Developing Innovation Skills
A guide for trainers and assessors to foster the innovation skills of learners through professional practice
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# Table of Contents

Introduction ......................................................................................................................................................... 1  
Who is this Facilitator Guide for? .................................................................................................................. 1  
What is innovation? ........................................................................................................................................... 1  
Why develop innovation? .............................................................................................................................. 1  
How can innovation be developed? .............................................................................................................. 2  
The innovation@work skills .......................................................................................................................... 3  
Background ........................................................................................................................................................ 3  
Developing skills for innovation ..................................................................................................................... 3  
Interpret .............................................................................................................................................................. 4  
Explanation of the skill ................................................................................................................................. 4  
Examples of training and assessment methodology ...................................................................................... 4  
Interpret in action ............................................................................................................................................ 5  
Your unit of competency .................................................................................................................................. 6  
Generate .............................................................................................................................................................. 7  
Explanation of the skill ................................................................................................................................. 7  
Examples of training methodology ............................................................................................................. 7  
Generate in action ............................................................................................................................................ 11  
Your unit of competency .................................................................................................................................. 12  
Collaborate ....................................................................................................................................................... 13  
Explanation of the skill ................................................................................................................................. 13  
Examples of training and assessment methodology ...................................................................................... 13  
Collaborate in action ....................................................................................................................................... 16  
Your unit of competency .................................................................................................................................. 17  
Reflect ............................................................................................................................................................... 18  
Explanation of the skill ................................................................................................................................. 18  
Examples of training methodology ............................................................................................................. 18  
Reflect in action ............................................................................................................................................... 19  
Your unit of competency .................................................................................................................................. 20  
Represent ........................................................................................................................................................... 21  
Explanation of the skill ................................................................................................................................. 21  
Examples of training and assessment methodology ...................................................................................... 21  
Represent in action ............................................................................................................................................ 22  
Your unit of competency .................................................................................................................................. 24  
Evaluate ............................................................................................................................................................. 25  
Explanation of the skill ................................................................................................................................. 25  
Examples of learning and assessment methodology .................................................................................... 25
Introduction

The Australian economy relies on the innovation of its workforce: new thinking will foster growth, and contribute to our competitiveness. Innovation is not just the responsibility of researchers; workers at all levels can contribute to the development of innovation by finding new, different or better ways of working. Vocational education has a key role in this process. Trainers can help foster innovation in the workforce through their professional practice, as outlined in this Facilitator Guide.

Who is this Facilitator Guide for?

This Facilitator Guide is designed for trainers in the Vocational Education and Training (VET) system as trainers from all industry sectors play an important role in fostering innovation and creativity. This Guide aims to assist trainers to embed innovation skills development into their training methodology.

What is innovation?

The following definition of innovation has been used in this Guide:

Innovation is consciously exploiting new ideas, or new uses for old ideas, to add social or economic value.

Capabilities and attributes identified as necessary for innovation include:

- collaboration, teamwork, mentoring, playing to lose and dealing with ambiguity
- building networks and knowledge sharing
- questioning, problem solving, critical thinking and thinking outside the square
- listening and communication
- thinking across disciplines, lateral thinking, making connections and improvising
- leadership (at all levels), confidence/resilience and willingness to take risks
- deep technical knowledge
- a global mindset.

Why develop innovation?

The workforce needs new, or newly emphasised, skills and capabilities to support an innovation economy. Innovation is not a skill or capability in its own right; it is the application in a specific context of a combination of skills, knowledge and attributes.

As the nature of work is constantly changing it is important to develop capacity for innovation to keep up with workplace changes, for example:

- new technology
- new working conditions

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1 IBSA, 2007, Blueprint for Action on Innovation
• new economic conditions
• changes in the global marketplace.

This means that people need to take on new skills and new jobs, and to improve the way things are done in order to stay competitive.²

**How can innovation be developed?**

There are some common myths about innovation. Some say that innovation cannot be taught because it only happens randomly. Others assume that innovation only applies to organisations which design or manufacture products, or is only applicable to high technology industries.

However, it has been identified that the use of a variety of teaching and learning strategies can foster the development of innovation. This includes the movement of training methods away from being teacher centred to being learner centred, by using methods such as self-directed learning, activity-based and problem-based learning.³

This Guide will give you ideas to stimulate the learning and development of innovation skills. It provides a structured model for developing the skills required to innovate in any context.

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² IBSA, 2007, *Blueprint for Action on Innovation*
The innovation@work skills

Background

Innovation can be approached systematically, and six skills have been identified which people need for innovation. These are called the innovation@work skills, which provide both the personal skills needed by individuals and a methodology for use by a team or organisation.4

Developing and using the innovation@work skills can help people come up with better ways of doing things such as developing new products, designing new policies, designing new technology, adapting to change, learning new skills and developing a customer focus. This provides a systematic approach to the development of ideas in the workplace; a process that can be learned and applied in everyday activities. It is about exploring the working environment, challenging norms, generating and discussing ideas, identifying opportunities for improvement, asking for feedback, giving opinions, trying things out, researching different alternatives and experimenting.

The innovation@work skills provide a framework for learners to develop and apply the skills needed for innovation and can be embedded into training methodology. The framework describes six separate but interrelated skills needed for innovation. They are:

- **Interpret** the need or opportunity.
- **Generate** and select one or more ideas.
- **Collaborate** with others to develop the idea.
- **Reflect** on the idea.
- **Represent** the idea to promote it.
- **Evaluate** the idea.

Some units of competency have been specifically designed to develop innovative practice, e.g. BSBINN501A Establish systems that support innovation. However, the skills for innovation can be integrated into most other units of competency. This means that innovation skills will not be developed in isolation, but will be developed in the context of the training and/or workplace.

Developing skills for innovation

You can embed the development of learners’ skills for innovation into the delivery and assessment of a unit or group of units of competency. This is illustrated in the following sections of this Guide. Each section describes a particular skill, and some examples of training methodology to develop the particular skills are given. This is followed by some practical examples of how the development of skills for innovation can be incorporated into the delivery of units of competency.

4ANTA, 2001, Innovation: Ideas that Work for Trainers of innovation at Work Skills, Brisbane
Interpret

Explanation of the skill

Interpret covers identifying a need or opportunity and conducting research to find out what is possible.

Examples of training and assessment methodology

The Interpret skill can be developed by encouraging learners to use a range of methods to discover information themselves. These could include:

- researching a target group, including conducting market research
- questioning, conducting surveys to identify need
- examining and interpreting specifications
- identifying legislative and organisational requirements
- observing and questioning to identify problems and constraints
- investigating resource requirements
- environmental scanning to identify future needs and solutions
- examining ethical impacts of proposed actions
- challenging assumptions.

To help learners to use these methods you could help them to develop the following skills:

- questioning
- survey writing
- listening
- observation
- research
- interviewing
- analysis.

For further information, some websites have been included in the Resources section of this Guide.
**Interpret in action**

Some practical examples of how development of the Interpret skill can be incorporated into the delivery and assessment of units of competency follow.

<table>
<thead>
<tr>
<th>BSBDIV301A Work effectively with diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BSBDIV301A Work effectively with diversity</strong> is a unit in the BSB07 Business Services Training Package. It describes the outcomes, skills and knowledge required to recognise and interact productively with diversity in the workplace. The Interpret skill could be developed effectively in Element 1, Recognise individual differences and respond appropriately.</td>
</tr>
<tr>
<td><strong>PERFORMANCE CRITERIA</strong></td>
</tr>
<tr>
<td>1.1 Recognise and respect individual differences in colleagues, clients and customers.</td>
</tr>
<tr>
<td>1.2 Respond to differences sensitively.</td>
</tr>
<tr>
<td>1.3 Ensure behaviour is consistent with legislative requirements and enterprise guidelines.</td>
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<tr>
<td>1.4 Accommodate diversity using appropriate verbal and non-verbal communication.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>LMTCL4002A Assemble and fit commercially tailored or bespoke garments</th>
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<tbody>
<tr>
<td><strong>LMTCL4002A Assemble and fit commercially tailored or bespoke garments</strong> is a unit in the LMT07 Textiles, Clothing and Footwear Training Package. It describes the outcomes, skills and knowledge required to assemble and fit commercially tailored or bespoke garments. The Interpret skill could be developed effectively in Element 2, Assemble garment.</td>
</tr>
<tr>
<td><strong>PERFORMANCE CRITERIA</strong></td>
</tr>
<tr>
<td>2.1 Pieces are sewn together to form the whole garment in accordance with pattern specifications and OHS practices.</td>
</tr>
<tr>
<td>2.2 Garment is pressed in accordance with requirements.</td>
</tr>
<tr>
<td>2.3 Second fitting of garment is assessed with client.</td>
</tr>
<tr>
<td>2.4 Modifications are determined in consultation with the client, where necessary.</td>
</tr>
</tbody>
</table>

Design and conduct a survey with a sample group to assist with the recognition of individual differences. Questions would depend on the context of the learning, but could be around age, belief systems, culture, experience, working styles, gender, interests, language, learning styles. Conduct the survey face to face or online.

Conduct online research into legislative requirements relevant to their context, e.g. legislation around disability discrimination human rights, equal opportunity, racial and sex discrimination. Make a presentation about the key factors in the legislation which are relevant to learners’ context.

Explore relevant enterprise guidelines in learners’ own organisation, or an organisation they have access to, e.g. codes of conduct or ethics, diversity policies, human resources policies and procedures. This could be through questioning, or online research.

Design a checklist to use when examining garments against specifications.

Research OHS requirements relevant to the context.

Develop and use a range of questions using appropriate criteria to help check with client that the garment fits according to their requirements.
### RGRPH404A Ride horses at trackwork

*RGRPH404A Ride horses at trackwork* is a unit in the RGR08 Racing Training Package. It describes the outcomes, skills and knowledge required to apply advanced track riding skills, participate in professional riding arrangements with trainers, and introduce horses to practice barriers. The Interpret skill could be developed effectively in Element 3, Introduce horses to practice barriers.

**PERFORMANCE CRITERIA**

1. **3.1** Arrangements to use practice barriers are confirmed.
2. **3.2** Horses are entered into and ridden from practice barriers in a safe manner.
3. **3.3** Common barrier problems are identified, rectified and reported to trainer or foreman.

Observed a number of horses entering the barriers over a period of time and on a number of occasions, and make note of how many problems occur and their frequency.

Talk to experienced riders and find out what they think are the common barrier problems and how they can be rectified.

Draw up a checklist with common problems.

### Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

Plan some activities to incorporate the development of the *Interpret* skill into the development of the technical skills and knowledge required for the unit.
**Generate**

**Explanation of the skill**

*Generate* covers the process of thinking of creative ideas and then applying critical thinking to settle on a useable one.

People who find it hard to think of new ideas need strategies to help them generate ideas. People who find it easy to come up with ideas need to learn to sift through them and decide which ones are worth pursuing. Therefore there are two sub-processes in this stage:

- *Divergent thinking* – the ability to think of many original, diverse and complex ideas.
- *Convergent thinking* – the ability to logically evaluate, critique and choose the best idea from a selection of ideas.

Both abilities are required for creative output.

**Examples of training methodology**

The *Generate* skill can be developed by encouraging learners to use a range of methods to generate and evaluate ideas. These could include:

**DIVERGENT THINKING**

To develop divergent thinking skills, learners could ask and answer some of the following questions:

- What worked before?
- What could work in the future?
- How could we use something in a completely new way?
- Could something new be used?
- Is there a better way to do this?
- What could come from looking at other people’s ideas?
- If I thought about it from a different perspective, what would I come up with?
- What can I see the end user doing with it?
- What’s new in this area? How can I apply new concepts to this issue?

**CONVERGENT THINKING**

To develop convergent thinking skills, learners could ask and answer some of the following questions:

- Would this work?
- Could it be achieved?
- Is it technically possible?
- Are resources available to fund it, e.g. people, equipment, funds?
- Will it look attractive?
- Will it be environmentally friendly?
- Would it be safe?
- Is it what the end user wants, needs or will use?
- What other equipment/resources are needed to make it work?
- Is it in line with other comparable developments?
- What expertise will be needed to make it work?
- Can it be promoted?
- Will it be profitable?

**CREATIVE THINKING TECHNIQUES**

By using a range of creative thinking techniques, learners will be able to generate innovative and creative ideas to address identified needs. Some of the techniques are described below.

**Brainstorming**

You may be familiar with the technique of brainstorming where a group of people meet and generate ideas. It involves coming up with many ideas, from as many different perspectives as possible, e.g. for a problem, an issue or a design concept.

The steps in a brainstorming session are:

- People in the group are encouraged to call out their ideas, without any discussion taking place about the ideas.
- One person notes the ideas on a whiteboard or flipchart where everyone can see them.

The group discusses the ideas and selects those with the most potential.

**Brainstorming strategies**

If learners are having trouble coming up with ideas, ask these questions to encourage them to look at things from different perspectives.

- What would different people (e.g. client/end user) think about this?
- What if you did the opposite of what you think of?
- If this were an animal/bird/flower/food/colour, what would it be?
- How would a negative person see this?
- How would a positive person see this?

**Word associations**

When we allow the unconscious to play with words or create stories, unexpected links are made between seemingly unrelated things. This way of playing with language can sometimes result in links which can lead to the development of new ideas.
Word association example

Have learners, in small groups, think of a project which they are all currently involved in or that they know is coming up. Give the learners the following instructions:

- Very quickly, write down five words each that you associate with the project on a piece of paper. Don’t think about it for a long time. Just write.
- Swap the pieces of paper and write down as many words that you associate with the words you are given. Once again, don’t think about it for a long time.
- Write up or read out the words you have all come up with. Is there anything that you could use in your project?

Visual creativity

Drawing and doing other visually creative activities can be an excellent way of unlocking creativity for people who prefer working visually to working with words.

Visual creativity example

This activity will work best if done with a group of learners. However, learners can also do this independently.

- Before you start, make sure that you have plenty of large and small sheets of paper, coloured pens, and pencils and so on.
- Set a time limit of around ten minutes.
- Now choose a subject, e.g. learners could draw their workplace, a design problem or a potential client.
- Everyone must be clear that this is not an art class but a means of creative stimulus.
- Instruct learners to start to draw. Set a timer or appoint a timekeeper.
- When they have all finished, invite learners to talk about their drawing. What does it show? What do the symbols mean? Why did they choose certain shapes, images or colours?
- Summarise the main ideas that have emerged.

Mind mapping

Mind mapping is a technique that is particularly effective when looking for new solutions to a problem or new ideas. Mind mapping is the process of capturing ideas on a page and linking them. It is the opposite of linking ideas in sequential order, and it often creates new links between ideas as well as generating new ones. It is a visual method of capturing ideas.

In a mind mapping session, ask your learners to:

- write the problem at the centre of a large piece of paper or whiteboard
- write possible solutions and their implications branching off the central problem.
An example of a typical mind map is shown below.

Other creative thinking techniques
Just a few creative techniques have been described above. There are many more described in a range of publications and on the internet:

- Edward de Bono’s Six Thinking Hats®
- lateral thinking games
- use of metaphors and analogies
- morphological analysis
- visualisation
- SWOT analysis
- focus groups.

For further information, some websites have been included in the References section of this Guide.
Generate in action

Some practical examples of how development of the Generate skill can be incorporated into the delivery and assessment of units of competency follow.

**THTPPD05B Plan and develop interpretive activities**

*THTPPD05B Plan and develop interpretive activities* is a unit in the CUL04 Museum and Library/Information Services Training Package. It is particularly relevant for those developing activities within tour operations, attractions/theme parks and national parks. The Generate skills could be developed effectively in Element 2, Develop the activity.

**PERFORMANCE CRITERIA**

1. Identify and develop possible themes and messages for the activity.
2. Identify access a range of potential information and resources in a manner which is culturally and environmentally appropriate, including other specialists as required.
3. Develop activity according to the principles of interpretation using creative communication techniques.

- Use a visual creativity technique to identify possible themes and messages.
- Different brainstorming methods could be used to identify the possible themes and messages.
- Use a mind map to generate a range of different creative communication techniques.

- Edward de Bono’s Six Thinking Hats® methodology can be used to encourage learners to look at things from a number of different perspectives, pushing them to move outside their habitual ways of thinking. Use this methodology to encourage learners to think about how culturally and environmentally appropriate the information and resources are.

**NWP309B Test and commission water distribution systems**

*NWP309B Test and Commission water distribution systems* is a unit in the NWP07 Water Training Package. It describes the outcomes, skills and knowledge required to plan and implement the testing and commissioning of water distribution systems. The Generate skill could be developed effectively in Element 1, Plan and prepare for testing and commissioning.

**PERFORMANCE CRITERIA**

1. Check plans for section to be tested and locate features on site.
2. Identify and interpret system operation requirements.
3. Check vacuum testing and commissioning tasks from relevant documentation and schedule appropriately.
4. Identify and assess potential hazards and take required preventative measures.
5. Select and use tools and equipment.
6. Check testing equipment for accuracy and identify and correct malfunctions.

- Use divergent thinking by asking questions about the system operations, encouraging learners to think if there is a better way or a new way to work.
- Brainstorm potential hazards and preventative measures. Use convergent thinking to evaluate the solutions. A mind map could also be used to identify potential hazards and solutions.
### PMAOPS500A Optimise production systems

PMAOPS500A Optimise production systems is a unit in the PMA08 Chemical, Hydrocarbons and Refining Training Package. It describes the outcomes, skills and knowledge required for the application of in-depth knowledge of process and plant to the optimisation of complex operating production systems. The Generate skill could be developed effectively in Element 2, Collect and analyse data.

**PERFORMANCE CRITERIA**

1. Collect or review available data from process or plant.
2. Analyse the data for trends or dependencies.
3. Postulate possible cause and effect scenarios.

> Brainstorm a range of possible cause and effect scenarios.

> Conduct a SWOT analysis of one of the scenarios.

### Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

Plan some activities to incorporate the development of the Generate skill into the development of the technical skills and knowledge required for the unit.
Collaborate

Explanation of the skill

Collaborate covers working with others to both generate and get feedback on ideas. It involves:

- freely discussing ideas in a group
- respecting the ideas of others
- giving and receiving critical and constructive feedback
- maintaining up-to-date knowledge
- selecting and maintaining a contact network
- identifying one’s own limitations and seeking assistance when required.

Collaborating with others encourages ideas to develop, but only if people are prepared to share their knowledge with each other, know who to share their ideas with and how to use feedback.

However, learners may feel anxious about discussing ideas with others. They can be afraid of criticism. It can also be difficult for them to accept that they don’t know something and that they need to seek help from peers and others. It is a considerable skill to be sufficiently confident to be able to discuss ideas and to accept the constructive feedback of others.

Examples of training and assessment methodology

The Collaborate skill can be developed in learning and assessment by encouraging learners to use a range of methods to work with others. These could include:

Team projects or assignments

Encourage groups of learners to work together on projects. Help them to work as a team by helping them develop skills such as:

- how to allocate tasks
- how to develop a team project schedule
- how to use meetings to report back
- how to resolve conflict within the team.

Ask learners to analyse past projects and rate the level of collaboration, and the benefit to them and the project.
Giving and receiving critical and constructive feedback

Feedback is a critical aspect of developing ideas. It is important that learners not only learn how to seek feedback but also how to give it when asked.

Receiving feedback

Encourage learners to accept feedback and learn from it. Some hints for learners when receiving feedback are:

- Be explicit – Make it clear what kind of feedback they are seeking.
- Be aware – Notice their own reactions, both intellectual and emotional.
- Be silent – Refrain from making a response. Don't even begin to frame a response in their own mind until they have listened carefully to what has been said and have considered the implications.

Giving feedback

A few suggestions for learners to keep in mind when giving feedback on an idea or project are:

- respond promptly when feedback is requested
- focus on the positive aspects of the ideas or project
- make realistic suggestions for improvement
- be specific rather than generalising
- be sensitive to the goals of the person
- be non-judgemental and don’t criticise the person
- be clear about what you want to say and say it directly.

Feedback activity

Have learners role play a situation where one person has a new idea and wants to discuss it with the other. The other person has to give feedback on the idea. When they have finished, encourage them to reverse roles.

After they have completed this activity ask them to answer the following questions.

- How did you feel about asking for feedback?
- How did you feel about giving feedback?
- Did you get enough information?
- Was the feedback positive or negative?
- What effect did the feedback have on your idea?
- What could you do differently next time?

Selecting and maintaining a contact network

Ask learners to find out where to go to get up-to-date information in a particular area from within their organisation if they are working, or from outside sources. In particular, what professional networks can they use to help them in their jobs?
Networking activity

This activity is designed to help learners identify, establish and nurture their networks.

Ask learners to think about the contacts they have inside and outside their workplaces. Give learners the following instructions to help them identify their networks.

- On a piece of paper, draw yourself in the middle and, around you, all the individuals or groups with whom you interact to do your daily job and/or study.
- Circle the names of people you presently communicate/collaborate with.
- Write down beside each identified person or group how you believe this person/group is able to help you.
- To identify your relationship with each person in your network, follow this procedure:
  - If the relationship is essential to meeting your needs, draw two solid lines connecting you with that person.
  - If the relationship is not essential to meeting your needs, draw one dashed line connecting you with that person.
  - If the relationship falls somewhere between these two, draw one solid line connecting you with that person.
- Look at the picture you have drawn and think about who you need to build stronger relationships with.

Allow at least 20 minutes, then ask each person to describe their network.

Ask learners how important each person is in their current network and why they believe they are important. Encourage them to consider other people who may be valuable in their network and get them to think of ways in which they could improve and strengthen their networks.

Web based social networking

The Australian Flexible Learning Framework\(^5\) describes social networking as the building of communities of people who share interests and activities, or who are interested in exploring the interests and activities of others.

Web based social networking provides various ways for users to interact, such as blogging, file sharing, image and video sharing, chatting, emailing, and messaging. There are many social networking sites such as MySpace, Facebook, YouTube and Twitter to name just a few. These facilitate the creation of individual profiles, the sharing of personal information, photos and activities as well as messaging within a network of friends colleagues or other learners.

Most social networking sites are available online, are easy to set up, update and share, are generally free for basic functions and do not require specialised software.

Virtual worlds

A virtual world is a computer-based simulated environment which participants can use to inhabit and interact. Communication between users could include text, graphical icons, visual gesture or sound. An example of a virtual world is Second Life. Workplace activities could be simulated through virtual worlds.

\(^5\) [www.flexiblelearning.net.au](http://www.flexiblelearning.net.au)
**Collaborate in action**

Some practical examples of how development of the *Collaborate* skill can be incorporated into the delivery and assessment of units of competency follow.

### SIRRMER013A Design and produce store plans and floor layouts

*SIRRMER013A Design and produce store plans and floor layouts* is a unit in the SIR07 Tourism, Hospitality and Events Training Package. It describes the outcomes, skills and knowledge required for a team member to apply knowledge of store design and fit-out to design and present proposed floor plans and fit-outs for retail store settings. The *Collaborate* skill could be developed effectively in Element 1, Produce free floor layouts.

**PERFORMANCE CRITERIA**

1.1 Confirm planning brief according to client requirements.

1.2 Design floor layouts to scale, indicating all components and how they interact with customers to create a total store image.

1.3 Present plans, including analysis and rationale for layout, safe and effective traffic flow, customer needs, image, ambience and style using both verbal and written reports.

1.4 Ensure plans comply with relevant legislation and regulations.

- Undertake a group assignment, with each member of the team taking on a different role in the retail store, e.g. client, staff, manager, designer.

- Criteria for feedback received after the presentation of the plans.

- Role play the giving and receiving of feedback.

### TLIY308A Develop and review integrated logistics support plans

*TLIY308A Develop and review integrated logistics support plans* is a unit in the TLI07 Transport and Logistics Training Package. It describes the outcomes, skills and knowledge required to develop and review integrated logistics support plans and associated subordinate plans to ensure efficient and effective delivery of integrated logistics support across the system life cycle. The *Collaborate* skill could be developed effectively in Element 1, Identify integrated logistics support requirements.

**PERFORMANCE CRITERIA**

1.1 Integrated logistics support planning requirements are identified in accordance with organisational policy and procedures.

1.2 Sources of information relevant to integrated logistics support are identified and accessed in accordance with organisational policy and procedures.

- Identify networks which could provide information, using the network activity described in this resource.
CUFLGT501A Conceive and develop lighting designs

CUFLGT501A Conceive and develop lighting designs is a unit in the CUF07 Screen and Media Training Package. It describes the outcomes, skills and knowledge required to develop lighting designs for productions in the film, television and live performance industries. The Collaborate skill could be developed effectively in Element 4, Develop and document designs.

PERFORMANCE CRITERIA

4.1 Hold ongoing discussions with relevant personnel so that additional or changed requirements and new ideas are considered and incorporated during the development of designs.

4.2 Ensure that agreement is reached with relevant personnel in relation to consistent artistic interpretation.

4.3 Evaluate initial concepts and select the most appropriate approach, giving due consideration to budget, research findings and ongoing reflection/discussion.

4.4 Use initial concepts as the basis for developing lighting designs, taking into account a range of criteria and factors.

Role play discussions around a variety of scenarios, e.g. artistic interpretation.

Use web based social networking to share concepts of designs such as images and discuss these designs online.

Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

Plan some activities to incorporate the development of the Collaborate skill into the development of the technical skills and knowledge required for the unit.
Reflect covers a person synthesising their own thoughts, the feedback from others and any other information into a combined response. Reflection is a key process in learning, quality improvement and personal development as well as in developing innovative practice.

Few resources are needed to reflect, but the most critical and hard to find is time.

Examples of training methodology

The Reflect skill can be developed by encouraging learners to take the time to ask themselves questions about their activities. This could include:

Scheduling reflection

It is important in the learning process to explicitly build in time, e.g. during the training session or after assessment, to allow learners to think about their ideas or outcomes.

Structuring reflection

Critical questions

Assist learners to organise their reflection time, e.g. have a list of critical questions that need to be asked. Some suggestions for questions are listed below, however learners could devise their own questions.

- Is this the most efficient idea?
- Is there another way to approach the problem?
- What is the value of others’ ideas?
- What if something went wrong?
- How much would it cost?
- What is the best outcome of this idea?
- What is the worst thing that could happen as a result of this idea?
- What if we tried something else?

Best and worst activity

Get learners to reflect on the best and worst idea or project by listing adjectives under headings ‘best’ and ‘worst’. Help them by giving some examples of the adjectives that they could use, for example, ‘interesting’, ‘challenging’, ‘fun’ or ‘boring’, ‘unstructured’, ‘unusable’.

Tell a ‘Martian’

A great way for learners to reflect on an idea or outcome is to explain it to someone who knows nothing about it. This forces them to think very critically about the idea or outcome, what is involved in it and how they communicate it.
‘What if’ scenarios

You could develop ‘what if’ scenarios to encourage learners to reflect on their ideas or innovations.

Comparing ideas

By comparing their ideas to the specifications or design brief, if that has been part of the innovation process, learners can reflect on what worked and what was not successful.

Learners should also be encouraged to compare others’ ideas to their own and reflect on the pros and cons of each.

Capturing reflection

Learners need to be encouraged to capture their reflection. This involves actually recording the thoughts and ideas that come from reflecting, e.g. writing thoughts down, grouping them together, keeping a diary or notebook.

Utilising reflection

Learners then need to use these outcomes to improve the idea. This involves taking the thoughts and actually using them to develop the initial idea further or improve the outcomes.

Reflect in action

Some practical examples of how development of the Reflect skill can be incorporated into the delivery and assessment of units of competency follow.

PMLTEST403B Assist with geotechnical site investigations

PMLTEST403B Assist with geotechnical site investigations is a unit in the MSA07 Manufacturing Training Package. It describes the outcomes, skills and knowledge required to assist with geotechnical site investigations, typically performed by laboratory technicians working under the guidance of a geotechnical (para)-professional or engineer. The Reflect skills could be developed effectively in Element 1, Prepare for on-site operations.

PERFORMANCE CRITERIA

1.1 Identify the job, location, appropriate procedures and safety requirements.
1.2 Identify site hazards and use appropriate personal protective equipment and safety procedures as specified for job and materials to be used.
1.3 Record description of the job to be undertaken, compare with specification and report any variations.
1.4 Select and prepare tools, equipment and materials in accordance with job requirements.
1.5 Select suitable transport for site access.
1.6 Ensure site access requirements, such as entry permits and safety inductions have been organised.

Tell a person who does not know the job why particular tools, equipment and materials have been selected (tell a ‘Martian’).

Once transport for site access has been selected, devise and ask some critical questions to see if there is a better or alternative form of transport.
WRHHC410B Design and perform creative haircuts

WRHHC410B Design and perform creative haircuts is a unit in the WRH06 Hairdressing Training Package. It describes the outcomes, skills and knowledge required to combine haircut structures in the performance of creative haircuts on a range of clients. The Reflect skills could be developed effectively in Element 2, Analyse client characteristics and requirements.

PERFORMANCE CRITERIA

2.1 Natural hair type, texture, growth patterns, fall and movement are established by physical and visual examination.
2.2 Facial features and bone structure and observed by visual examination.
2.3 Based on analysis, portfolio haircut structures are adapted and agreed with clients.

 Use ‘what if scenarios around a range of different hair types and facial features so that learners reflect on a range of options.

 Use a ‘best and worst’ activity to encourage learners to reflect on their chosen haircut structure.

SITXEVTO14A Develop conference programs

SITXEVTO14A Develop conference programs is a unit in the SIT07 Tourism, Hospitality and Events Training Package. It describes the outcomes, skills and knowledge required to develop conference programs and is relevant to the full range of industry contexts. The Reflect skills could be developed effectively in Element 2, Design conference program.

PERFORMANCE CRITERIA

2.1 Develop overall conference format within known budget, venue and staging constraints.
2.2 Research, analyse and assess various options for different program components and investigate ways to incorporate innovate approaches.
2.3 Identify and integrate the use of appropriate technologies in program development.
2.4 Include activities that integrate educational, learning and development principles appropriate to the target audience.

 Allocate time for reflection, and design and ask a series of critical questions around the budget, venue and constraints.

 Compare ideas for activities with other learners’ ideas, and make a table of the pros and cons of each.

Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

Plan some activities to incorporate the development of the Reflect skill into the development of the technical skills and knowledge required for the unit.
Represent

Explanation of the skill

*Represent* covers the final presentation of an idea and is the product of all the preceding phases. It is the process of pulling together the needs of the user, the selected idea, the thoughts of others and learners’ own thoughts into a coherent presentation of the idea which can be shown to the appropriate person, such as client, end user, funding source, manager or assessor.

Examples of training and assessment methodology

The *Represent* skill can be developed by encouraging learners to use a range of methods of representation. These could include:

**Detailed description or example**

To develop a detailed description or example of the idea in practice, learners may need to develop the following skills:

- drawing a plan
- producing an electronic simulation
- making a model
- drawing a picture
- writing a proposal
- writing a report
- developing a PowerPoint presentation.

**Presenting and promoting ideas**

Learners also need to develop skills in presenting and promoting the idea to interested parties. This might include:

- explaining the idea to the client
- speaking to a team meeting
- making a formal presentation to management.

Give learners opportunities to practise making presentations in a safe learning environment, either within the classroom, with colleagues or with the trainer. Learners could be encouraged to prepare a presentation for a real client or manager, or for a simulated audience.

Also give learners an opportunity to critique other’s presentations.
Presentation tips

- Learners should plan their presentations by starting with what the audience needs to know rather than what the presenter wants to tell them. They could start by brainstorming all the questions that the audience is likely to have and then arrange them in order. Then they can think about the best way to represent ideas to answer these questions.

- It is difficult for someone who has little technical competence to understand plans, drawings, and proposals. Presenters need to help the audience understand. This could mean giving explanations, using visuals; explaining the scale if using a model; using diagrams and dot points to highlight and summarise if putting forward a proposal.

- Presenters should avoid jargon, encourage questions from the audience and ask questions to ensure understanding.

- If using PowerPoint presentations, learners may need some tips for designing the presentations. Some PowerPoint presentations can become overpowering, so encourage presenters to follow these guidelines:
  - font size 28 points plus
  - 6 words per line maximum
  - 5 key points only
  - use text and graphics
  - 2-3 colours only
  - use special effects very sparingly, they are meant to be ‘special’ not applied to every slide.

Represent in action

Some practical examples of how development of the Represent skill can be incorporated into the delivery and assessment of units of competency follow.

PMBPROD356C Construct moulds for composite products

**PMBPROD356C Construct moulds for composite products** is a unit in the PMB07 Plastics, Rubber and Cablemaking Training Package. It describes the outcomes, skills and knowledge required to plan, prepare and make moulds suitable for a full range of composite products. The Represent skill could be developed effectively in Element 2, Plan mould construction.

**PERFORMANCE CRITERIA**

1. Produce a plan for the mould construction to specification.
2. Have design approved as necessary according to enterprise specifications.
3. Plan all steps of the mould production.
4. Check points are examined for measurements and tests according to specification.

- Produce a computer generated plan or model for the mould construction.
- Explain the plan to relevant people, e.g. manager, assessor, explaining the elements of the design and how it meets specification and enterprise requirements.
- Draw up a written and visual plan of the steps in mould production and give a formal presentation, e.g. using PowerPoint to a group such as other learners or new recruits.
CPPSEC4003A Advise on security needs

CPPSEC4003A Advise on security needs is a unit in the CPP07 Property Services Training Package. It describes the outcomes, skills and knowledge required to determine a client’s security requirements and security risk. The Represent skill could be developed effectively in Element 2, Provide advice.

PERFORMANCE CRITERIA

1. Business equipment is used to prepare and present advice in required format and style.
2. Advice contains comprehensive information about available security products and services to meet identified security needs.
3. Recommendations and alternative options are prioritised and supported by verifiable evidence.
4. Advice is presented for review in accordance with organisational procedures.

- Write a report using appropriate computer software to present the advice.
- Make an electronic simulation of the use of the security products and services, which illustrates alternative options.
- Give a verbal presentation, accompanied by PowerPoint slides, to explain the advice.

CHCCD606C Establish and develop community organisations

CHCCD606C Establish and develop community organisations is a unit in the CHC08 Community Services Training Package. It describes the outcomes, skills and knowledge required to work with the community to establish new organisations and networks. The Represent skill could be developed effectively in Element 2, Review and develop organisation structures.

PERFORMANCE CRITERIA

1. Identify and assess the proposed purpose, scope, impact and process for change, for incorporation in planning.
2. Prepare appropriate reporting on all aspects of the proposed plan and submit for approval by the decision-makers.
3. Undertake appropriate consultation to ensure all stakeholders play a major role throughout the restructure process.
4. Consult relevant organisations and stakeholders about proposed structural changes and, where appropriate, arrange for consultation throughout the process.
5. Assess the strengths and weaknesses of a range of potential forms and models of organisations.
6. Develop an appropriate structure which is consistent with the purpose, philosophy and roles of the organisation and which meets industrial, legal and policy requirements.

- Develop a presentation to use for consultation with stakeholders outlining the proposed purpose, scope, impact and process for change.
- Develop a written proposal outlining the structure to present to stakeholders.
- Show an organisational chart or other similar representation showing the proposed structure.
Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

Plan some activities to incorporate the development of the Represent skill into the development of the technical skills and knowledge required for the unit.
Evaluate

Explanation of the skill

Evaluate covers ensuring that the finished design or idea meets the requirements of the brief, represents best practice and fits in with the practice and philosophy of the organisation or other requirements. It can be the process of testing the idea or solution to see that it really is practicable.

Evaluation can be a fairly informal process, built into all the other stages. However, sometimes it needs to be a formal and documented process.

Examples of learning and assessment methodology

The Evaluate skill can be developed by encouraging learners to use a range of methods to gain feedback and test their idea or solution. These could include:

self evaluation

In the evaluation phase, learners can be encouraged to self assess their idea, product or outcome. This is similar to the reflection stage, and you could encourage learners to ask a series of questions, for example:

- Does it meet the specifications of the brief?
- Does the idea achieve what it set out to achieve?
- Does it achieve something even better?
- Is it what the client wanted?
- Is it safe?
- Is it good practice in terms of the environment, ethics, aesthetics, and so on?
- Can it be implemented?
- How will it be implemented?
- Are there sufficient resources to carry it through?
- Is it innovative?
- Does it meet organisational requirements?
- Will people buy/use it?
- Will it add value and/or be profitable?

Peer evaluation

Learners could be encouraged to evaluate each others’ ideas or projects, using a similar set of questions as asked in the self assessment, and provide feedback.
Other evaluation methods

Other evaluation methods can be used, depending on what is being evaluated. You may need to prepare your learners for these evaluation methods which could include:

- trials, e.g. give it to a group to use
- survey questions and questionnaires
- checklist evaluation
- focus groups
- interviews.

Some of these methods have been covered in other parts of this guide.

**Evaluate in action**

Some practical examples of how development of the Evaluate skill can be incorporated into the delivery and assessment of units of competency follow.

<table>
<thead>
<tr>
<th>CUVVSP52B Research and experiment with techniques to produce sculpture</th>
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</thead>
</table>

CUVVSP52B Research and experiment with techniques to produce sculpture is a unit in the CUV03 Visual Arts, Craft and Design Training Package. It describes the outcomes, skills and knowledge required to research and experiment with various techniques and media for the realisation of sculpture. The Evaluate skill could be developed effectively in Element 4, Realise sculpture.

**PERFORMANCE CRITERIA**

4.1 Realise the sculpture using techniques and media selected from research and experimentation to meet the conceptual vision.

4.2 Evaluate and respond to the potential for changes in the use of techniques, materials, tools or equipment.

4.3 Refine the conceptual vision based on ongoing experiences with the production of work.

4.4 Use safe working practices throughout the production of the sculpture.

4.5 Consider issues of presentation and take action accordingly.

- Develop a self assessment checklist to evaluate the sculpture.

- Use a focus group of peers or viewers from the general public to assist with evaluating and refining the conceptual vision.
SIFFNL990A Plan and conduct a funeral ceremony

SIFFNL990A Plan and conduct a funeral ceremony is a unit in the SIF08 Funeral Services Training Package. It describes the outcomes, skills and knowledge required to prepare for and perform a funeral ceremony in the absence of clergy or a celebrant according to the needs of clients, including making a funeral ceremony address. The Evaluate skill could be developed effectively in Element 4, Review funeral ceremony.

PERFORMANCE CRITERIA

4.1 Request client feedback and review according to workplace policies and procedures.
4.2 Reflect on own performance and note areas for improvement and appropriate strategies.
4.3 Record and report evaluation according to workplace policies and procedures.

HLTAHW203A Provide basic health information to clients

HLTAHW203A Provide basic health information to clients is a unit in the HLT07 Health Training Package. It describes the outcomes, skills and knowledge required to deliver, under supervision and given clear instructions, a limited range of health care information to individuals or small groups of clients. The Evaluate skill could be developed effectively in Element 3, Assist in the evaluation of health information provision.

PERFORMANCE CRITERIA

3.1 Consult client and/or community about effectiveness of health information.
3.2 Seek feedback to determine how well health information has been understood.
3.3 Provide feedback in line with organisation and supervisory requirements.

Your unit of competency

Select a unit of competency or a group of units which you will be using for delivery and assessment.

- Plan some activities incorporating the development of the Evaluate skill into the development of the technical skills and knowledge required for the unit.
Bringing it all together

AURB312366A Repair bicycle hydraulic braking systems

This unit is from the AUR05 Automotive Industry Retail, Service and Repair Training Package. It is included in a number of qualifications, including Certificates II and III in Bicycles.

The following examples illustrate how the skills for innovation can be developed in a complete unit of competency using a range of methods as part of the overall delivery and assessment strategy for this unit. These methods would be used in conjunction with any other strategies used to deliver and assess the required technical skills outlined in the unit.

<table>
<thead>
<tr>
<th>Unit Code: AURB312366A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit Title:</strong> Repair bicycle hydraulic braking systems</td>
</tr>
<tr>
<td><strong>Unit Descriptor:</strong> This unit covers competence to inspect, plan and safely repair and test bicycle hydraulic braking systems and complete documents.</td>
</tr>
</tbody>
</table>

Elements and Performance Criteria

| 1. Inspect bicycle hydraulic braking system | 1.1 Bicycle hydraulic braking system is inspected for faults and worn or damaged components. |
| 1.2 Repairs are determined by visual, aural and tactile inspections and measurements. |
| 1.3 Conditions found are compared with bicycle hydraulic braking system specifications and customer use requirements. |
| 1.4 Repair options for hydraulic braking system are identified following workplace procedures. |
| 1.5 Repairs are documented and costed for customer approval. |
| 1.6 Customer approval is obtained and checked against repair work to be undertaken. |
| 2. Prepare for repair of a bicycle hydraulic braking system | 2.1 Repair sequence is planned and availability of tooling and equipment is determined. |
| 2.2 Repair sequence plan includes post repair testing and checking process. |
| 2.3 Parts list is prepared and availability of replacement components is determined. |
| 2.4 Additional persons to assist in repair process are identified and arranged. |
| 2. Prepare for repair of a bicycle hydraulic braking system (cont.) | 2.5 Tooling and equipment are selected to meet job requirements. |
| | 2.6 Tooling and equipment are checked to ensure they are in good working order. |
| | 2.7 Tooling and equipment are handled, maintained and used in accordance with OH&S requirements. |

<p>| 3. Repair and test bicycle hydraulic braking system | 3.1 Repair of bicycle hydraulic braking system is performed according to plan. |
| | 3.2 Repair operations are performed using personal safety equipment and precautions to protect others in the workplace. |
| | 3.3 Customer requirements and bicycle braking system specifications are checked following repair procedures. |
| | 3.4 Repaired bicycle braking system is operated through its full range, noting test results, including non-conformity. |
| | 3.5 Repaired bicycle hydraulic braking system is checked. Adjustments are completed, and unit is prepared for delivery. |
| | 3.6 Worksite is cleared of waste and spills at regular intervals in accordance with enterprise procedures. |
| | 3.7 Portable tooling and equipment are stored in approved designated areas. |
| | 3.8 Workplace records, customer file and warranty information are updated as required by enterprise. |</p>
<table>
<thead>
<tr>
<th>Innovation@work skills</th>
<th>Suggested learning and assessment methodology</th>
<th>Relates to performance criteria</th>
</tr>
</thead>
</table>
| Interpret              | Develop observation, questioning and research techniques to:  
|                        | • observe braking system  
|                        | • ask the client questions about the braking system  
|                        | • compare braking system with specifications. | 1, 1, 1.2, 1.3 |
| Generate               | Develop divergent thinking skills so learners can consider the options.  
|                        | Use brainstorming techniques to come up with a range of options.  
|                        | Conduct a SWOT analysis of existing workplace procedures. | 1.4 |
| Collaborate            | Develop team work skills so that learners can work with other people to assist in the repair process. | 2.4 |
| Reflect                | Develop a checklist of questions to gain customer approval, and a checklist of the testing and checking process. | 1.6, 2.2 |
| Represent              | Develop flowcharting skills so that the repair sequence can be planned.  
|                        | Develop spreadsheet skills so that the parts list can be prepared. | 2.1, 2.3 |
| Evaluate               | Develop a self-assessment checklist to check whether the repair is performed according to plan.  
|                        | Encourage peer evaluation of repair work.  
|                        | Develop criteria to use for gaining feedback from client, | 3.1, 3.3, 3.4, 3.5 |
References

General


Resources

Interpret


Generate
Infinite Innovations Ltd., *Brainstorming – Change your life and career with advanced brainstorming*, <www.brainstorming.co.uk>.


Collaborate
Australian Communications and Media Authority (acma), *Online social networking*, <www.acma.gov.au>.


**Reflect**


**Represent**


The University of Western Australia, Student Services, *Presentation Skills*, <www.studentservices.uwa.edu.au>.

**Evaluate**


