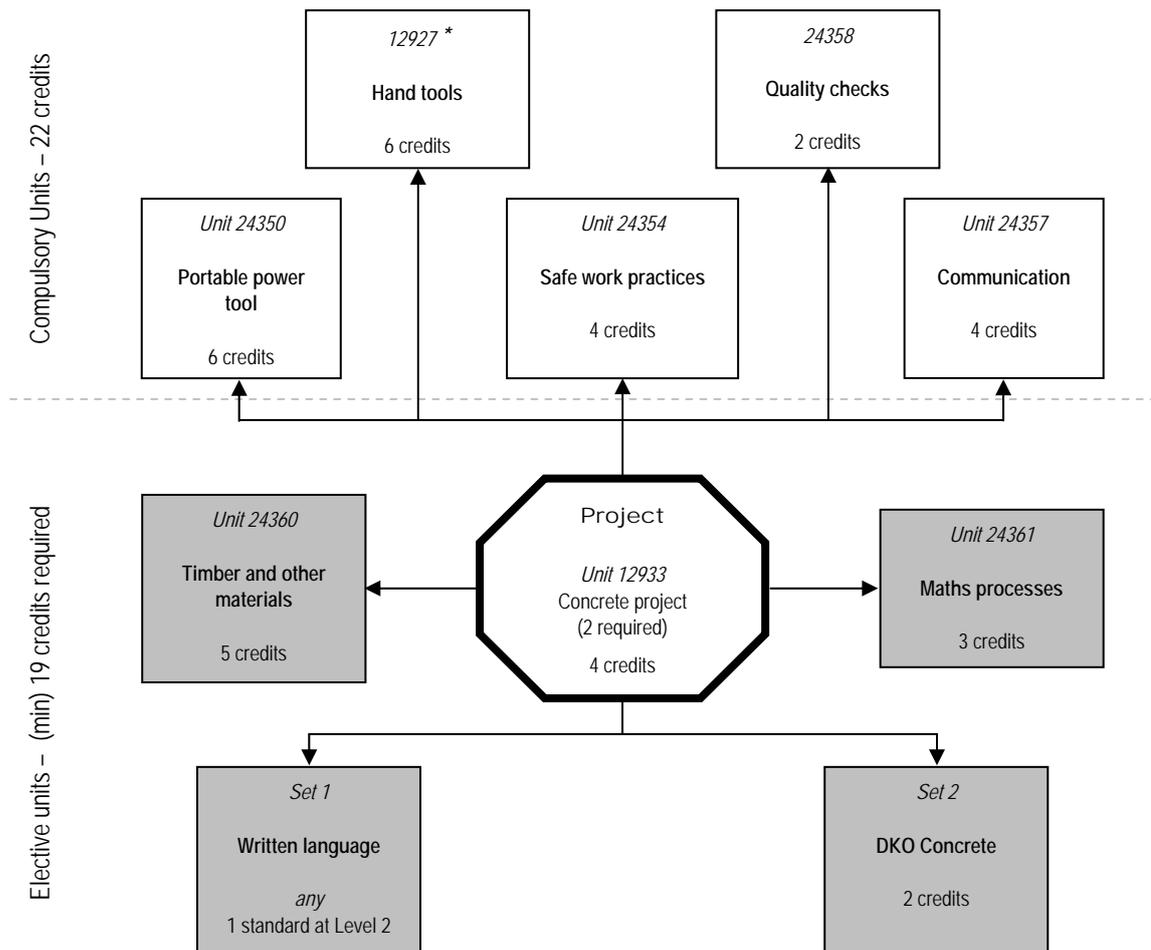
- Any 3 credits at Level 1 from the domain of English written language are required for the this qualification. Suitable written work associated with this project can contribute to achievement for written language credits.

Written language

- Any 7 credits at Level 1 from the mathematics subfield are required for the level 1 qualification. Suitable mathematical calculations associated with this project can contribute to achievement for mathematics credits..

Level 2 Example

Please note that some of these unit standards have expired but the principles illustrated by the diagram remain



* This unit requires that tools must be completed for 3 projects.

A group of year 12 students have been given a project to lay a concrete path for a local kindergarten. This is one of the two projects required to achieve the unit standard 12933 (*Complete minor concrete works as a BCATS project*).

The assessment of this unit requires the observation of the student in the preparation, mixing, placing, finishing, and curing concrete and the completion of work operations during the construction of the project. For assessments related to laying a concrete path in unit standard 12933, the practical requirements are specifically about:

- excavating the ground
- setting out and erecting the formwork
- placing hardfill
- mixing, placing, compacting and finishing concrete
- curing concrete
- safe working practices
- keeping the work area clean and disposing of waste

- cleaning and storing plant and equipment

In addition to the assessment requirements for 12933, there are a number of other unit standards that the student can have fully or partially assessed during the construction of the project. These may include:

25321 *Demonstrate knowledge of the concrete industry in a BCATS environment.*

This is a knowledge unit fully assessed by a worksheet that is provided on the website. This unit standard can be completed at any time but for this particular project it would be a good introduction on learning about the concrete as a material and the concrete industry before going out on site to do the job.

It still doesn't stop here. The next unit standard that can be linked is:

12927 *Identify, select, maintain and use hand tools for BCATS projects*

The details of this unit have been presented above, so we won't repeat them here but, in conjunction with a concrete project (as this example proposes) a different range of tools will be used, all of which can be incorporated in the unit's assessment. Further, if a student had completed, say, two projects in their previous years study, this concrete work project would be the third that would be required to complete the unit

The next unit standard that can be linked is:

24358 *Plan and monitor the construction of a BCATS project and quality check the project.*

To achieve this unit standard, the student will need to complete a basic construction project where they can plan and carry out quality check procedures.

In addition to completing a project plan the key requirements for assessing competence for this unit (as a part of a concrete construction project) are about:

- reading and/or listening to the instructions for a job and check anything they are unsure about;
- working out the steps involved and writing a project plan;
- working out how to check how to check each stage of the job and writing these in the project plan;
- working out what materials and equipment are required and writing these in the project plan;
- following the project plan to construct the project;
- using the identified quality control methods to check their work and note these in the project plan; and
- checking the finished project, comparing it to the job instructions, identifying any differences and noting these in the project plan.

This unit can be achieved by almost any project as, in simple terms, all it requires for successful assessment is documentation of the project in accordance with the above bullet points which are essentially the “chapters” or “headings” in the students documentation. An Assessment Record sheet is provided for the student and assessor to complete.

The next unit standard that can be linked is:

24350 *Identify, select, maintain and use portable power tools for BCATS projects.*

To achieve this unit standard, the student will need to complete a construction project or projects where they can identify, select, use and maintain portable power tools.

The assessment of this unit requires the observation of the student following safe practices when using portable power tools during the construction of a project. It also requires the student to correctly answer the questions in the worksheet and the completion of the Assessment Record sheet for the following portable power tools – drills, portable planer, portable circular saw, jigsaw, reciprocating saw, sanders, router, biscuit jointer.

The worksheet assesses the **theory** aspect of the unit standard (ie.; describing what the tools can and cannot be used for, how to use the tools and how to do this safely)

The **practical** requirements are specifically about:

- choosing the right tool for the job;
- choosing the right PPE to use;
- using tools correctly and safely;
- keeping tools clean and free of rust, and correct storage and maintenance
- reporting any damaged, blunt or faulty tools

As mentioned above, the bulk of the assessment for this unit is via observation and the supplied assessment schedules have a place for initialling and dating when observing the students competencies for this unit.

The next unit standard that can be linked is:

24354 *Demonstrate knowledge of and apply safe working practices in a BCATS workplace*

Again, a mixed unit in that it involves both theory and a practical components. As with all BCATS resource materials, the worksheet is designed to assess the theory component of the unit. The balance (the practical component) of the unit is assessed (as with 24350) by observation using the provided Assessor Observation sheet.

The theoretical and practical assessment requirements are specifically that a student:

- explains the reasons for health and safety legislation relating to the work place and how it affects employees and employers;
- describes how hazards relating to electrical, chemical, fire, fumes, gas, compressed air, noise, material, falling, and lifting are identified, and how to control four potential hazards;
- recognises hazard warning signs;
- identifies personal hazards, including insufficient training, clothing, hair, footwear, jewellery, lifting, handling, heights, and occupational overuse syndrome;
- explains and demonstrates emergency procedures for fire, earthquake, accident and chemical spill;
- follows safe work practices including induction training to do a task, using different machinery, and using personal protective equipment and protective barriers;
- follows safe work practices when using machinery, including using fences, guards, safety devices and personal protective equipment;
- keeps the workplace clean and free of unused tools and rubbish; and
- checks and uses equipment correctly.

The next unit standard that can be linked is:

24357 *Receive instructions and communicate information in relation to BCATS projects.*

To achieve this unit standard, the student will need to complete **four (4) projects** where they will receive instructions and communicate in a construction environment.

To be considered competent in this unit, a student needs to

- understand what the instructions are for;
- read and/or listen and understand, spoken, written, and drawn instructions, and check any they are unsure of.
- identify who they need to communicate with in a construction environment,
- recognise communication problems;
- use spoken, written and drawn communication to receive and pass on information;
- ask for information or help when needed
- record and report information; and
- exchange information that fits the situation, occasion and people involved.

These skills can be demonstrated by observation and interaction with the students as they go about the task. In particular within the context of the concrete project, group cooperation and communication will have to occur to successfully complete concrete works. An Assessor observation sheet is provided, so too is a worksheet that will complete the assessment for other aspects of this unit standard.

22607 *Read and interpret plans, working drawings and specifications for BCATS projects.*

A student could contribute evidence for the assessment of this unit by identifying and understanding :

- Plans, working drawings and specifications in terms of their types and uses.
- Abbreviations and symbols.
- Any preliminary work that needs to be done.
- The quality and types of materials required for the project.

While this unit can be assessed by the worksheet provided as part of the BCATS resources, you can supplement this by the “plans and specifications” you use or hand-out as part of the project.

OR

having the students sketch or draw the proposed project, and thus generate their own “plans and specifications” in which case that would contribute to the assessment for:

24535 *Demonstrate knowledge of and create sketches and drawings for BCATS projects*

Cross curriculum assessment

As we have shown in the level 1 example it is also possible for students to achieve (or partially achieve) unit or achievement standards associated with the BConstructive programme by introducing cross-curriculum assessment.

Written language

The level 2 qualification requires the completion of one level 2 standard from the English written language domain. Liaison with your school’s English department should be able to devise a piece of written work for written language assessment based around this concrete project.