



A guide to creating learning design for VET

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Learning design tool – concept and content development

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Introduction

Background

A guide to creating learning design tools for VET has been developed by the Australian Flexible Learning Framework (Framework¹). The purpose of this guide is to assist learning designers in the process of choosing and developing a learning design for a learning resource which covers a unit of competence, or elements of a unit, in a training package.

Audience

The guide has been designed for learning designers in the Australian vocational education and training (VET) sector, seeking to plan and design online learning materials. It assumes that those using it have some previous experience in the design and/or development of online learning resources but will also be of use to beginners or teachers who have developed resources, not necessarily online resources.

The context of learning designs in VET

While there is a focus in this guide on larger learning design projects, such as Flexible Learning Toolboxes (Toolboxes²), the guidelines could be applied to a range of contexts, such as an interactive tool delivered within a face-to-face session, a problem solving scenario that initiates collaboration (online or face-to-face) or an interactive whiteboard session.

Flexible Learning Toolboxes

The Framework's Toolboxes provide very large learning settings and usually include a number of discrete modules representing separate units of competence. Within each learning module, there are usually multiple sections and topics which represent the elements of the competency. Each Toolbox is designed so that each unit is 'stand-alone' for disaggregation of the Toolbox into learning objects.

The learning design in a Toolbox describes the form of learning at the module level. At this level, it describes/prescribes the nature of the learning experiences provided. The selection of a particular learning design enables the learning designer to use a consistent and proven pedagogy in the planning and selection of the various learning activities for the learners.

Learning designs provide a framework to guide the learning designer in developing the learning experiences. Two separate Toolboxes designed using the same learning design could exhibit quite different appearances. The use of a learning design helps to keep constant and preserve the nature of the learning experience, and the forms of learner engagement while providing flexibility in the style and manner in which the learning materials are presented.

When developing a Toolbox, learning designers will usually use a consistent learning design for the individual units of competence and their underpinning elements. The purpose of this guide is to provide designers with a series of model learning designs that they can use to plan the learning environments.

¹ The Framework is the national training system's e-learning strategy: <http://flexiblelearning.net.au>

² Toolboxes are high quality, cost effective interactive e-learning and assessment resources: <http://flexiblelearning.net.au/toolboxes>

Using this guide

There are many factors that influence the form a learning design will take and this guide presents and discusses a number of these. It is not possible for the guide to be prescriptive in this regard and there are many variables a learning designer needs to take into account.

It must be recognised that the learning designer will need to exercise degrees of personal judgment in deciding the form and nature of the learning design to be used in any particular setting. They will need to weigh factors associated with the intended learner cohort, the skill sets/industry context and individual aspects of the training package. The guide cannot capture all these variables but provides information that is intended to inform the learning designer on how these can be considered and dealt with. Ultimately, the learning designer must make the final design choices and these should be based on good learning theory, as well as a critical knowledge of the particular learner group and industry requirements.

Part A – Theory

Provides the background information a learning designer may need before commencing planning and development. It defines learning design and provides information about learning theories and their relationship to successful learning design. It also outlines one approach to scoping a learning design to suit the needs of a specific target audience and teaching purpose.

This section will be useful for teachers with minimum or no experience in learning design that prefer to gain some background knowledge before attempting to develop resources. Experienced teachers or learning designers may choose to go directly to Part B of this guide.

Part B – Design

This section presents practical tools to empower learning designers who are ready to begin. It details one process to follow and is linked to the background theory provided in Part A. This section is based on a series of steps for completing a learning design project, large or small. Each step provides:

- introductory information
- hints
- examples
- templates.

These tools may be reused and customised as required for each learning design project a designer undertakes.

Part C – Storyboarding

This section contains further tools and information for designers and developers to use once they have planned their learning design and are ready to progress to the development stage. These will assist in communicating effectively with other project team members – specifically multimedia developers and the content experts.

PART A: THEORY

Learning design

What is a learning design?

When a learning designer plans learning activities and content for an online unit, the term 'learning design' is used to describe the form of the learning environment; in essence, the pedagogy. There are countless ways to present material to learners. The concept of a learning design helps designers to choose appropriate learning experiences for both the learners and for what is to be learned.

The learning design used in online learning materials describes the strategies used by the learning designer to engage the learners. It is a plan for learning that comprises a deliberate set of learning tasks, resources and supports. The actual learning tasks are structured so that the learning is stepped, sequenced and scaffolded. Resources and supports assist in this scaffolding.

While there are many ways to design learning tasks for an online learning environment, there are some environments which promote learning more than others.

Online learning settings are often very large and comprise multiple modules. Within modules, there are typically topics and sections where the actual learning activities are found. The learning design describes the planned learning experiences at the module level.

An important aim in designing any online learning setting is to create a learning environment which can optimise the learning opportunities for the many different learners who will use the resources. By articulating and describing specific forms of learning design, it is possible to provide models that designers can use to ensure that the learning materials created provide the best learning experiences for the target audience.

The nature of learning

The concept of learning is extremely complex and something that most will take for granted. The term 'learning' means different things to different people and it is a very broad concept.

Learning can be taken to mean such things as:

- acquiring some form of knowledge eg knowing facts
- developing some form of skill eg using a tool or implement effectively
- developing some form of competency eg developing familiarity and expertise with a piece of software
- developing an understanding eg being able to apply a process or procedure in non-standard ways.

At a fundamental level, learning is all about conceptual change. People learn something when their cognition is changed in some way and there is a residual effect that they take away from the learning experience. In order for learning to occur, there must be some lasting change. How long the change lasts is often a measure of the strength of the 'gone' learning. What is learned one day can be gone the next. Effective learning occurs when there is some conceptual change and it is lasting.

It is important to distinguish between the process of learning and the outcomes of learning. In most instances learning is an ongoing process with knowledge, skills and capabilities being continually developed and improved.

Learning theories

There are a number of theories that have been developed that describe how learning occurs, such as behaviourism, constructivism, social constructivism etc. What is consistent in all the theories is the fact that learning requires active cognitive engagement on the part of the learner. For learning to occur, learners must construct their own meaning and this typically requires a conscious effort. The amount of conscious effort and strength of the construction is related to the depth of the learning that occurs.

Learning theories tell us that the best conditions for learning are those where learners are actively engaged in the process of learning. Such settings are those where learners:

- have an interest and motivation for the learning
- have some sense of ownership and agency in their learning
- are cognitively stimulated and engaged
- have ample opportunity to practise what is being learned
- are scaffolded and supported
- are reflective, actively monitored and self-regulate their own learning.

Not all these features are necessarily able to be planned into a learning setting, but all can be encouraged and supported through the way a learning experience is delivered to learners. Those that can be planned into a learning setting are done through the learning experience that the learning design supports.

Another very important aspect of learning relates to learner differences. Different learners in the same learning setting can learn very different things. When a learner engages in a learning experience, what they learn depends very much on what they bring to the setting. For example: preferred learning styles, prior knowledge, awareness and motivation. It is impossible to tell by looking at a learning setting what each learner will learn individually. And since learning is an individual outcome, it is important when designing a learning setting to recognise and cater for the needs of a diverse cohort.

Designing your learning

Describing learning designs

While there are clearly many forms of learning design in use in classrooms and online settings throughout the world, there is currently no single set of learning designs that have been prescribed. Furthermore, there is no agreed means to prescribe learning designs so this guide is very much at the cutting edge.

When teachers teach their students, they typically use some planned approach (learning design) but most teachers find it a very difficult process to describe how they teach. When one talks to teachers about how they teach, they all describe the process in very different ways and describe very different aspects of the learning settings. Typically the descriptions will detail the teachers' actions and the intended students' actions in very different ways.

The description of a learning design needs to help a learning designer to know those elements that need to be planned and described. Deciding what these are is still an unknown science.

Discrete features of online learning designs

When online learning experiences are planned, there are three discrete elements that need to be addressed (refer Figure 1). These are:

1. *Learning task(s)* - the contexts, processes and conditions by which the learner is engaged and immersed within a learning setting and led to digest information, practise, apply, think and reflect.
2. *Learning resources* - the materials containing the information, content and underpinning knowledge the learner needs to acquire or develop a strong familiarity with.
3. *Learning supports* - the strategies and processes that assist the learner to work beyond their comfort zone which scaffolds and provides feedback, advice and provides support for reflection.

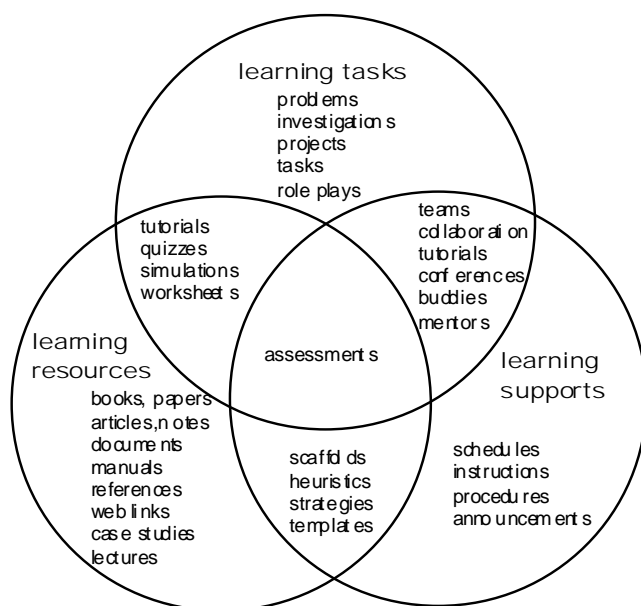
In face-to-face teaching, teachers often make many decisions and judgements in relation to resources and supports in real-time. In online settings, these need to be planned and developed as part of the learning design process.

Learning tasks

Learning designs are overarching frameworks describing planned learning experiences. At the fundamental level of a learning experience are learning tasks which represent discrete activities undertaken by learners. A learning task is essentially something which a learner undertakes which has a defined endpoint or outcome. Examples of learning tasks include:

1. Reading a section of text.
2. Completing a checklist.
3. Undertaking a quiz.
4. Searching the web to find some information.
5. Participating in an online discussion.
6. Adding reflections to a blog.
7. Completing an online tutorial.

Figure 1: Elements of online learning settings



Based on Oliver, R. (1999). Exploring strategies for online teaching and learning. *Distance Education*, 20(2), 240-254.

In designing a learning environment, a learning designer must plan learning tasks in deliberate ways to ensure the intended learning outcomes are achieved. A learning design is a framework that organises a structure for the learning tasks chosen by the learning designer. Experts often provide guidelines to designers of learning settings that describe optimal strategies for engaging learners. Merrill³ (2003) describes the following as a powerful sequence for fostering learning:

- **Activation:** Learning is promoted when learners activate relevant cognitive structures by being directed to recall, describe, or demonstrate relevant prior knowledge or experience.
- **Demonstration:** Learning is promoted when learners observe a demonstration of the skills to be learned that is consistent with the type of content being taught. Demonstrations are enhanced when learners receive guidance that relates instances to generalities. Demonstrations are also enhanced when learners observe media that is relevant to the content.
- **Application:** Learning is promoted when learners engage in application of their newly acquired knowledge or skill that is consistent with the type of content being taught. Application is effective only when learners receive intrinsic or corrective feedback. Application is enhanced when learners are coached and when this coaching is gradually withdrawn for each subsequent task.
- **Task centred:** Learning is promoted when learners are engaged in a task. A centred learning strategy that teaches task components in context and involves learners in a progression of whole tasks.
- **Integration:** Learning is promoted when learners integrate their new knowledge into their everyday lives by reflecting on, discussing, and defending their new knowledge and skill. Integration is enhanced when learners publicly demonstrate their new knowledge or skill.

Learning outcomes

The scope and form of learning outcomes tend to form an important consideration in the choice of an appropriate learning design. Different learning designs are needed to enable students to achieve different forms of learning outcome. Bloom⁴ (1956) describes six levels of cognition within which learning outcomes typically fall (refer Table 1). The lower level outcomes (eg knowledge and comprehension), are usually associated with structured and directed learning settings while the higher level outcomes (eg synthesis and evaluation) require learning experiences that are more open and less directed.

Across all sectors of education, learning usually seeks to develop learners within several levels. Learning often proceeds in a sequential fashion with knowledge and comprehension sought ahead of application and analysis. The level of learning sought is a very important consideration in the choice of the learning design to be used.

In the Australian VET sector, for example, a Certificate II qualification will often aim to develop learners' knowledge of processes and procedures and learners will be expected to be able to apply their knowledge in workplace settings. In a similar fashion, in a Certificate IV qualification, the learning outcomes will often seek to develop learners' comprehension as well as their knowledge of an industry or field. In applying their knowledge to workplace settings, there may

³ Merrill, D.M. (2003). A task-centred instructional strategy. *Journal of research on technology in education*. 40(1),

⁴ Bloom B. S. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. New York: David McKay Co Inc.

be a degree of choice and judgement required, so learners need to develop their knowledge and skills in ways that are transferable.

And similarly, at Diploma level qualifications, the learning outcomes will usually seek knowledge, comprehension and the ability to make strategic decisions in applying the knowledge to the workplace. Such outcomes usually require degrees of application and analysis, and higher-order learning outcomes, as in Bloom's taxonomy:

Table 1: Bloom's knowledge levels

Outcomes	Skill/Capability
Knowledge	Arrange, define, duplicate, label, list, memorize, name, order, recognise, relate, recall, repeat, reproduce, state.
Comprehension	Classify, describe, discuss, explain, express, identify, indicate, locate, recognise, report, restate, review, select, translate.
Application	Apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
Analysis	Analyse, appraise, calculate, categorize, compare, contrast, criticise, differentiate, discriminate, distinguish, examine, experiment, question, test.
Synthesis	Arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organise, plan, prepare, propose, set up, write.
Evaluation	Appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

Boud and Prosser⁵ (2002) argue that an effective learning setting is characterised by four main elements:

- learner engagement, consideration of learners' prior knowledge, their desires and expectations
- acknowledgement of the learning context, recognition of the purpose of the learning and its relevance and position within the broader program of study
- learner challenge, active participation of learners, which encourages reflection, monitoring and self-regulation
- provision of practice, opportunities to articulate and demonstrate what has been learned.

The art of learning design for online learning is all about planning learning environments that can contain and develop/provide these elements in meaningful ways.

Grain size of learning designs

Learning designs are intended to provide a framework for the design of large-scale systems. However, in the interests of application and reusability, it is important to develop a design basis that supports appropriate size segments for development into discrete learning objects. Table 2 on the following page outlines how a qualification can be segmented into learning components.

Toolboxes are typically developed at a level of a qualification comprising multiple competencies. Competencies are themselves defined in terms of discrete elements. The development of learning designs at the competency level appears to provide the best

⁵ Boud, D. Prosser, M. (2002). *Key principles for high quality student learning in higher education: A framework for evaluation*. *Educational Media International*, 39(3), 237-245.

opportunities for sharing and reuse of the resources as learning objects. A learning object is understood to be:

*A digital entity designed to support a particular learning experience, that can be repurposed for use in another setting, and which forms an IMS content package.
A self-contained sequence of learning and be discoverable, interoperable, editable and reusable.*

For additional information on e-learning content development guidelines visit <http://e-standards.flexiblelearning.net.au/standards.htm>

Table 2: Toolbox learning components

Qualification	Competency 1	Element 1	Activity 1	Part 1
				Part 2
			Activity 2	Part 1
				Part 2
		Element 2	Activity 1	Part 1
				Part 2
			Activity 2	Part 1
				Part 2
	Competency 2	Element 1	Activity 1	
			Activity 2	
		Element 2	Activity 1	
			Activity 2	

Previous experience has shown that Toolbox developers use a consistent structure and format for their learning design at the element level within a Toolbox. Typically the competency level is a set of consistent element learning modules. Due to this being at the level of learning objects, the stand alone units from a learning perspective tend to be elements within competencies which represent discrete skills, knowledge and capability segments.

Learning design framework

The following pages describe a framework that can be used to articulate and distinguish discrete learning designs which can be used to design learning resources across the range of qualifications in the VET sector. This is particularly the case in the context of Toolboxes, in which learning is set in authentic and meaningful contexts to facilitate the transfer of knowledge and skills to the workplace.

Learning levels

In Australia, different VET qualifications tend to seek different orders of learning outcome. The lower certificate qualifications tend to seek learning related to knowledge and comprehension of facts, procedures, processes and workplace content. Higher Certificate and Diploma

qualifications tend to seek mid-order learning that combines knowledge of appropriate facts, processes and procedures with abilities to make judgments and consider decisions in their applications. The high-end Diploma and Advanced Diploma qualifications, however, seek learning that involves components of the higher-order learning outcomes of analysis synthesis and evaluation.

The inherent differences in the forms of learning outcome sought across different qualifications provide a useful means to create a distinction between the needs of learners in the various learning settings. Table 3 below shows the forms of learning activity that can be seen to be relevant to the various qualifications when the different levels of learning are taken into account.

Table 3: Learning levels and activities across VET qualifications

Qualification	Certificate II, III, IV	Certificate IV, Diploma	Diploma, Advanced Diploma
Levels of learning	Lower-order	Mid-order	Higher-order
Learning outcomes	Familiarity and knowledge of particular information, processes and procedures	Knowledge acquisition but extending to capacity to apply in new settings using judgment and subjective decisions.	Knowledge and application but extending to abilities to analyse new situations and to evaluate and synthesise solutions.
Forms of learning activity	Reading, browsing, choosing, comparing, describing, reflecting	Reading, browsing, choosing, comparing, describing, reflecting, planning, questioning, investigating, inquiring	Reading, browsing, choosing, comparing, describing, reflecting, planning, questioning, investigating, inquiring, analysing, evaluating, synthesising

Factors impacting on choice of learning design

There are different factors which influence the choice and form of learning design for a learning resource. The factors relate to the nature of the target learners and the form and level of learning. All these factors influence the learning experiences that learners need to achieve the intended outcomes. The following section discusses and describes the important factors that help to determine appropriate learning designs for learning resources.

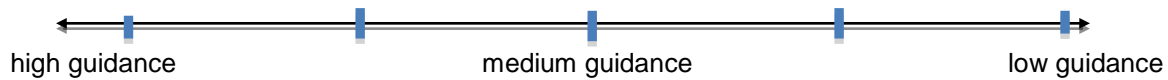
Level of learning outcome

Different modules and units seek different learning outcomes. Those with elements from entry level VET programs typically seek to develop learners' knowledge levels and familiarity with aspects of a discipline. In other cases, the modules may aim for learners to be able to apply knowledge, more than simply knowing and being aware. At the highest level, outcomes will often seek to extend learners' understanding of problem solving, which can be very high level learning outcomes. The level of learning outcome plays a large part in the choice of learning design.



Level of guidance

This factor describes the degree to which a learning design should direct the learner in the activities they undertake. For the lower levels of learning, a high degree of instructional direction is appropriate. This recognises that the setting will potentially be the learner's entry into the field and discipline. For higher levels of learning, a less directed setting is desirable as the learner recognises the learners' ability to make meaningful choices with better mental models upon which to build new knowledge.



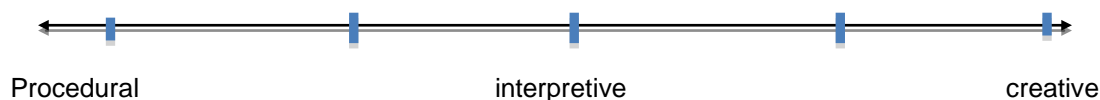
Content focus

This factor describes the nature of the material to which the learner is best exposed. There should be a relatively high level of focus on content and information for settings that seek to develop lower level knowledge. When higher order learning is sought, learning designs typically need to focus on the application of knowledge and for the highest levels; content that focuses on evaluation is needed.



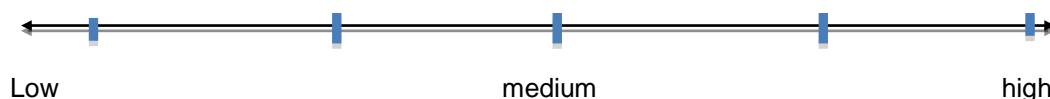
Content application

Across different forms of learning it is possible to describe outcomes that relate to application of the content in a continuum that moves from 'procedural' (learning to apply fixed and set processes, objective inputs), through to 'interpretive' (learning to apply processes that involve judgements and subjective inputs), through to 'creative' (learning to apply processes and procedures with high degrees of open-endedness and creativity). Typically, procedural outcomes have one correct answer; interpretive outcomes involve levels of judgement in their application and can have mixed responses; and creative processes have no one right answer and depend very much on the expertise of the learner.



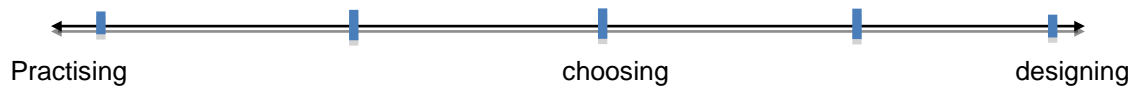
Learner freedom

As learners develop expertise and capabilities in a domain, further learning is enhanced through the development of their ability to monitor and self-regulate their learning experiences. For this reason, entry level learners are more suited to learning that is more directive than non-directive. For higher-order learning, appropriate learning designs need to reflect increasing levels of learner freedom and choice in the activities and tasks that form the environment.



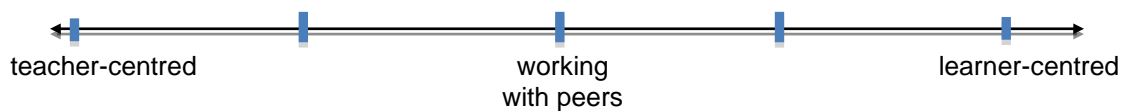
Learning form

As we consider the types of activity in which learners participate to bring about the forms of intended learning, a new continuum is used. The continuum moves from 'practising' (repeating a process and developing a performance capability in a fixed and standard form), through to 'choosing' (making choices, in the act of practising), to 'designing' (practising which involves elements of creativity and judgement).



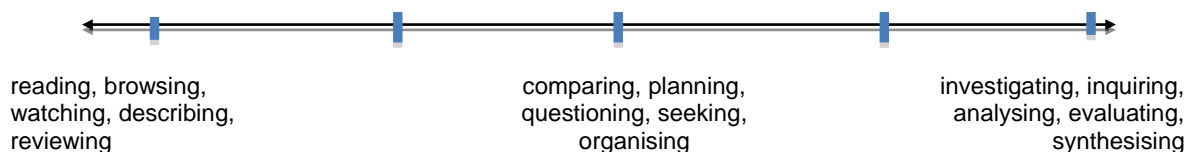
Learner preference

Depending on the nature of the learning objectives and outcomes, and the experiences of the target audience, often it is possible to identify a preferred form of learning that should underpin a learning design. Learner preferences can be described over a continuum leading from quite 'teacher-centred' presentation of information, through collaborative learning with peers to independent 'learner-centred' approaches.



Engagement

Different forms of learner engagement are suggested by this framework. In the left column, the forms of learner activity that are associated with the knowledge acquisition include 'reading, browsing, watching, describing, and reviewing'. Forms of engagement appropriate to the centre of the continuum include 'comparing, planning, questioning, seeking, organising' and the right end of the continuum describing engagement includes such learner activities as 'investigating, inquiring, analysing, evaluating and synthesising'.



Discrete learning designs

The framework shown in Table 4 below suggests a form for three learning designs whose main distinction lies in the levels of direction and autonomy afforded the learner as well as differences in the focus of the content brought about by the different learning outcomes sought. From these differences, three forms of learning design emerge which have been called task-directed, task-guided and task-autonomy.

Table 4: Framework describing characteristics of discrete learning designs

Level of outcome	knowledge acquisition	understanding	problem-solving
Level of guidance	high	medium	low
Content focus	information	application	evaluation
Content application	procedural	interpretive	creative
Learner freedom	low	medium	high
Learning form	practising	choosing	designing
Learner preference	teacher-centred	working with others	learner-centred
Engagement	reading, browsing, watching, describing, reviewing	comparing, planning, questioning, seeking, organising	investigating, inquiring, analysing, evaluating, synthesising

At the heart of all learning designs are the tasks which direct learning. These differ across the learning designs in the manner shown below.

1. **Task-directed:** Small tasks with correct/incorrect responses. Learner makes objective decisions and computer-generated response used for feedback.
2. **Task-guided:** Large contextualised tasks which are broken into smaller chunks for learners to deal with. Learner makes both objective and subjective decisions to complete tasks. Both tutor and computer used to assess tasks and to provide feedback.
3. **Task-autonomy:** Large and complex tasks which learner needs to plan and solve. The outcome of the task is usually the development of a product or artefact with some purposeful application.

Choosing the learning design

The following table provides a guide for determining which of the three learning designs will suit a particular development. Using the table below, a designer can indicate where on the various continua the form of learning setting they are seeking would sit. By scoring the various positions 1-5 as shown, for each of the criteria, an aggregated score is obtained in the range 8-40 which will give an indication of the most appropriate learning design.

Table 5: Determining which criteria suits your learning design

	Your score				
	Task-directed	→	Task-guided	→	Task-autonomy
	1	2	3	4	5
Level of outcome	<i>knowledge acquisition</i>		<i>understanding</i>		<i>problem-solving</i>
Level of guidance	<i>high</i>		<i>medium</i>		<i>low</i>
Content focus	<i>information</i>		<i>application</i>		<i>evaluation</i>
Content application	<i>procedural</i>		<i>interpretive</i>		<i>creative</i>
Learner freedom	<i>low</i>		<i>medium</i>		<i>high</i>
Learning form	<i>practising</i>		<i>choosing</i>		<i>designing</i>
Learner preference	<i>teacher-centred</i>		<i>working with others</i>		<i>student-centred</i>
Engagement	<i>reading, browsing,</i>		<i>comparing, planning,</i>		<i>investigating inquiring,</i>

Based on Table 6 below, the process of choosing the appropriate learning design for a learning resource is discussed and described in detail in Part B of this guide.

Table 6: Aggregated scores for learning design types

Aggregated total range	Learning design
8-18	Task-directed
19- 28	Task-guided
29- 40	Task-autonomy

Type 1: Task-directed

The task-directed learning design is suitable for developing competencies typically within Certificates II, III and IV. It represents learning that seeks, in the main, lower-order learning outcomes, through directed and structured learning activities.

This learning design involves highly directed learner activities with the presentation and description of information and ideas followed by opportunities for practice and reflection. The focus of assessment is on the learners' acquisition of knowledge and performance in application of learning to work-based examples.

Learning outcomes

The learning is seeking to familiarise and acquaint learners with particular processes, procedures, equipment, products, resources and/or terminology.

Within an industry context, learners are intended to know, recognise and apply their knowledge in workplace settings.

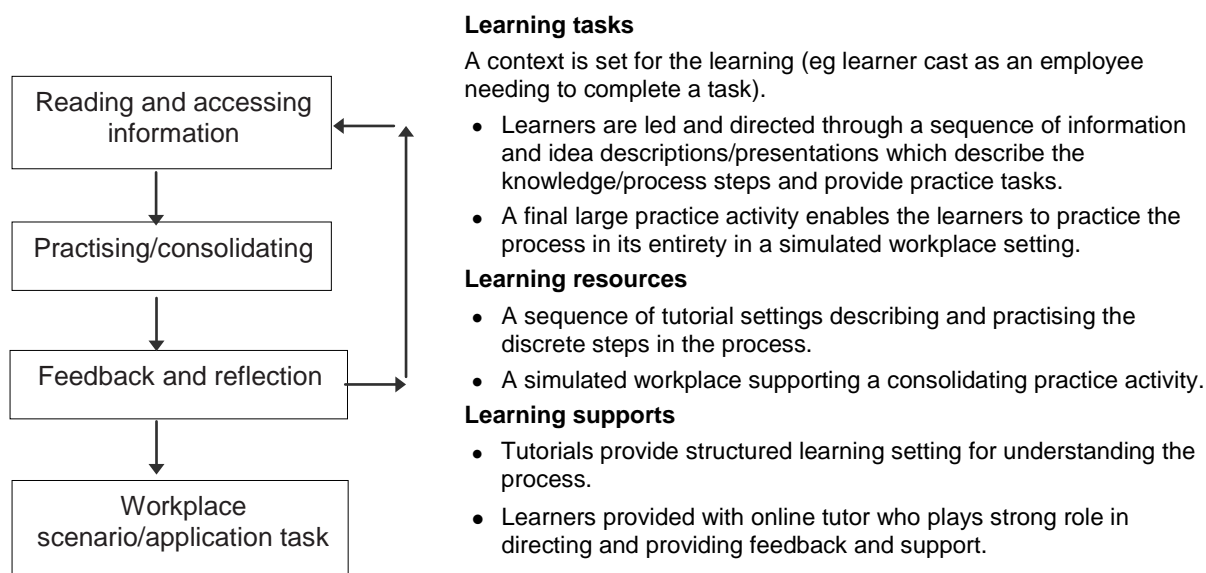
Learning engagement

The primary forms of learner engagement include: reading, browsing, choosing, comparing, describing and reflecting.

The engagement is based on a directed setting where learners are led through a range of learning activities to arrive at a planned outcome.

Learning design flowchart

Figure 2: Task-directed learning design flowchart



Characteristics of task-directed learning design

This learning design is characterised by the following attributes:

- learning is set within a **realistic context** (eg a virtual workplace, industry setting)
- the learner is cast as an **employee/worker** within a virtual workplace
- the learner is **led sequentially through the learning process** involving a deliberate set of contextualising activity(s)
- each activity focuses on developing learners' familiarity with information and content through description and practice activities
- each activity provides interactions that stimulate reflection
- the **learner can access other resources** if required (eg how to communicate)
- the final component of the setting is a **directed consolidating activity** that provides opportunities to practise what has been learned in a contextualised and holistic activity
- learning is **assessed through measures of success** in the consolidation task requiring **application of knowledge**.

There are many examples of task-directed learning designs within the Toolbox suite of products. These examples are characterised by learning settings where the presentation and exposition of information is used as the basis for the learning setting. The presentation typically leads opportunities to practise and rehearse and the learning culminates in the provision of a consolidating activity, which links the various components together in a form that provides opportunity for application and reflection in simulated and/or actual workplace environments.

Example 1

Figure 3: Series 9 Toolbox learning object: Perform four basic rules mathematical calculations



This learning object helps learners know when and where to apply four basic mathematical rules. The information about the rules is presented in a series of descriptive pages.

http://toolboxes.flexiblelearning.net.au/demosites/series9/905/1_calc/calc1/htm/calc1_2.htm



After the pages have been presented, a series of multiple choice questions are used to test the learner's recognition and comprehension of the place of the four rules. Feedback is provided to ensure responses are considered and knowledge gaps and omissions identified.

After all the information has been presented and the consolidating exercises completed, a workplace project is provided to enable the learner to demonstrate/practise competency in the workplace.

http://toolboxes.flexiblelearning.net.au/demosites/series9/905/1_calc/calc1/htm/calc1_3.htm

Example 2

Figure 4: Series 8 Toolbox learning object: Develop creative and flexible solutions



The learner is presented with relevant information in a process through a problem scenario. The learner reads and follows a sequence of information where the problem is developed, a solution suggested and the outcome presented. The learner is presented with information and ideas in a sequential and directed fashion.

Following this presentation, the learner engages in an interactive activity where a problem is presented and the learner seeks to practise what has been learned in a controlled setting. Feedback provides information and help to remedy misjudgements and errors.

http://toolboxes.flexiblelearning.net.au/demosites/series8/809/toolbox_809/flm510b/flm510b_task2.htm



After the interactions and activities have been completed a workplace activity is provided to enable the learner to practise and demonstrate learning competency in a workplace setting.

Type 2: Task-guided

The task-guided learning design is suitable for developing competencies typically within Certificates III and IV, and Diplomas. It represents learning that seeks, in the main, lower-mid order learning outcomes, through guided learning activities where the learner has relatively high degrees of choice and determination.

The engagement in this learning design is less directed than Type 1 and involves the learner in task-based decision making with plenty of support and guidance. The focus of assessment is on the learners' success in the task-based decision making.

Learning outcomes

The learning is seeking to help learners to learn and understand (as distinct from simply applying) processes and procedures involving a knowledge of equipment, products, resources and/or terminology, where the application involves levels of judgment and subjectivity.

Within the industry context, learners are intended to learn how to apply a process/procedure through self directed and activity based learning in a simulated workplace setting.

Learning engagement

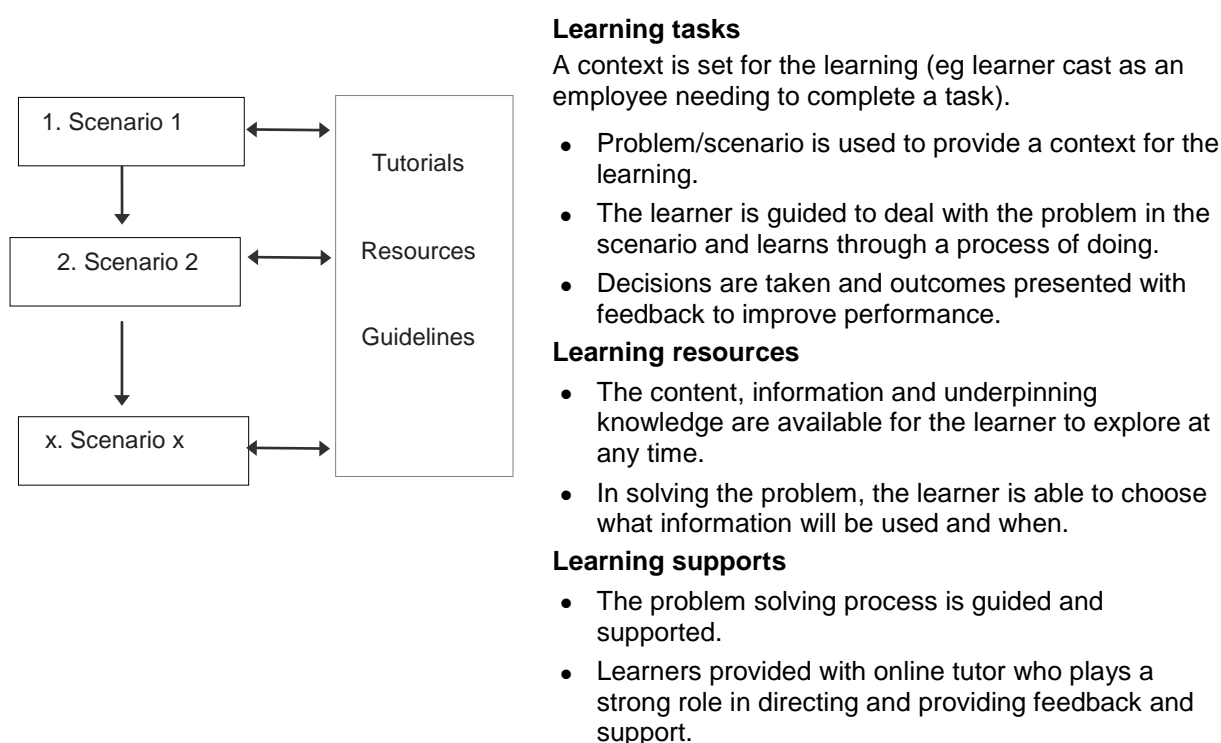
The primary forms of learner engagement planned include:

- reading, browsing
- choosing, comparing, describing, reflecting
- planning, questioning, investigating, inquiring.

The engagement is based on a guided (as distinct from directed) setting where learners are led through a range of learning activities that lead to the completion of a project/problem resolution.

Learning design flowchart

Figure 5: Task-guided learning design flowchart



Characteristics

This learning design is characterised by the following:

- learning is set within a **realistic context**, task-oriented approach (eg resolving a problem scenario; completing a project)
- the learner acts as an employee/worker within a virtual workplace
- the learner is guided through a series of activities designed to achieve the pre-determined product/endpoint
- the activities cause the learner to deal with the inherent content and information through decisions and reflections needed to complete the activity
- gaps in knowledge are self-identified by learners and filled as needed through accompanying resources
- the learning finishes with the completion of the product/task
- learning is assessed through measures of success in holistic tasks involving application of knowledge.

Example 1

Figure 6: Series 10 Toolbox learning object: The customer's always right? - Customer service



The learner is an employee in a retail company. The learning object is seeking to help the learner to deal with customers' concerns and problems.

A scenario is used to present a problem. The learner is guided to engage virtually with the customer to identify the problem and to explore possible ways to resolve. The learner must decide what decisions to make and is guided by the success or otherwise of these decisions.

http://toolboxes.flexiblelearning.net.au/demosites/series10/10_05/toolbox10_05/scenarios/cust_is_right/01_intro/01_intro.htm



In order to be able to make the best choices, the learning design provides the learner with access to relevant content and information. The learner is able to consult this information at any time to assist in the process of dealing with the customer.

At the end of the setting, a final activity provides the learner with the opportunity to practice what has been learned in a single large task.

http://toolboxes.flexiblelearning.net.au/demosites/series10/10_05/toolbox10_05/training_centre/communication/02_sub/02_getinfo_learn.htm

Example 2

Figure 7: Series 9 Toolbox learning object: Negotiate agreement on employment plan



A simulated workplace setting is used as a consistent context for the Toolbox. A multi-faceted task is set as a context for the learning of each element, in this instance to develop an employment plan for Dimitri.

The learner follows the directions to create an employment plan and receives feedback and guidance on decisions taken and success achieved.

http://toolboxes.flexiblelearning.net.au/demosites/series9/903/content/01_mon/task_1/time.htm



A company intranet provides continual access to information about clients, employment plans and company files etc. A set of information resources provides continual access to underpinning information and content.

Learners usually work alone to complete the report.

On completion, a report form is completed by the learners which tutors use to assess performance.

<http://toolboxes.flexiblelearning.net.au/demosites/series9/903/content/resources/resources.htm>

Type 3: Task-autonomy

The task-autonomy learning design is suitable for developing competencies typically within Certificates IV and Diplomas and Advanced Diplomas. It represents learning that seeks, in the main, mid-higher order learning outcomes, through student directed activities with high degrees of choice and determination in the development of a product or artefact.

The engagement in this learning design is less directed than Type 2 and involves the learner in the task development and decision-making required to develop the product or artefact with appropriate support and guidance. The focus of assessment is, in the main, a measure of the learners' success in the development of a product or artefact.

Learning outcomes

The learning seeks to help learners to learn and understand (as distinct from applying) open-ended processes and procedures involving a knowledge of equipment, products, resources and/or terminology, where the application involves levels of judgment and subjectivity.

Within an industry context, learners are intended to learn how to apply a process/procedure through a highly self-directed and activity-based learning in a simulated workplace setting.

Learning engagement

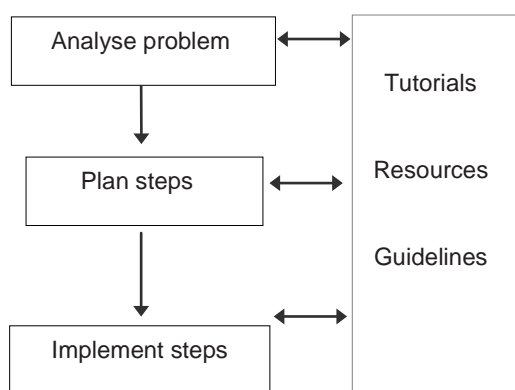
The primary forms of learner engagement planned include:

- reading, browsing, choosing, comparing, describing, reflecting
- planning, questioning, investigating, inquiring
- analysing, evaluating, synthesising.

The engagement is based on an open-ended setting where learners plan and develop a product or artefact by applying new knowledge and skills led through a range of learning activities that lead to the completion of a project/problem resolution.

Learning design flowchart

Figure 8: Learner-directed learning design flowchart



Learning tasks

A context is set for the learning (eg learner cast as an employee needing to complete a task).

- Problem/scenario is used to provide a context for the learning.
- The learner needs to plan a solution process and to implement the process to solve the problem.
- Strategies and guidelines are suggested but the learner makes the choices as to how to proceed.
- The problem solution is usually the development of a product or artefact for some purposeful application.

Learning resources

The content and underpinning knowledge are available for the learner to explore at any time.

In solving the problem, the learner is able to choose what information will be used and when.

Learning supports

Learners often work in concert with peers, mentors and workplace supervisors.

Characteristics

This learning design is characterised by the following:

- learning is set within a **realistic context**, task-oriented approach that leads to an authentic product or artefact
- the learner acts as an employee/worker within a virtual workplace
- the learner makes their own decisions to plan and develop the product or artefact
- support is provided in the form of guidelines, information and underpinning knowledge
- learning comes from problem solving and strategic decision making **experiences and reflections** where the learner makes decisions and reflects on consequences
- gaps in knowledge are identified and filled by learners at their discretion through accompanying resources
- support includes collaboration with tutors, peers, mentors and workplace colleagues
- the learning finishes with the completed product or artefact
- learning **is assessed through measures of** the quality of the product or artefact.

Example 1

Figure 9: Series 9 Toolbox learning object: Information architecture for a website



Learning tasks

The learner is given a large task to complete; in this case to plan the design of a web page. The successful solution to the problem or task will be a web page design and associated guides.

Plentiful resources provide guidance in the development of the plan of attack, as well as the underpinning knowledge required to complete the actual design process for the website.

http://toolboxes.flexiblelearning.net.au/demosites/series9/906/wd_map_proj/html/map_proj_desc.htm



Resources

Resources are provided in the form of underpinning knowledge, guidelines, tutorials etc. These are always accessible to the learner.

Supports

The learner needs to establish contact with a workplace mentor for guidance. Guidance is usually provided by workplace or other mentors.

http://toolboxes.flexiblelearning.net.au/demosites/series9/906/shared/bazaar_resources/bazar_cermics_info.htm

Example 2

Figure 10: Series 6 Toolbox learning object: UpFront Frontline Management



Learning tasks

In the unit, *Develop plans and schedules*, the learner is given an overview of a situation where this capability is needed. The learner sees a problem setting and considers a solution and what is entailed. This leads on to attempting a similar task in his/her own setting.

http://toolboxes.flexiblelearning.net.au/demosites/series6/601/toolbox_601/cmn402a/cmn402a_task1.htm

Resources

The learning object uses a number of resources, including the contextualising example, the solution steps and the problem description for the learner; as well as the Learning Pack with comprehensive resources and links.

http://toolboxes.flexiblelearning.net.au/demosites/series6/601/toolbox_601/lo/2003_237_002/2003_237_002_00.htm

Supports

The resources contain many learner supports including guides and directions. Group work can be used to assist learners, as well as access to an external tutor.

http://toolboxes.flexiblelearning.net.au/demosites/series6/601/toolbox_601/cmn402a/cmn402a_how_unit_works.htm

Learning design outcomes

It is important to note that the three learning designs described in this guide are broadly indicative, and the variables and attributes described in each often overlap for sound pedagogical reasons.

The process of choosing a learning design requires the learning designer to look carefully at the attributes associated with the planned learning outcomes and the forms of learning activity most likely to develop these.

There are instances where a high level AQF⁶ qualification (eg Diploma or Advanced Diploma) may be best delivered through a learning design based on the task-directed form, rather than the task-autonomy form often associated with the higher level qualifications. Likewise, there are instances when a low level AQF qualification (eg Certificate II) may best be delivered through a task-guided rather than task-directed form. Generally, these kinds of anomalies occur when the content necessitates a particular style of design. For example, a learning resource for accounting or mechanical engineering at a Certificate IV level will often require a high level of direction in the task, because the nature of the content is very step-by-step and process driven. In such cases, the learning designer should look for opportunities to build in the appropriate level of direction versus independence in other areas of the learning design, rather than the task itself, such as in the way that learners interact with the underpinning content and/or resources required for the task.

This guide has presented three discrete forms of learning design, but within each there are overlapping elements. In choosing a form of learning design for a learning resource, it is important to select the form that best suits the intended outcomes but to also recognise that this does not necessarily limit the inclusion of elements from other learning design forms. Once a learning design has been chosen, there are many elements available to the designer from other learning design forms for inclusion in the application of that design.

⁶ Australian Qualifications Framework: <http://www.aqf.edu.au/>

RPL expressway models

In VET, many learners have prior or existing skills and knowledge that may enable them to receive RPL (recognition of prior learning). This could be at a single unit of competency level, for multiple units or even a whole qualification.

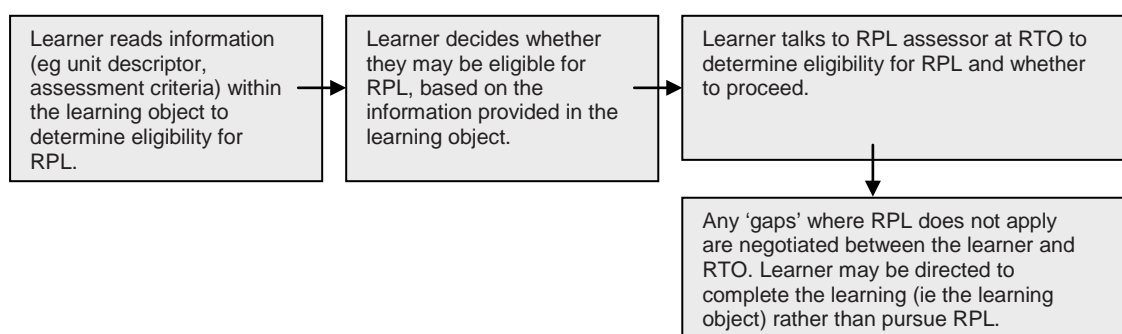
A person's eligibility for RPL will be assessed by a registered training organisation (RTO), however the learning design should, where possible, incorporate a pathway for RPL.

The RPL pathway must be obvious to the learners when they enter the learning resource or alternatively a sequence of units in the Toolboxes. They will see two pathways: that of following the content and learning activities and that of RPL.

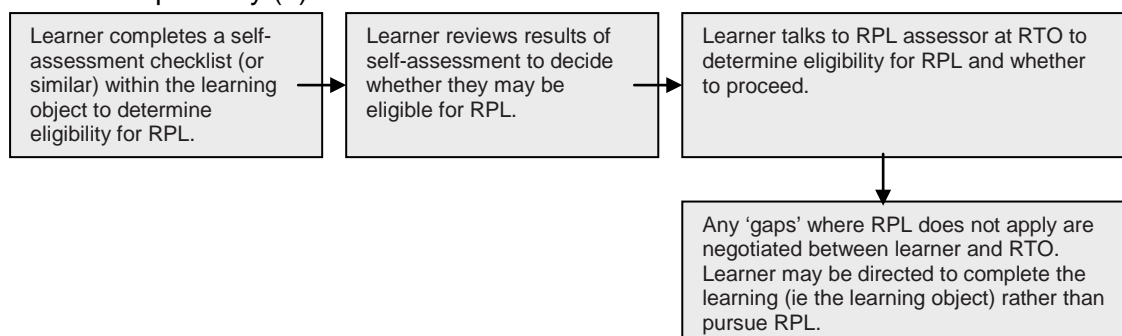
The way in which you incorporate an RPL pathway into your design may differ, depending on the way in which RPL is handled for the qualification, unit and/or industry area your learning design relates to.

The level to which RPL is facilitated within your learning design can also vary, as shown below.

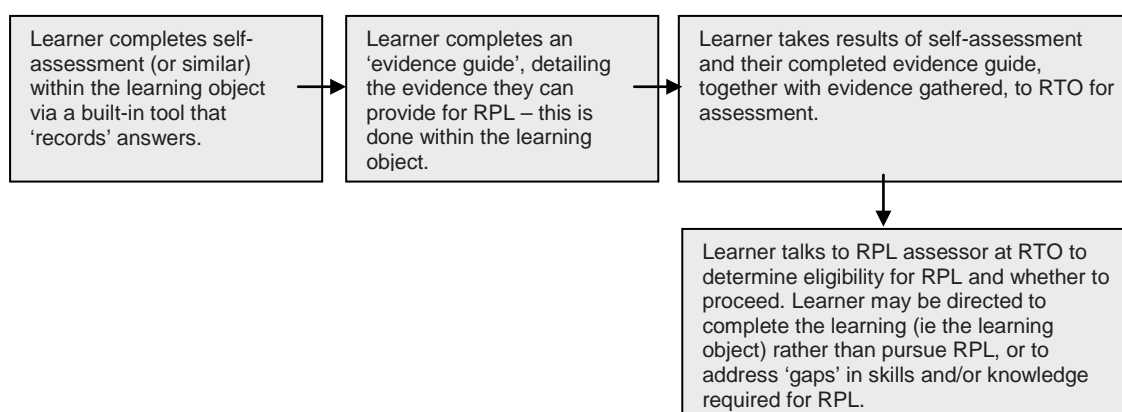
i) Basic RPL pathway (a)



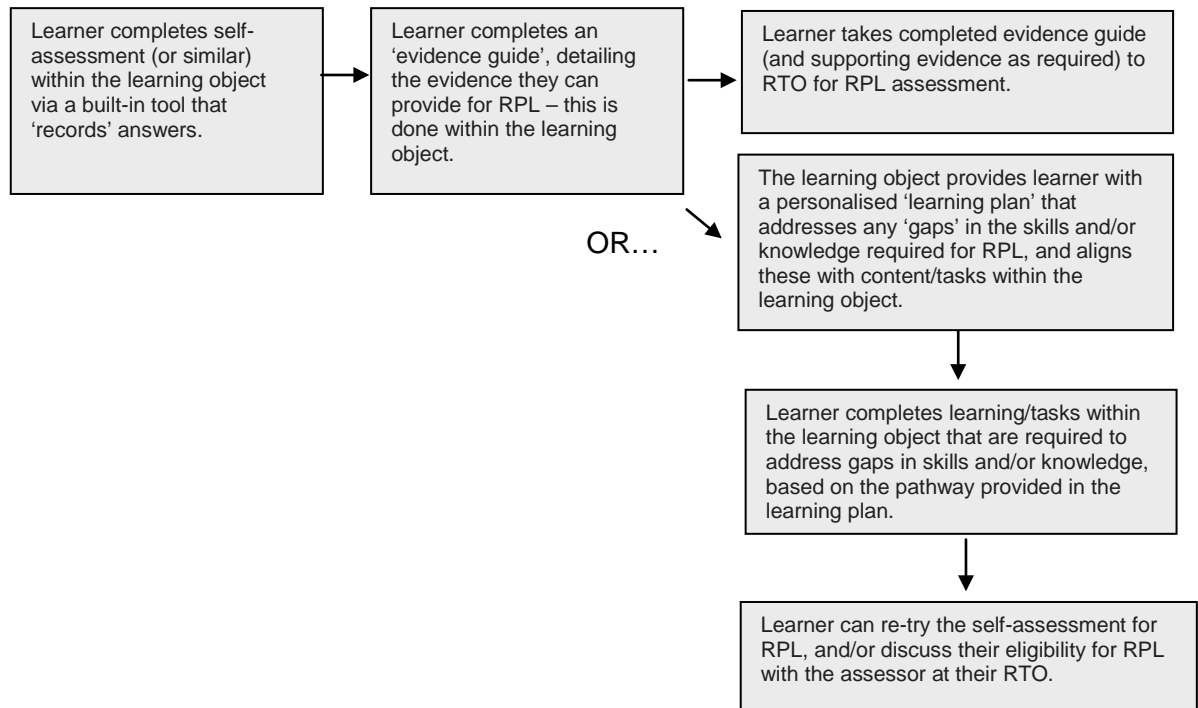
Basic RPL pathway (b)



ii) RPL fast-track pathway



iii) RPL express pathway



The key difference between these pathways is the level to which the RPL process is integrated with the learning design.

- In its most basic design model, the learning design will only provide a very simple overview of the requirements for RPL and perhaps a simple checklist to get the learner started on the RPL pathway.
 - **Result:** the learner is aware of the requirements for RPL and can pursue that option with their RTO if applicable.
- In a more complex design model, a detailed self-assessment tool is provided – often with tools and content that support the evidence gathering process (for example, RPL planner, assessment templates, suggested evidence etc).
 - **Result:** the learner can determine his/her eligibility for RPL, and (where appropriate) begin the process of gathering evidence for assessment and negotiate a learning pathway with the RTO (if required to address skills/knowledge gaps).
- In a fully integrated design model, the RPL pathway enables both self-assessment and evidence gathering as per the second model (above), and delivers a personalised 'learning plan' to the learner that aligns any identified gaps in skills/knowledge with content/tasks within the learning resource, to facilitate learning in those areas.
 - **Result:** the learner determines their capacity for RPL, identifies any gaps in skills/knowledge, and is directed to targeted learning within the learning design.

The model you choose for RPL in your learning design will depend on a few important factors, which include the following.

- Learner profile – will the learner/s be able to manage the process of going through an RPL pathway? What level of support will you need to build into the RPL pathway?
- Industry profile – some specialised industry areas or industry skill sets may not be suitable for RPL. For example, some trades can't recognise RPL as it indicates a person has been undertaking unlicensed work.
- The type of skills/knowledge required in the competencies – some industry areas do not lend themselves as well to paper-based evidence, requiring a more observational style of assessment for RPL. Examples could include areas such as aged care or management.
- Scope of the learning design – RPL should be carried out at a unit of competency level. Although gathering evidence for each performance criterion/element of competency within a unit is good practice, the actual RPL is awarded at a unit level. Therefore, if your learning design is not supporting a full unit (or significant skill set), it may not be appropriate to offer an RPL pathway.
- Complexity – for some units of competency (and/or qualifications) the RPL process can be quite complex and demanding, requiring the assessor to work closely with the candidate in a hands-on way. You should consider the level of support that the learner will require when working through the RPL pathway.
- AQF level – if your learning design targets an AQF 1 or 2 level unit/qualification, it's likely that a basic RPL pathway is all that is required – just to get the learner started. Learners coming into the lower level qualifications may not always have sufficient prior skills and/or knowledge to make them eligible for RPL. Higher AQF levels (such as Certificate IV or Diploma) are more likely to attract learners with existing skills/knowledge (or a prior qualification) that make them good candidates for RPL.

RPL models in action

To see the way that RPL has been built in, or integrated with learning design, you can look at some Toolboxes. Generally, RPL is handled at a unit level – so in effect it's treating each unit as its own learning pathway even though the Toolbox itself may support more than one unit.

CPP07 Satellite City – (12.02): A comprehensive example of the RPL process is provided for each unit of competency covered in this Toolbox
http://toolboxes.flexiblelearning.net.au/demosites/series12/12_02/learnassess_rpl/html/rpl_expressway.htm

FPI05 Forest and Forest Products – Timber (12.05): A checklist is provided for each unit of competency. Learners can use this document as a starting point for discussion with their provider
http://toolboxes.flexiblelearning.net.au/demosites/series12/12_05/toolbox12_05/rpl_expressway/introduction.htm

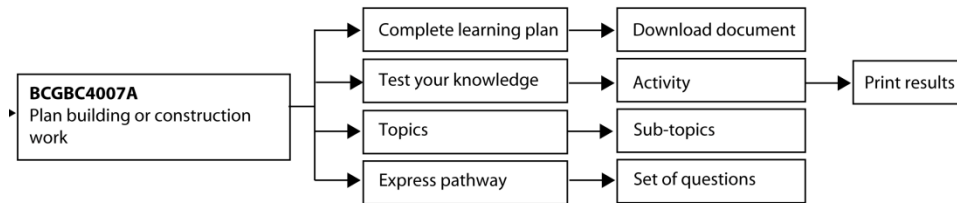
HLT07 Health – Indigenous Spiritual Wellbeing (12.03): This Toolbox contains a slide show explaining the RPL process and a downloadable document for users to complete prior to discussing RPL with their provider.
http://toolboxes.flexiblelearning.net.au/demosites/series12/12_03/content/03_check_skills/01_recognition_assessment/page1.htm

BCG03 BuildRight - Building and Construction (10.01): In the above *Employment Consultant Skills* and *BuildRight* Toolboxes, learners are given the option of going through an 'RPL EXPRESS' option for each unit. They are asked an opening question, then given a detailed breakdown of the kind/s of evidence required for RPL, then presented with a range of supporting documents and assessment tools to use for their RPL application.

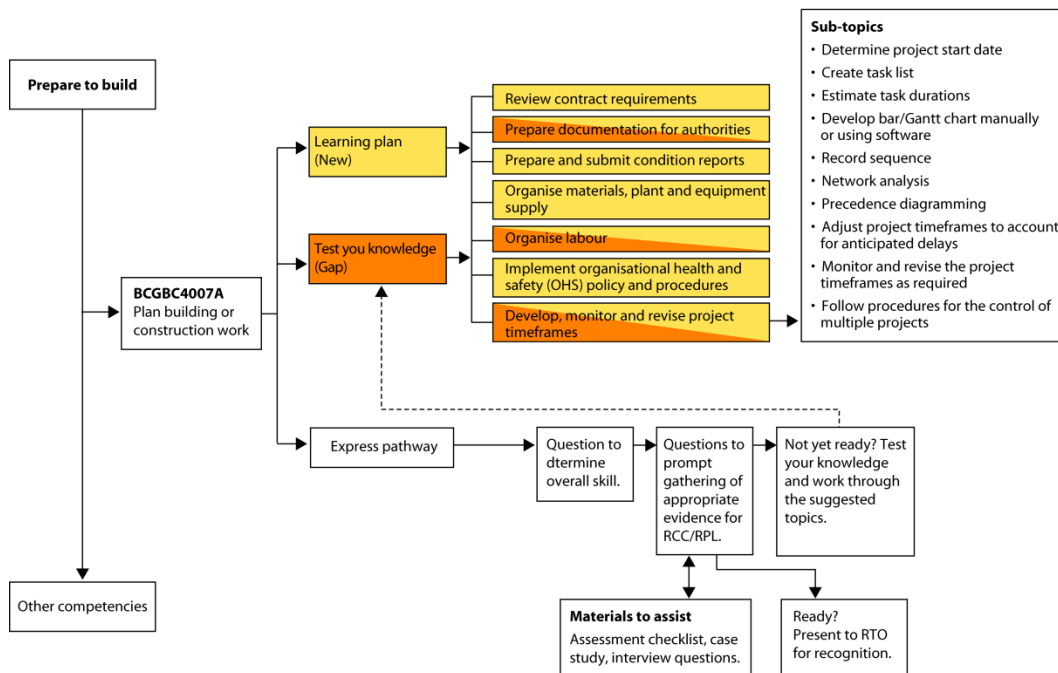
http://toolboxes.flexiblelearning.net.au/demosites/series10/10_01/content/bcgbc4007a/express_pathway/page_003b.htm

Here's a diagrammatic representation of the RPL pathway used in the BuildRight Toolbox.

1. How the Express Pathway is situated in the learning design



2. Detail of the workflow once within the Express Pathway



In all cases, it's worth spending time with content experts and/or RPL experts to determine the best approach for RPL in your learning resource.

If you'd like to know more about RPL, visit the AQF website at

<http://www.aqf.edu.au/AbouttheAQF/Pathways/RecognitionofPriorLearningRPLpathway/tabid/158/Default.aspx> for a complete run-down on RPL, including the 'National Principles' and a very useful 'AQF Implementation Handbook'.

Basic principles of online learning design

The advice provided so far is intended for the design of online learning materials but it provides guidance on sound learning design which can, in the most part, be applied to print-based, face-to-face or any other learning resource format.

However, the medium used for delivery is an important driver of the presentation of learning materials. Just as a journalist would write differently for the ear (eg radio) than they would for the eye (eg newspaper), a learning designer should allow the medium to determine the:

- language
- presentation
- activity types
- page layout
- use of images
- size of product
- availability of resources for learners.

Once you have chosen the overall design type and begin to develop the individual components of an online resource, you'll then need to consider a range of online design principles, some of which are industry accepted standards, others of which are common design standards, to guide the development of both the overall design and the granular components within it.

Here are guidelines about designing an online resource in relation to the dot points above.

- Language:
 - Use simple words and clear, concise language.
 - Use active, not passive voice. Speak to the learner, eg “You now need to ...”, rather than, “The officer now needs to...”
 - Use minimal punctuation, eg no full-stops on bullet points.
 - Use bold to highlight text, rather than italics or underlining.
 - Use language that is appropriate for the learner group, eg English may not be their first language so they may not understand certain Australian expressions.
- Presentation:
 - Keep text to a minimum.
 - Choose a sans-serif font that reads well online, eg Verdana.
 - Provide structure with headings and sub-headings.
 - Provide good navigational aids, eg menu bar at the top or side of the screen.
 - Be careful with colour choices – some colours are hard to read when used for text.
 - People tend to skim-read online, so ‘chunk’ the material into short blocks rather than large slabs of text.
 - Use bullet points and numbered lists where appropriate. If the learner needs to read a document, include this as a link to a PDF or similar.
 - Intersperse activities in text to break up larger chunks and keep the learner engaged.
 - Don’t make web pages too long – break them up into several smaller pages.
 - Use web conventions, such as underline for hyperlinks.

- Activity types:
 - Ensure the activity suits the target audience.
 - Ensure the learner does something, other than point and click or drag and drop.
 - Consider whether it adds to learning, eg is information hidden unnecessarily?
 - Use a variety of activity types (simulation, multiple choice, etc) to keep the learner engaged.
- Page layout:
 - Remember the direction of eye travel for the target audience and place important information accordingly.
 - White (empty) space on a page helps make pages easier to read, so don't crowd the page with too much.
 - Logically 'chunk' content within the page.
 - Page layout requires the application of many disciplines including interface design, graphic design, usability and accessibility, instructional design and multimedia.
- Use of images:
 - Consider any relevant issues, eg use of photographs of Indigenous persons, copyright permissions if using someone else's images, and download size.
 - Seek advice about correctly preparing images for quick download and best results.
 - It's often quicker to take photo (and results are often better) than to draw an image.
 - Remember to offer a text alternative to an image.
 - Images can be used to reinforce themes, explain complex logic or process, add personality and engage the learner.
- Size of product:
 - Consider issues such as whether the resource will be put onto a learning management system and if so whether there are upload size limits.
 - If a product is large, then the navigation needs to help the user find information quickly and easily.
- Availability of resources for learners:
 - Don't build new resources if you can adapt existing ones, eg customise learning objects from LORN.
 - Printable resources should be available in PDF form.

All online learning materials should:

- meet at least minimum standards, such as Web Content Accessibility Guidelines (WCAG). For additional information, refer to the WCAG 2.0 evaluation for VET sector - http://e-standards.flexiblelearning.net.au/docs/vet_wcag_2.0_evaluation_report_v1.0.pdf
- be simple and intuitive to navigate
- minimise level of linkage – users should be able to get information required within three links
- be engaging
- function on specified platforms and browsers.

Here is a list of dos and don'ts for online learning development:

Do	Don't
Invest time in planning	Let the technology define the learning
Use colours with high contrast eg black text on white background	Use colours that are difficult to read eg red or yellow for text
Use colours like white or shades of grey for backgrounds	Don't use images for background of text areas
Use good quality images	Use colours that could have particular meanings, eg orange = cheap, red = anger
Follow web standards and accessibility guidelines	Use images that have nothing to do with the subject matter
Check minimum standards required with the client or multimedia designer	Deep link
Limit the amount of text on a page	Make the online resource simply a series of links to PDF versions of a printed resource
Functionality test your resource	Use tables to format content
Validate HTML and CSS	Use inappropriate language and jargon
Limit scrolling down and eliminate scrolling across	Put important information on the right hand side of the page, or 'below the fold'
Make lines of text wrap after 15 words	Use clip art

Oliver, R. (1999). Exploring strategies for on-line teaching and learning. *Distance Education*, 20(2), 240-254.

The role of web 2.0 technology

The term *web 2.0* is used to distinguish today's internet from the way it used to be. First generation (*web 1.0*) websites were created and edited by technically skilled people and made large amounts of information available for the general public.

While large amounts of information are certainly still available, a key characteristic of web 2.0 technology is that non-technical people can quickly and easily create and share online information. Web 2.0 led to the development of social networking sites such as YouTube, Facebook and Twitter.

But it's not likely to end there, web 3.0 technologies are on the way. Web 3.0 has been described as "giving the internet itself a brain". If you would like to see where the internet could be heading in the next decade or so you may enjoy reading *Web 3.0 and beyond: the next 20 years of the internet* (http://technology.timesonline.co.uk/tol/news/tech_and_web/the_web/article2726190.ece)

and *What is Web 3.0?* available at:

http://www.rougthtype.com/archives/2007/08/what_is_web_30.php.

Web 2.0 tools

Here are some popular web 2.0 tools and suggestions on how they could be used in education. For additional information, refer to the VET Teacher E-learning Toolkit - <http://e-standards.flexiblelearning.net.au/docs/2008-networks-tet-recommendations-v1-0.pdf>

Technology	Service providers	Examples	Uses in education
<p>A 'blog' (short for 'weblog') is like an online diary or journal. The owner of the blog makes entries which are then displayed in chronological order. Entries can include text, photos, video, audio, links to other blogs or websites, etc. Some blogs are kept private, but others are made public and may even allow other people to comment on, or add to the entries.</p> <p>Microblogging is increasing in popularity. Users write brief messages, usually less than 200 characters, and post them using browser based service or mobile devices.</p>	<p>Some service providers include:</p> <ul style="list-style-type: none"> ▪ Blogger at: https://www.blogger.com/start ▪ Blognow at: http://www.blognow.com.au/home.php ▪ Edublogs at: http://www.edublogs.org/ ▪ Twitter at: http://twitter.com/ ▪ Plurk at: http://www.plurk.com/ ▪ Tumblr at: http://www.tumblr.com/ 	<p>The Edublogger's tips about using web 2.0 technologies: http://theedublogger.com/</p> <p>Cathy Moore's making changes: http://blog.cathy-moore.com/?cat=5#SlideFrame_1</p> <p>This blog explores podcasting, RSS, and other technologies: http://blog.podagogy.com/</p>	<ul style="list-style-type: none"> ▪ Learners can gather and present information about a topic – either on a group or individual basis. ▪ Regular blog entries could provide opportunities for learners to critically reflect on their understanding. ▪ Comments made by other people can provide feedback and potential for further exploration of ideas.
<p>A wiki is a type of website that allows users to add, edit or delete content. Content is arranged via a menu with links to any number of pages. Pages can include text, images, audio, hyperlinks, video, etc. The name comes from the Hawaiian word wiki or wiki-wiki, which means 'quick'. Many wikis are private with access only available to registered users. Other wikis are public. <u>Wikipedia</u> is a well known public wiki.</p>	<p>Popular wiki providers include:</p> <ul style="list-style-type: none"> ▪ Wikispaces at: http://www.wikispaces.com/ ▪ Wetpaint at: http://www.wetpaint.com/ 	<p>A wiki about web 2.0: http://web2tutorial.wikispaces.com/</p> <p>Stonemasonry training in TAFE: http://stonemasonry.wikispaces.com/</p>	<ul style="list-style-type: none"> ▪ Wikis created by others, eg Wikipedia, can provide a starting point for research ▪ Wikis created and by learners themselves can encourage active learning and knowledge construction. ▪ Wikis created by teachers can be used to provide supporting materials for learners. ▪ Wikis are perfect for group projects to allow individuals to contribute ideas and build knowledge. ▪ Wikis can be used to get learners thinking about the best way to organise, write and structure information.

<p>Social bookmarking applications allow users set up a web-based collection of URLs (bookmarks). It is similar to setting up favourites in a browser, but the advantage is the collection is stored on the web, so it's available anywhere there is an internet connection. The bookmarks can be organised into collections by putting 'tags' on them. Users can make their lists public, so there are opportunities to share useful websites with others.</p>	<p>Some social bookmarking tools are:</p> <ul style="list-style-type: none"> Delicious at: http://delicious.com/ StumbleUpon at: http://www.stumbleupon.com/ 		<ul style="list-style-type: none"> Learners could work as a team to bookmark items of common interest and build up a knowledge bank. A teacher could direct learners to particular sites by setting up an account for a group or learners, tagging resources and then making the URL available to the learners. Learners can be encouraged to network and communicate with who use the same tags and are likely to have the same interests.
<p>A podcast is an audio or video (sometimes called a vodcast) file posted on the internet. The files can be downloaded to a personal computer or handheld device and then played whenever is convenient.</p>	<p>You need equipment and software to record and edit the podcast. You need a site to host the podcast. Some hosting sites are:</p> <ul style="list-style-type: none"> Podomatic http://www.podomatic.com Podbean http://www.podbean.com <p>Users can subscribe to podcasts using an RSS feed reader such as:</p> <ul style="list-style-type: none"> Bloglines http://www.bloglines.com Feedreader http://www.feedreader.com/ 	<p>Radio National's MP3 audio and podcast service at: http://www.abc.net.au/rn/podcast/</p> <p>Education podcast network at: http://epnweb.org/index.php</p>	<ul style="list-style-type: none"> Teachers could create podcasts explaining or demonstrating processes. Learners can use podcasts to revise content. Learners create their own podcasts for assessment purposes. Learners can be directed to particular podcast locations for supplementary information.
<p>Social networking/sharing services allow users to communicate with one another, store and share media such as photos, video and slideshows online.</p>	<p>Some media sharing sites:</p> <ul style="list-style-type: none"> TeacherTube http://www.teachertube.com/ YouTube http://www.youtube.com/ Kaltura http://www.kaltura.com Flickr http://www.flickr.com/ 	<p>Alex Halavais's 'The Learning Blogosphere' videos are about blogging in education and show how YouTube can be used for teaching and learning:</p> <p>Part 1 http://www.youtube.com/watch?v=2LA-OzkEK4</p> <p>Part 2 http://www.youtube.com/watch?v=41I9D0i9ZVo</p>	<ul style="list-style-type: none"> Social networking sites can be useful for 'getting to know you' activities before or during formal program delivery. Learners can create videos and slideshows, individually or in groups, for assessment purposes. Teachers can post presentations, demonstrations, lectures, etc for learners to access at convenient times.

	<ul style="list-style-type: none"> ▪ Picasa http://picasa.google.com ▪ Slideshare http://www.slideshare.net/ <p>Some social networking sites include:</p> <ul style="list-style-type: none"> ▪ Facebook http://www.facebook.com/ ▪ Ning http://www.ning.com/ 		<ul style="list-style-type: none"> ▪ Learners can collaborate with one another to develop solutions to problems or strategies for approaching tasks. ▪ Learners can use social networks for discussion to explore different points of view. ▪ Social networks can be used to introduce 'experts' and mentors to provide advice and vocational expertise.
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Further references

The 'plain English' videos on TeacherTube cover a range of web 2.0 tools including blogs, social bookmarking and wikis. Go to <http://www.teachertube.com> and search using the term, 'plain English'.

RSS (Really Simple Syndication) allows users to publish details about frequently updated works such as blog and wiki entries, news headlines, videos, etc in a standard format. Readers can then subscribe to get notified of updates. Wikipedia has more information at: http://en.wikipedia.org/wiki/RSS_%28file_format%29

Visit *Designing and implementing e-learning* for a variety of e-learning strategies: <http://designing.flexiblelearning.net.au/>

And if you still want more, check out All Things Web 2.0: <http://www.allthingsweb2.com/>
Your guide to social e-learning is a resource where you can explore the opportunities and challenges that you might discover with social e-learning in practice, and get practice guidance and tips from e-learning practitioners.
http://socialelearning.flexiblelearning.net.au/social_elearning/index.htm

Employability Skills

If you are designing a resource that will be used by learners completing a national VET qualification, then you should consider employability skills in your design. Employability skills are a broad range of skills that are not related to a specific job, but still play a significant part in helping individuals be successful in the workplace. The Australian employability skills⁷ are:

- **communication** that contributes to productive and harmonious relations between employees and customers
- **teamwork** that contributes to productive working relationships and outcomes
- **problem solving** that contributes to productive outcomes
- **initiative and enterprise** that contribute to innovative outcomes
- **planning and organising** that contribute to long-term and short-term strategic planning
- **self-management** that contributes to employee satisfaction and growth
- **learning** that contributes to ongoing improvement and expansion in employee and company operations and outcomes
- **technology** that contributes to effective execution of tasks.

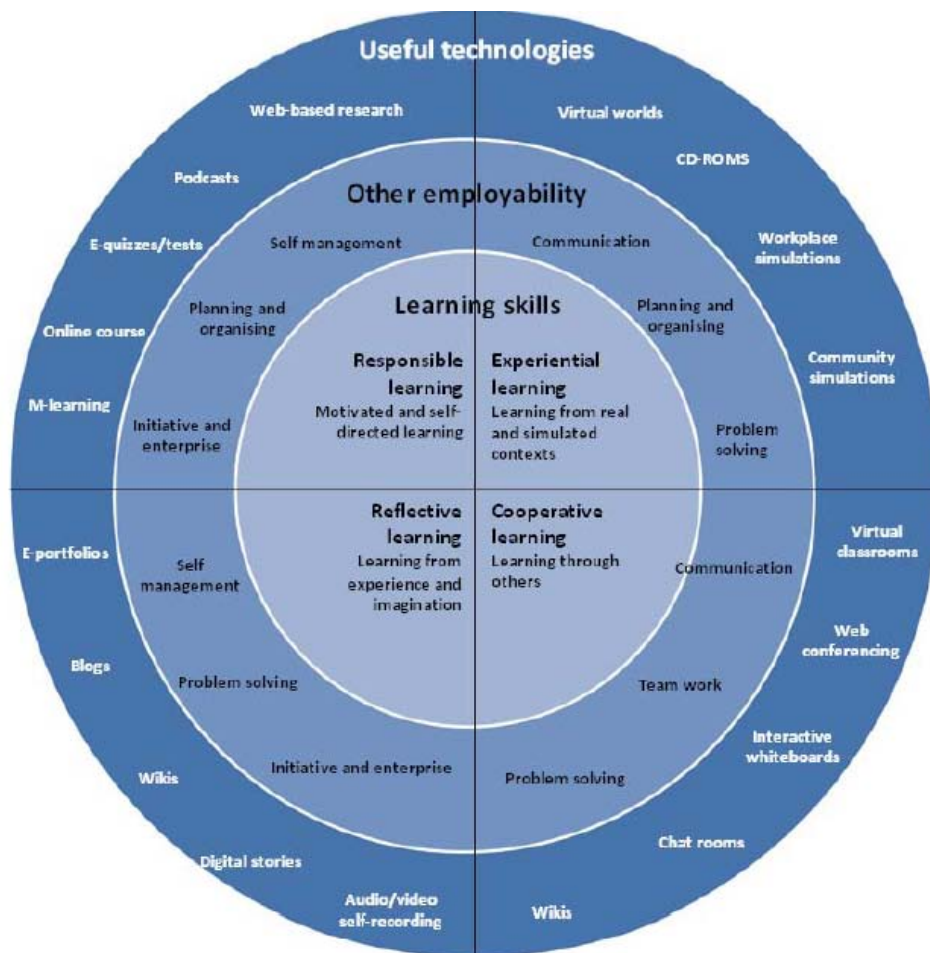
Employability skills are embedded into the units of competency in various qualifications from national training packages. Employability skills summaries that list the elements of each skill identified in various training packages are available. To locate these summaries, go to <http://employabilityskills.training.com.au>. Search for a summary using the qualification code.

Employability skills can be embedded into many learning activities, whether they are conducted online or in the classroom. For example, a discussion and research about how emerging technologies could address a particular work-related issue could be done in a classroom or by utilising a social networking tool. Depending on the delivery method, such a topic could allow learners to demonstrate all or some of the eight employability skills.

Employability skills and Web 2.0 technologies

Below is a diagram that provides each of the employability skills and useful technologies to underpin and enable each of these skills. Does this diagram provide an alternative suggestion that you may not have previously considered? When considering the appropriate activities or tasks to include in your learning design, cross-reference your choice(s) with the diagram below to identify if you have selected the appropriate medium to complement your activity/task.

⁷ Commonwealth of Australia, *Employability skills for the future*, March 2002 (http://www.dest.gov.au/NR/rdonlyres/4E332FD9-B268-443D-866C-621D02265C3A/2212/final_report.pdf)



Source: The impact of e-learning on employability skills development, www.flexiblelearning.net.au/files/E-learning_Employability_Report.pdf

More about employability skills

Resources, including research and reports are available from the Australian Government's Department of Education, Employment and Workplace Relations site: <http://www.dest.gov.au/>

Search the phrase 'employability skills' or go to the training and skills section and browse through the resources.

Search for Employability Skills - <http://employabilityskills.training.com.au/index.php>

To search for what employability skills are included in a qualification, access the website above. Go to the Employability Skills Summary section and enter the qualification code into the search box and click on the Find button. You will be provided with a list that contains the Employability Skills that this qualification covers.

PART B: DESIGN

10 steps of online learning design

In this section of the guide, one process for developing a learning design is demonstrated. This is based around the model of selecting a design type as outlined in Part A, and following ten steps to complete the design process.

To demonstrate each step and to assist in its implementation, examples and templates are provided. The templates can be reused and customised, as desired, for multiple and/or ongoing use.

The steps are intended as guidelines for designing online learning to meet your learners' needs. They can be applied to small or large design projects. How you follow the steps will, however, depend on your own needs and the scope of the project. Whilst the steps are ordered in this tool, they may be combined, left out, supplemented or completed in any order to suit your purpose. For example, larger design teams, working on major design projects involving multiple learning resources, often combine steps 5, 6 and 7. Smaller teams may not need to consult with other stakeholders and perhaps may not need Step 10.

Regardless of the methodology you apply, it's important to remember that the design process is inherently iterative. This means you may often find yourself revisiting steps and reworking the design numerous times in the process. You may include step 10, 'Validate the design', mid-way through the steps, as well as at the end. Having completed step 10, you may find yourself returning to other steps to rework the design. The steps are presented here in a linear fashion but that is intended for clarity only and you should adapt this methodology to suit your own needs for each learning design.

The 10 steps of online learning design:

- Step 1: Define the project scope.
- Step 2: Determine the grain size of the learning resource(s).
- Step 3: Identify existing resources.
- Step 4: Determine the method of assessment.
- Step 5: Determine the design (type 1, 2 or 3).
- Step 6: Identify the learning design features.
- Step 7: Micro planning the learning sequence.
- Step 8: Select interactions.
- Step 9: Identify media.
- Step 10: Validate the design.

Step 1: Define the project scope

The project scope is sometimes defined for you, if you have been engaged to develop an online learning resource. This would be detailed in a statement of work or a project brief. In other cases, you may need to scope the project yourself.

Scoping is the process of determining the details of the project. This is done before the commencement of any work. It then acts as the 'blueprint' throughout the development. It should guide every element of the design. For example, cost might determine how many multimedia rich interactions you can include. Timelines will dictate how much content is covered or what can be achieved.

Each element in the scope of a project will combine to determine what is possible and practicable in your learning design.

Hint:

Decide on the following before you get too far and make sure your design can be sustained or whether it may need to be modified:

- Project aim
- target audience
- key stakeholders
- staffing
- timeline
- size
- budget
- technical capabilities.

Example – Project Scope

Project Name	First Aid Training
Project Manager	Debbie Rogers
Project Executive	Amanda Keagan
Date:	May 2010
Version:	1.0

Project Name	First Aid Training
Background	Training is being delivered to multiple organisations and require CD based materials.
Objectives	24/7 training available via CD
Key Stakeholders	Leap'nLearn Training AJM Learning Pty Ltd Project Team
Scope <small>List the extent or range of the Project, highlighting what activities will and won't be completed as a result of the constraints established</small>	Development of materials on CD to meet competencies – training packages, learning objects mapped
Project Deliverables	CD with content

	Learning objects plus training guides Meeting training package criteria
Assumptions	Support from stakeholders Content available Minimal editing required on final deliverable
Dependencies	Procure content ID creates content CDs created
Constraints	Cost Hardware Launch date
Risks	1. Unable to obtain content 2. Duration of project reduced 3. Over budget 4. Over time 5. Staff turnover
Budget	\$15,000
Quality Criteria	Contents maps to training package material Learning design is engaging and user friendly CD uploads automatically
Expected completion date	September 2010

Submitted by

Name	Signature	Role	Date
Marion Reid		Project Team Manager	May 2010

Approval

Client or Project Executive

Name	Signature	Role	Date
Amanda Keagan		Project Executive	May 2010

Template

This is an extract of Template 1: Project planner, available in full in the Appendix. Complete 1.1: Project scope.

1.1 Project scope	
Staffing:	(Enter the number of staff/man hours available here)
Timeline:	(Enter the due date or number of weeks here)
Size:	(Describe the size of project here eg. three learning resources Toolbox)
Budget:	(Enter the total budget or allowable man hours here)

Step 2: Determine the size of the learning resource(s)

Grain size, as defined in Part A, refers to the size of the learning design in relation to the portion of the selected training package. For example, a Toolbox may cover a whole qualification but it will then be broken up into smaller learning resources at a unit or element level. A smaller learning design developed for a collaborative interaction may only cover one element of a unit of competency.

Your task in this step is to determine what your design will cover. This will be influenced largely by the scoping you completed in Step 1.

Hint:

Let your project scope from Step 1, as well as your project aims, guide your decision making, but don't forget the needs and learning preferences of the audience.

- Will it cover a whole unit or just a portion?
- Will it represent a task that will need to be mapped across more than one competency?
- Will it be a stand-alone learning resource or will it be one of many related learning resources?

Read the Unit of Competency carefully and make sure you consider relevant parts of the range statement and other vital information contained in the unit – not just the elements and performance criteria.

Consult with the content expert at this stage.

Example 1

BCGBC4007A – Plan building or construction work

Topics	Sub-topics	Competency reference – performance criteria
Organise materials, plant and equipment supply. Element: Determine all the resources required.	Assess and confirm availability of materials with suppliers. Purchase process for construction materials and building supplies. Procedures for controlling and recording of deliveries to site. Procedures for recording hire of plant and equipment.	1.3 The availability of materials is assessed and confirmed with suppliers. 2.1 Organisational strategies for implementing construction operations are identified. Range statement: purchasing processes for building supplies or construction materials. 1.6 Procedures for controlling and recording site deliveries are implemented.

This example is taken from the Series 10 *BuildRight Toolbox*. The resource is one of a series of related learning objects. Your planning document might also include details about the resource's relationship to range statement, required skills, critical aspects of evidence, employability skills.

Example 2

Scenario: Taking it back - customer returning jacket for refund

Task	Unit/element/performance criteria
Gather required information.	<p><i>SIRXCCS002A Interact with customers</i></p> <p>1.1 Conduct communication with customers in a professional, courteous manner according to store policy.</p> <p>1.8 Use verbal and non-verbal communication to develop rapport with customers during service delivery.</p> <p><i>SIRXCOM001A Communicate in the workplace</i></p> <p>1.3 Create effective service environment through verbal and non verbal interaction according to store policy and procedures.</p> <p>1.4 Use questioning and active listening to determine customer needs.</p>
Decide whether to grant a refund.	<p><i>SIRXCCS002A Interact with customers</i></p> <p>1.2 Meet customer needs and reasonable requests or refer to supervisor.</p>

This example is taken from the Series 10 *Retailer Toolbox*. It shows a scenario-based learning resource which covers elements from more than one Unit of Competency.

Template

This is an extract of Template 1: Project planner, available in full in the Appendix. Complete 1.2: Project scope and 1.3 Parts of unit covered.

1.2 Definition of learning resource

(Describe what the learning resource will cover here)

1.3 Parts of unit covered (List all elements, performance criteria, required knowledge etc to be covered by this learning resource here).

Elements	Performance criteria	Required skills/knowledge	Range

Step 3: Identify existing resources

Often, when you design a learning resource it is because there is nothing suitable available to assist in the delivery of some specific content. When developing an online resource, however, there may be a range of resources already available that you can adapt to suit your selected media and purpose.

Written resources, photographs, videos, case studies etc may be available and it may be a matter of repurposing that content for your needs. That way, more effort can be focused on developing an engaging interaction.

Hint:

Identify available resources – books, websites, teacher notes, hardware and software, etc might be a good place to start.

Remember that a print based resource covering the same material cannot simply be converted to HTML and then called an online learning resource!

If you are considering using existing resources make sure you:

- are not in breach of copyright laws
- seek appropriate permissions before using or adapting content
- apply principles of online learning design to ensure the content is fit for purpose (see Part A: Basic principles of online learning design).

When identifying existing resources it may be beneficial to estimate what percentage of the resource can be repurposed to help inform your staff resourcing needs.

Example

Below are two examples of how resources have been identified.

Content area		A
National code of related competency	Title	Pre-existing materials used?* (yes or no)
FPICOR2201A	Work effectively in the forest and forest products industry	Yes – print-based learner guide developed for ForestWorks by McElvenny Ware in 2007 (equivalent to 15 hours already developed of the 35 hr competency)
FPICOR3202A	Implement SHE policies and procedures	Yes – 'ForestSafe e-learning demonstration' Flipbooks: Flexible Learning project developed in 2007 (equivalent to 40 hours already developed of the 80 hr competency)
FPICOR3202A	Conduct quality and product care procedures	Yes – print-based learner guide developed for ForestWorks by McElvenny Ware in 2007 (equivalent to 10 hours already developed of the 20 hr competency)
FPICOR3204A	Visually assess materials	Yes – print-based learner guide developed for ForestWorks by McElvenny Ware in 2007 (equivalent to 10 hours already developed of the 20 hr competency)
FPICOT3236A	Coordinate stock control procedures	No
FPICOT3204A	Prepare and interpret sketches and drawings	No

Source: FP105 - *Forest and Forest Products (12.05)*

http://toolboxes.flexiblelearning.net.au/series12/12_05.htm

Content area		
National code of related competency	Title	Pre-existing materials used?*(yes or no)
SIRXMER001A	Merchandise Products+	No
SIRXSLS001A	Sell Products and Services+	No
SIRXSLS002A	Advise On Products and Services+	No
SIRXFIN001A	Balance point-of-sale terminal+	No
SIRXMPR002A	Provide Marketing and Promotion Program Support	No
SIRXCCS001A	Apply point-of-sale handling procedures*	Yes (60%)
SIRXICT001A	Operate retail technology*	Yes (70%)
SIRXCCS002A	Interact with customers *	Yes (65%)
SIRXCOM001A	Communicate in the workplace *	Yes (70%)
SIRXCLM001A	Organise and maintain work areas*	Yes (60%)
SIRXOHS001A	Apply safe working practices*	Yes (70%)
SIRXRSK001A	Minimise theft*	Yes (90%)
SIRXINV001A	Perform stock control procedures*	Yes (60%)
SIRXIND001A	Work effectively in a retail environment*	Yes (35%)

Source: SIR07 *Retail Services (12.06)*

http://toolboxes.flexiblelearning.net.au/series12/12_06.htm

Template

This is an extract of Template 1: Project planner, available in full in the Appendix. Complete 1.4: Existing resources.

1.4 Existing resources

(List all available resources books, websites, teacher notes, hardware and software, etc here)

Step 4: Determine the method of assessment

Assessment is not always included in a learning resource. This will depend on the size and purpose of the resource. It is important to determine:

- whether assessment is to be included
- if so, what kind of assessment – informal/formal, formative/summative etc.

Learners must be made aware of and clear about any assessment included in the design, preferably up front.

Hint:

Even if assessment is not included, an online learning design should always provide feedback for the learner. Depending on your learning design, assessment items may include:

- immediate feedback available automatically to the learner at various points throughout the resource, such as a quiz or interactive test
- more complex summative, holistic assessment at cumulative points in the learning design, such as a problem to solve or project to complete and which may need guidance from the facilitator
- an opportunity for learners to self assess to determine what, if any of the learning resource they need to complete before seeking more formal assessment or RPL from their facilitator, such as an RPL expressway.

Example 1

In this task ...

You'll process Penny's refund using SammiGirl's Point of Sale terminal.

You'll need to use Penny's receipt for this task.

Enter the required information to process the refund. Your user ID for this activity is 625 and you need to enter all details manually.

Text alternative

Process the refund

Use this Point of Sale terminal to process Penny's refund.

8

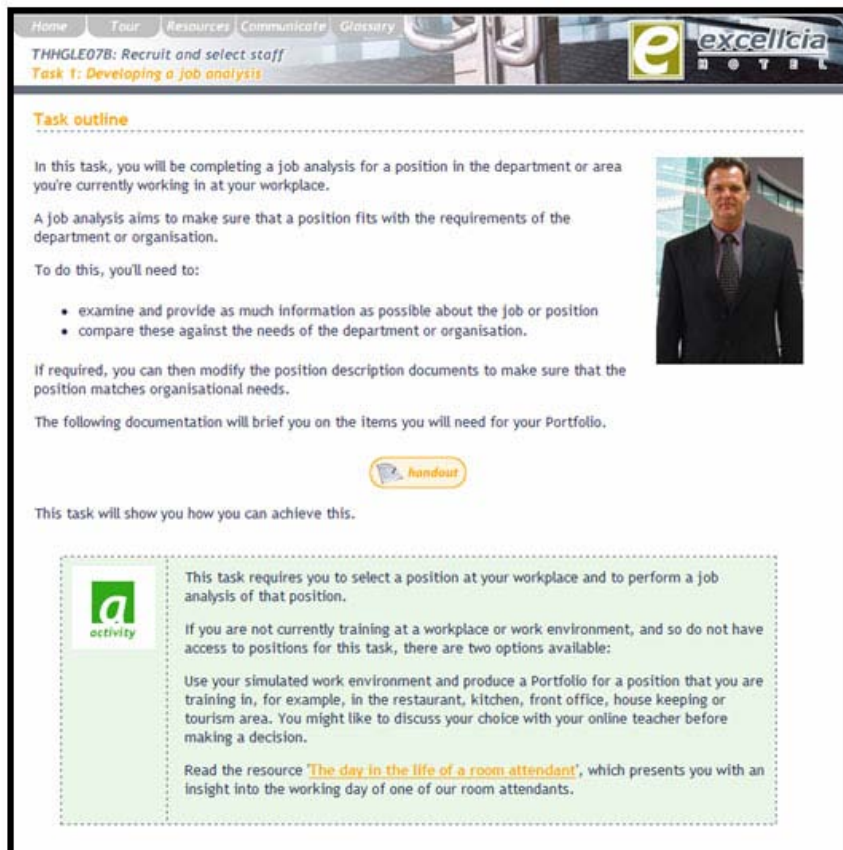
FEED	CLERK	X/TIME	7	8	9	4	8	12	PLU	RECD ACCT
%1	%2	ADD CHECK	4	5	6	3	7	11	CHARGE	PAID OUT
CANCEL	RETURN	VOID	1	2	3	2	6	10	SUB TOTAL	CHEQUE
#/NS	LAYBY	CLEAR	0	.	1	5	9	CASH/TEND		

Feedback: Try again! The first step is to log on. Do you remember the steps? Your User ID is 6 2 5.

next ➔

This example is taken from the Series 10 *Retailer Toolbox*. It shows an example of simple, immediate feedback through interactive tasks.

Example 2



The screenshot shows a web interface for 'excellcia' with a navigation bar (Home, Tour, Resources, Communicate, Glossary) and a header image of a hotel entrance. The main content area is titled 'Task outline' and describes a task for 'Recruit and select staff'. It includes a 'Task 1: Developing a job analysis' section with a 'handout' icon. A 'Task outline' section explains the task's purpose and requirements. A 'Task activity' section, marked with a green 'a' icon, provides instructions on how to complete the task, including a reference to a resource titled 'The day in the life of a room attendant'.

Home Tour Resources Communicate Glossary

THHGLE07B: Recruit and select staff

Task 1: Developing a job analysis

Task outline

In this task, you will be completing a job analysis for a position in the department or area you're currently working in at your workplace.


A job analysis aims to make sure that a position fits with the requirements of the department or organisation.

To do this, you'll need to:

- examine and provide as much information as possible about the job or position
- compare these against the needs of the department or organisation.

If required, you can then modify the position description documents to make sure that the position matches organisational needs.

The following documentation will brief you on the items you will need for your Portfolio.

 **handout**

This task will show you how you can achieve this.

Task activity

This task requires you to select a position at your workplace and to perform a job analysis of that position.

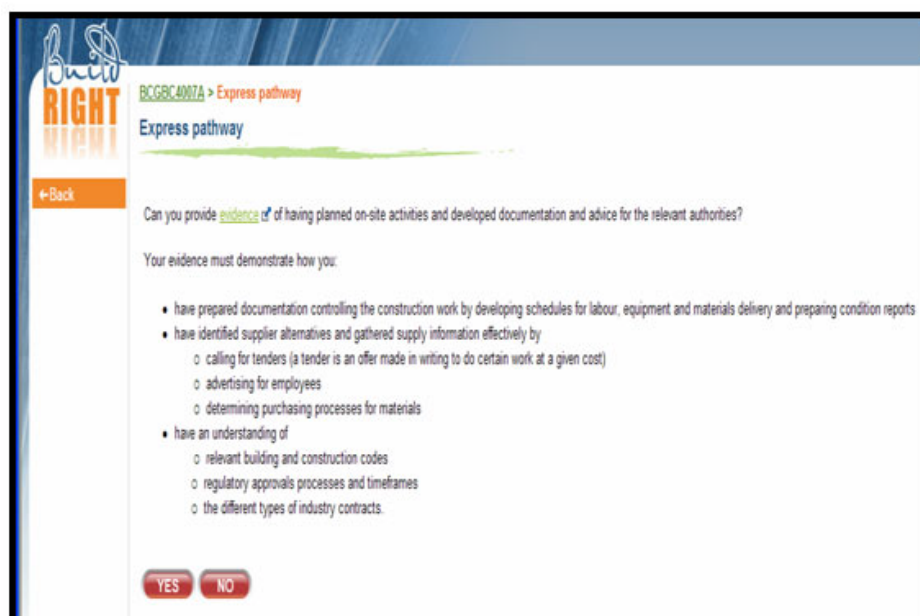
If you are not currently training at a workplace or work environment, and so do not have access to positions for this task, there are two options available:

Use your simulated work environment and produce a Portfolio for a position that you are training in, for example, in the restaurant, kitchen, front office, house keeping or tourism area. You might like to discuss your choice with your online teacher before making a decision.

Read the resource ['The day in the life of a room attendant'](#), which presents you with an insight into the working day of one of our room attendants.

This example is taken from the Series 2 *Hospitality and Tourism (Management) Toolbox*. It demonstrates a more complex summative assessment task that will need facilitator guidance and feedback.

Example 3



The screenshot shows a web interface for 'BuildRight' with a navigation bar (BCGBC4007A > Express pathway) and a header image of a construction site. The main content area is titled 'Express pathway' and contains a question about evidence of planning on-site activities. The question asks if the learner can provide evidence of having planned on-site activities and developed documentation and advice for the relevant authorities. The learner must demonstrate how they have prepared documentation, identified supplier alternatives, and have an understanding of relevant building and construction codes, regulatory approvals processes, and industry contracts. The interface includes a 'Back' button and 'YES'/'NO' buttons for the learner's response.

BuildRight

BCGBC4007A > Express pathway

Express pathway

← Back

Can you provide evidence of having planned on-site activities and developed documentation and advice for the relevant authorities?

Your evidence must demonstrate how you:

- have prepared documentation controlling the construction work by developing schedules for labour, equipment and materials delivery and preparing condition reports
- have identified supplier alternatives and gathered supply information effectively by
 - calling for tenders (a tender is an offer made in writing to do certain work at a given cost)
 - advertising for employees
 - determining purchasing processes for materials
- have an understanding of
 - relevant building and construction codes
 - regulatory approvals processes and timeframes
 - the different types of industry contracts.

YES NO

This example is taken from the Series 10 *BuildRight Toolbox*. It shows the types of questions that a learner may ask themselves before determining if they should continue with some or all of the learning resource or to alternatively seek RPL.

Template

This is an extract of Template 1: Project planner, available in full in the Appendix. Complete 1.5: Assessment strategy.

1.5 Assessment strategy

(Describe overall assessment strategy here)

Assessment Task 1	(List proposed individual assessment items here)
Assessment Task 2	(List proposed individual assessment items here)
Assessment Task 3	(List proposed individual assessment items here)
Assessment Task 4	(List proposed individual assessment items here)

Step 5: Determine the design (type 1, 2 or 3)

Now that you know what your online learning design goal is, your budget and timelines, available resources and the assessment strategies you'll employ, you are in a position to determine the learning design type that is most appropriate (See Part A: Choosing your learning design). This step has three parts:

a) Profile the target audience

Integral to choosing an appropriate design is an intimate knowledge of your target learning audience and its needs and learning preferences.

Hint:

Learner profiles can be developed through research and by consulting key stakeholders such as:

- content experts
- teachers in the field
- Industry Skills Councils
- industry representatives
- reports
- learners.

Example

Target learners

The Certificate II in Transport and Logistics (Warehousing and Storage) is mainly undertaken by those seeking an entry level qualification to work in the Transport and Logistics Industry.

Learners:

- are predominantly adult males aged in their late teens to late twenties
- vary in their levels of computer literacy
- may have other LLN needs.

Engagement strategies

To address the needs of the target learners the Transport and Logistics Toolbox must engage learners through activities that:

- are active and 'hands on'
- are simple to use and practical
- are realistic, work-based situations
- consist of short and focused activities with real-life applications
- are set in a simulated work environment
- engage the learner visually, drawing on warehousing and storage metaphors
- use language that is simple and common to those employed in the Transport and Logistics Industry.
- allow for portability of skills, and the practice of these skills in different workplace settings.

This example is an extract from a Series 10 Toolbox tender submission.

Template

See Learning design planner template below.

b) Select an appropriate design

This can be done by following the model outlined in Part A: Choosing the learning design. It encompasses considering the needs of the target audience and the details you garnered from the scoping exercise.

Example

Prepared by:	XXX
Date	9 May 2008
Brief description of learning object:	Covers the management of shed milking routines including milk harvesting, schedules, recording and working in accordance with safe work practices and industry and supplier quality assurance practices and procedures.

SECTION 1: DESIGN OVERVIEW

QUALIFICATION/COURSE:	RTE40103 Certificate IV in Agriculture
UNIT/S OF COMPETENCY	RTE4112A: Manage milking shed routines
KEY ELEMENT/S	Element 2 Manage shed milking routines

1.1 Choose 5 words that describe the industry context in which these learners work (or will work).

- Regulated
- Customer-focussed (in relation to quality assurance companies)
- Progressive
- High-tech
- Business-like/production-oriented/focussed

Be as descriptive as possible, for example; fast-paced, regulated, dynamic, production-line, competitive, customer-focused, mechanical, artistic, risky etc)

1.2 Name 5 key tasks that the learner does (or would be doing) in their job role

- Management of asset, herd-health, staff, finances
- Supervision of staff
- Recording information and operating a computer/internet to do required reporting and recording
- Forecasting
- Networking – going to seminars and updating skills, exchanging skills

When you have completed the rest of this planner, check back to your responses in (1.1) and (1.2) to ensure that you can effectively incorporate both the contextual elements and the task elements in your design.

SECTION 2: LEARNER OVERVIEW

Try to give a 'general' picture of this learner group.

2.1 What AQF level is this training?	✓
Non-accredited	
1	
2	
3	
4	✓
5 or higher	
Other:	

2.2 Typical age group	✓	Notes
Under 15	✓	
16 - 24	✓	
Mature-aged (25+)	✓	
2.3 Special considerations and/or needs	✓	Notes
Language, literacy		Spelling could be a problem
Numeracy		
Other:		IT skills may be at very basic level. Need training in frontline management.
2.4 Educational background	✓	Notes
Less than year 10		
Completed to year 10		
To year 12		
TAFE qualification (certificate/diploma etc)	✓	Most will have completed Level 3. Some come from family farm and will have RPL for level 1, 2 and 3 qualifications. Many will be share-farming and have a herd of their own (and therefore a share in the takings).
University degree		
No formal education but industry experienced		
Other:		

2.5 Current status	✓	Notes
Working in industry relevant to this study	✓	Learners have to be working and have to have supervision responsibilities.
Not working in industry relevant to this study		
Other:		
2.6 Reason for training	✓	Notes
To gain employment in chosen field		
Required by industry (eg regulatory requirement)		
Career and/or professional development	✓	
Career progression	✓	
Other:	✓	Want to own their own property

SECTION 3: LEARNING DESIGN FRAMEWORK

a. Level of learning outcome:

3.1 On completion of this training, learners should..	✓
Have a familiarity of a body knowledge ; be aware of the what/when/whom	✓
Have an ability to successfully to apply some given processes and procedures	✓
Be able to apply their knowledge to routine situations	✓
Understand things – ie realise the why/how	✓
Be able to apply their understanding to every-day situations	✓
Be aware of the relationship between the 'what' and the 'how'	✓
Have acquired a full and thorough understanding of the what/when/whom etc	✓
Be able to apply their knowledge to new and novel situations	✓
Be able to use their knowledge and understanding to solve problems and identify solutions	✓

b. Level of guidance:

3.2 With these learners, the trainer usually needs to:	✓
Provide high levels of support and structure to the learners	
Provide a detailed learning program that all learners follow	
Provide plentiful feedback to help learners see how they are progressing	✓
Provide ample opportunity for learners to practice and develop their capabilities	
Provide examples and cases that the learners can learn from Note: Case study examples are good. Tasks that involve looking at other circumstances and discussing/comparing how things are done	✓
Provide feedback that can guide and inform learners' choices	✓
Enable learners to choose some of the activities they will to learn from	✓
Provide tasks that require learners to plan their own pathways through	
Allow learners to seek guidance and assistance from others in the workplace	✓

Notes: They will all be working on dairy farms. They are highly motivated learners. They learn by doing.

c. Content Focus.

3.3 The content for this learning object is mostly about:	✓
Descriptions, terms, facts and other forms of important information Correct terminology important	✓
Policies and procedures – the 'rules' for things	✓
Practices and techniques – the 'how' things are done	✓
Developing learners' capability to do some thing(s) effectively and to required standards HR skills a big gap	✓
Developing learners' understanding of concepts – the reasoning, logical and/or theory behind things – ie the 'why'	✓
Being able to make informed decisions to apply knowledge	✓
Understanding the consequences of actions, constraints, opportunities, limits, risks etc There are stringent guidelines, codes of practice, regulations both state and industry	✓
Analysing and/or interpreting information to form an outcome	✓
Being able to think independently and creatively	✓

d. Content application:

3.4 What are learners expected to be able to do with the knowledge the gain from this learning object	✓
To arrive at a yes/no answer (eg; Is this a safety hazard?)	
Being aware of basic information required for the job role (eg what function a piece of equipment performs)	
Operate under a level of supervision, according to policy/procedure to follow instructions in order to complete a task Generally no, but could possibly apply to share farmers	
Able to consider options and decide on the best course of action	✓
Use judgement to evaluate one or more options or outcomes to arrive at the best solution	✓
Under a reasonable level of supervision, but with some autonomy	
Applying the new skills/knowledge for problem-solving or finding solutions	✓
Use the new skills/knowledge to improve practice	✓
Develop new or innovative products or practices	✓
With minimal supervision, responsible for their own productivity and outcome/s	✓

e. Learner freedom.

3.5 Which of the following describe the scope and extent of choice and discretion you expect students would be able to make and benefit from in relation to their learning:	✓
There s a set amount of important information that needs to be shown and highlighted to the learners Could be done with links to web – 'Cowtime'	✓
When applying the knowledge in this module, there will be typically be only one right way to do this	
Tasks need to be provided to assist students to digest the information they are given	
There will usually be a number of ways the knowledge and information can be applied	✓
Learners need to learn to choose and select information when applying and using it	✓
There's large amounts of information from which learners need to glean what is relevant	✓
Learners need to know how to find and use information rather than simply remember it	✓
Learners need to be able to tell when they have made the right decisions and arrived at reasonable outcomes	✓
There are many different ways for learners to learn in this unit and they have to learn to make choices	

f. Learning form.

<i>3.6 The types of activity most effective for this group would involve:</i>	✓
Doing something several times, in a variety of ways	✓
Repeatedly doing something in the exact same way to meet a standard/procedure	✓
Structured tasks that increase familiarity and awareness	✓
Open-ended tasks with variables to decide from and work with	✓
Tasks where learners need to make choices from a range of options These people have to be the decision-makers	✓
Tasks which can be done in several ways with more than one solution	✓
Tasks with a clear endpoint but lacking in structure and form	✓
Tasks requiring a level of judgement and subjectivity	✓
Tasks requiring some creativity and innovative thinking	✓

g. Learner preference.

<i>3.7 In general, these learners respond best to:</i>	✓
Following structured activities and presentations	✓
Being told and shown things	✓
Taking things in small parts eg. a 'chunk' at a time Suggestion from content expert: giving a set of notes as a powerpoint presentation so they can start to digest the notes	✓
Finding things out for themselves	
Talking and discussing with others to develop their understanding	✓
Being guided and informed by others rather than working totally alone	
Making use of their existing knowledge and expertise	✓
Working with workplace and relevant cases and tasks that are of practical value and use	✓
Being to plan things for themselves without too much input from instructors Activities such as: 'We want you to produce this much milk with these resources'	✓

h. Engagement.

<i>Choose one or more of the groups of words below that best describe the skills and capabilities you hope your learners to achieve in relation to the content they're learning</i>	✓
Define, recognise, relate, repeat	
Describe, identify, locate, recognise	
Demonstrate, illustrate, sketch, write	
Choose, interpret, operate, practice, schedule	✓
Analyse, categorise, appraise, criticise, question	✓
Calculate, contrast, experiment, test	✓
Arrange, assemble, collect, construct	
Design, compose, plan, write	✓
Develop, compose, formulate, prepare, set up	
Appraise, assess, compare, choose, estimate	✓
Judge, predict, select, value	✓
Argue, defend, support, evaluate	

SECTION 4: CHOOSING THE LEARNING DESIGN

Now review the ticks that you placed in the previous tables. For each of the variables, transfer your total number of ticks into the table below. The shading of the box you've ticked tells you which learning design type corresponds with the question.

Shading	Learning Design
	Type 1 – Task-Directed
	Type 2 – Task-Guided
	Type 3 – Task-Autonomy

	1	2	3
Level of outcome	3	3	3
Level of guidance	1	2	2
Content focus	3	3	3
Content application	0	2	4
Learner freedom	2	2	2
Learning form	3	3	3
Learner preference	3	1	3
Engagement	2	2	2
TOTALS	17	18	22

The total number of 1/2/3 ticks that you have across the eight variables should give you a clear direction as to which of the learning design types is going to be most appropriate for your object.

Learning design planner template

Learning design planner templates aim to guide learning designers in the selection of the appropriate learning design.

Step 1 - Design overview

Prepared by:	
Date:	
Brief description of learning resource:	
Qualification/course:	
Unit/s of competency:	<ul style="list-style-type: none"> • • •
Key element/s:	<ul style="list-style-type: none"> • • • •

- 1.1 Choose five words that describe the industry context in which these learners work (or will work)

Be as descriptive as possible (eg fast-paced, regulated, dynamic, production-line, competitive, customer-focused, mechanical, artistic, risky etc).

-
-
-
-
-

- 1.2 Name five key tasks that the learner does (or would be doing) in their job role

-
-
-
-
-

When you have completed the rest of this planner, check back to your responses in (1.1) and (1.2) ensure that you can effectively incorporate both the contextual elements and the task elements in your design.

Step 2 - Learner overview

Try to give a 'general' picture of this learner group.

2.1	<i>What AQF level is this training?</i>	✓
Non-accredited		
1		
2		
3		
4		
5 or higher		
Other:		
2.2	<i>Typical age group</i>	✓ Notes
Under 15		
16 - 24		
Mature-aged (25+)		
2.3	<i>Special considerations and/or needs</i>	✓ Notes
Language, literacy		
Numeracy		
Computer literacy		
Cognitive		
Disability		
Accessibility		
Hearing impaired		
Visually impaired		
Mobility		
Cultural		
Location (remote)		
Other:		
2.4	<i>Educational background</i>	✓ Notes
Less than year 10		
Completed to year 10		
To year 12		
TAFE qualification (certificate/diploma etc)		
University degree		
No formal education but industry experienced		
Other:		
2.5	<i>Current status</i>	✓ Notes
Working in industry relevant to this study		
Not working in industry relevant to this study		
Other:		
2.6	<i>Reason for training</i>	✓ Notes
To gain employment in chosen field		
Required by industry (eg regulatory requirement)		
Career and/or professional development		
Career progression		
Other:		

Step 3 - Learning design framework

The following section relates to some variables that can impact on your choice of learning design. You can read about these in the Part A: *Choosing the learning design*. For each variable, you are asked a question and then given a list of responses. You need to decide which of the responses best apply to the intended learner cohort for your learning resource.

To the right of each response is a box - you'll notice that these are different shades of grey. This shading relates to the learning design type that corresponds with the response. For example, in variable (a) Level of learning outcome; the response 'Be able to apply their knowledge to routine situations' indicates a Type 1 design, where the response 'Be able to apply their knowledge to new and novel situations' indicates that a Type 3 design.

Please tick only those responses that apply for your learner cohort. You may need to undertake some research, and/or speak with a trainer experienced in delivering this area of training, to help answer some of them.

When completed, each variable should look something like this:

x. Title of variable

x.1 Opening question:	✓
Response 1	
Response 2	✓
Response 3	
Response 4	
Response 5	✓
Response 6	✓
Response 7	
Response 8	

a. Level of learning outcome

3.1 On completion of this training, learners should...	✓
Have a familiarity of a body knowledge ; be aware of the what/when/whom	
Have an ability to successfully to apply some given processes and procedures	
Be able to apply their knowledge to routine situations	
Understand things – ie realise the why/how	
Be able to apply their understanding to everyday situations	
Be aware of the relationship between the 'what' and the 'how'	
Outcomes relate more to how to use knowledge than knowledge itself	
Be able to apply their knowledge to new situations and problems	
Be able to use their knowledge and understanding to analyse situations and to apply creative solutions	

b. Level of guidance

<i>3.2 With these learners, the trainer usually needs to...</i>	✓
Provide high levels of support and structure to the learners	
Provide a detailed learning program that all learners follow	
Provide plentiful feedback to help learners see how they are progressing	
Provide ample opportunity for learners to practice and develop their capabilities	
Provide examples and cases that the learners can learn from	
Provide feedback that can guide and inform learners' choices	
Enable learners to choose the activities they need to learn from	
Provide tasks that require learners to plan and structure their own pathways	
Allow learners to choose the sources of their guidance and assistance	

c. Content focus

<i>3.3 The content for this learning resource is mostly about:</i>	✓
Descriptions, terms, facts and other forms of important information	
Policies and procedures – the 'rules' for things	
Practices and techniques – the 'how' things are done	
Developing learners' capability to do some thing(s) effectively and to required standards	
Developing learners' understanding of concepts – the reasoning, logical and/or theory behind things – ie the 'why'	
Being able to make informed decisions to apply knowledge	
Understanding the consequences of actions, constraints, opportunities, limits, risks etc	
Ways to apply and use information rather than learning information	
Being able to think independently and creatively	

d. Content application

<i>3.4 What are learners expected to be able to do with the knowledge they gained from this learning resource</i>	✓
To arrive at a yes/no answer (eg Is this a safety hazard?)	
Being aware of basic information required for the job role (eg what function a piece of equipment performs)	
Operate under a level of supervision, according to policy/procedure to follow instructions in order to complete a task	
Able to consider options and decide on the best course of action	
Use judgement to evaluate one or more options or outcomes to arrive at the best solution	
Under a reasonable level of supervision, but with some autonomy	
Applying the new skills/knowledge in novel settings requiring judgment	
Use the new skills/knowledge to improve practical performance	
Develop new or innovative products or practices with minimal supervision	

e. Learner freedom

<i>3.5 Which of the following describe the scope and extent of choice and discretion you expect students would be able to make and benefit from in relation to their learning:</i>	✓
There is a set amount of important information that needs to be shown and highlighted to the learners	
When applying the knowledge in this module, there will be typically be only one right way to do this	
Tasks need to be provided to assist students to digest the information they are given	
There will usually be a number of ways the knowledge and information can be applied	
Learners need to learn to choose and select information when applying and using it	
There's large amounts of information from which learners need to glean what is relevant	
Learners need to know how to find and use information rather than simply remember it	
Learners need to be able to tell when they have sufficient information to solve the problem at hand	
There are many different ways for learners to learn in this unit and they need to make choices	

f. Learning form

<i>3.6 The types of activity most effective for this group would involve:</i>	✓
Doing something several times, in a variety of ways	
Repeatedly doing something in the exact same way to meet a standard/procedure	
Structured tasks that increase familiarity and awareness	
Open-ended tasks with variables to decide from and work with	
Tasks where learners need to make choices from a range of options	
Tasks which can be done in several ways with more than one solution	
Tasks with a clear endpoint but lacking in a defined or preset process	
Tasks requiring a level of analysis, judgement and subjectivity	
Tasks for which there will be many successful solutions and outcomes	

g. Learner preference

<i>3.7 In general, these learners respond best to:</i>	✓
Following structured activities and presentations	
Being told and shown things	
Taking things in small parts eg a 'chunk' at a time	
Finding things out for themselves	
Talking and discussing with others to develop their understanding	
Being guided and informed by others rather than working totally alone	
Making their own decisions and choices about what has to be learned	
Working with workplace cases and tasks to discover solutions to problems	
Being able to plan things for themselves without requiring input from instructors	

h. Engagement

3.8	<i>Choose one or more of the groups of words below that best describe the skills and capabilities you hope your learners to achieve in relation to the content they're learning</i>	✓
	Define, recognise, relate, repeat	
	Describe, identify, locate, recognise	
	Demonstrate, illustrate, sketch, write	
	Choose, interpret, operate, practice, schedule	
	Categorise, appraise, criticise, question	
	Calculate, contrast, experiment, test	
	Arrange, assemble, collect, construct	
	Design, compose, plan, write	
	Develop, compose, formulate, prepare, set up	
	Appraise, assess, compare, choose, estimate	
	Analyse, judge, predict, select, value, create	
	Argue, defend, support, evaluate, synthesise	

Step 4 - Choosing the learning design

Now review the ticks that you placed in the previous tables. For each of the variables, transfer your total number of ticks into the table below. The shading of the box you've ticked tells you which learning design type corresponds with the question.

Shading	Learning Design
	Type 1 – Task-directed
	Type 2 – Task-guided
	Type 3 – Task-autonomy

	1	2	3
Level of outcome			
Level of guidance			
Content focus			
Content application			
Learner freedom			
Learning form			
Learner preference			
Engagement			
TOTAL			

The total number of 1/2/3 ticks that you have across the eight variables should give you a clear direction as to which of the learning design types is going to be most appropriate for your learning resource.

If you find that you have a close result, for example; you had 11 ticks for '1' and eight ticks for '2', then that most likely indicates that your learning design should be predominantly a Type 1, but that it may be appropriate to consider some Type 2 design strategies. To learn more about these design types, please refer to the *Choosing the learning design* section of this report:

- Discrete learning designs.
- Choosing the learning designs and learning.
- Design Type 1 to Type 3.

Macro planning

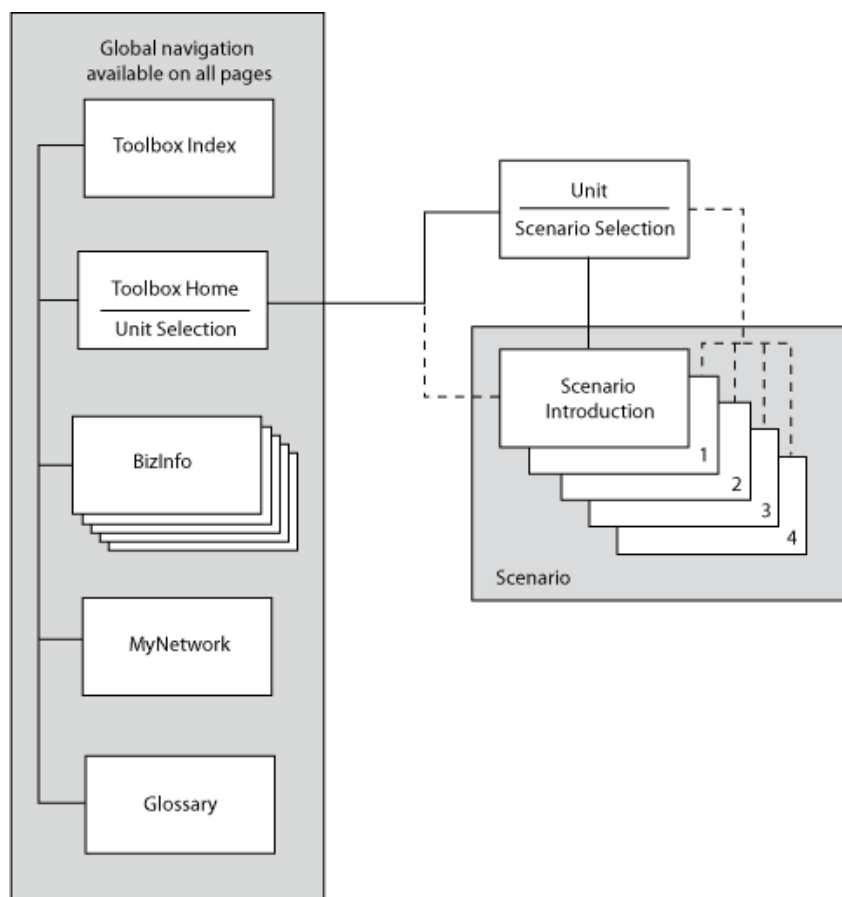
After you have determined the design type, you can apply it to your initial design concept – your basic learning sequence. The learning sequence describes how the learning will be presented ie the role of the element/s, performance criteria, scenario and tasks.

Hint:

To develop your learning sequence:

- describe the context in which the skills are applied
- decide what type of learning would support or replicate this effectively online, ie. would learners work through elements in a step-by-step sequence, would their work involve problem solving, would they be serving a customer, would they research information
- select a basis for the learning sequence, ie a central case study, scenario based, a series of steps to complete, a problem to solve
- describe how the elements and/or performance criteria fit into this sequence
- describe the level of guidance you will provide for learners and the role they and their facilitators will take.

Example



This example is taken from the Series 11 *Microbusiness Toolbox*. It shows the flowcharting of the early planning stages where the designer determines how the learning resource will be broken up, the coverage of elements and the learning sequence that will be followed throughout.

Template

Macro planning the learning sequence

Context in which the skills are applied.	
What type of learning would support or replicate this effectively online?	
The basis for the learning sequence.	
The role of elements and/or performance criteria in this sequence.	
Type and level of guidance provided (including role of facilitators).	

Now try flowcharting these ideas to demonstrate how the learning sequence might work. Refer to examples if you need some help. You can use this space to plan your flowchart.

Step 6: Identify the learning design features

Depending on the grain size of your design, you may want to include a range of features, as outlined in Part A: Discrete features of a learning design. Here are some examples of features that could be included in an online learning resource:

Feature	Description
Context	The setting for the learning resource, eg a simulated workplace, a metaphor or a theme.
Guidelines	Instructions, steps or guidance for the learner about how to work through the learning resource
Goal	The task/s which the learning resource is based around or which a learner can complete. This could be a problem to be solved, a scenario or a case study, for example.
Activities	Sub-tasks a learner can complete in order to gain the required skills and knowledge to complete the larger task/s.
Learning supports	Resources that learners can access to assist them in completing tasks, eg content, background information, resources, links, references.
Glossary	List of terms and definitions related to the learning resource.
Mapping (if applicable)	If the learning resource covers part or all of more than one unit of competency, or is based on a task rather than a unit, the relationship between them should be clearly explained to the learner and/or teacher.
Practical application	A link between the tasks/s in the learning resource and the workplace that can assist the learner in transitioning or applying the skills in a realistic setting. This may also be used as evidence towards assessment.
Collaboration tool	Topics and/or methods for learners to interact and share ideas.
Assessment	Tool to assist teachers or assessors in determining a learner's competence or, alternatively, readiness for more formal assessment of competence, depending on the scope of the learning resource.

Hint:

Not all of these features will be used in every design. Select the appropriate features you want to include, whilst considering the learning design type you have chosen, the content and the target audience.

Example



This example, from the Series 10 *Retailer Toolbox*, shows the interface which describes the various supports and features the design contains.

Template

Features of the learning design

Select the features you want to include in your design.

√	Feature	Details
<input type="checkbox"/>	Context	
<input type="checkbox"/>	Guidelines	
<input type="checkbox"/>	Goal	
<input type="checkbox"/>	Activities	
<input type="checkbox"/>	Learning supports	
<input type="checkbox"/>	Glossary	
<input type="checkbox"/>	Mapping (if applicable)	
<input type="checkbox"/>	Practical application	
<input type="checkbox"/>	Collaboration tool	
<input type="checkbox"/>	Assessment	

Step 7: Micro planning the learning sequence

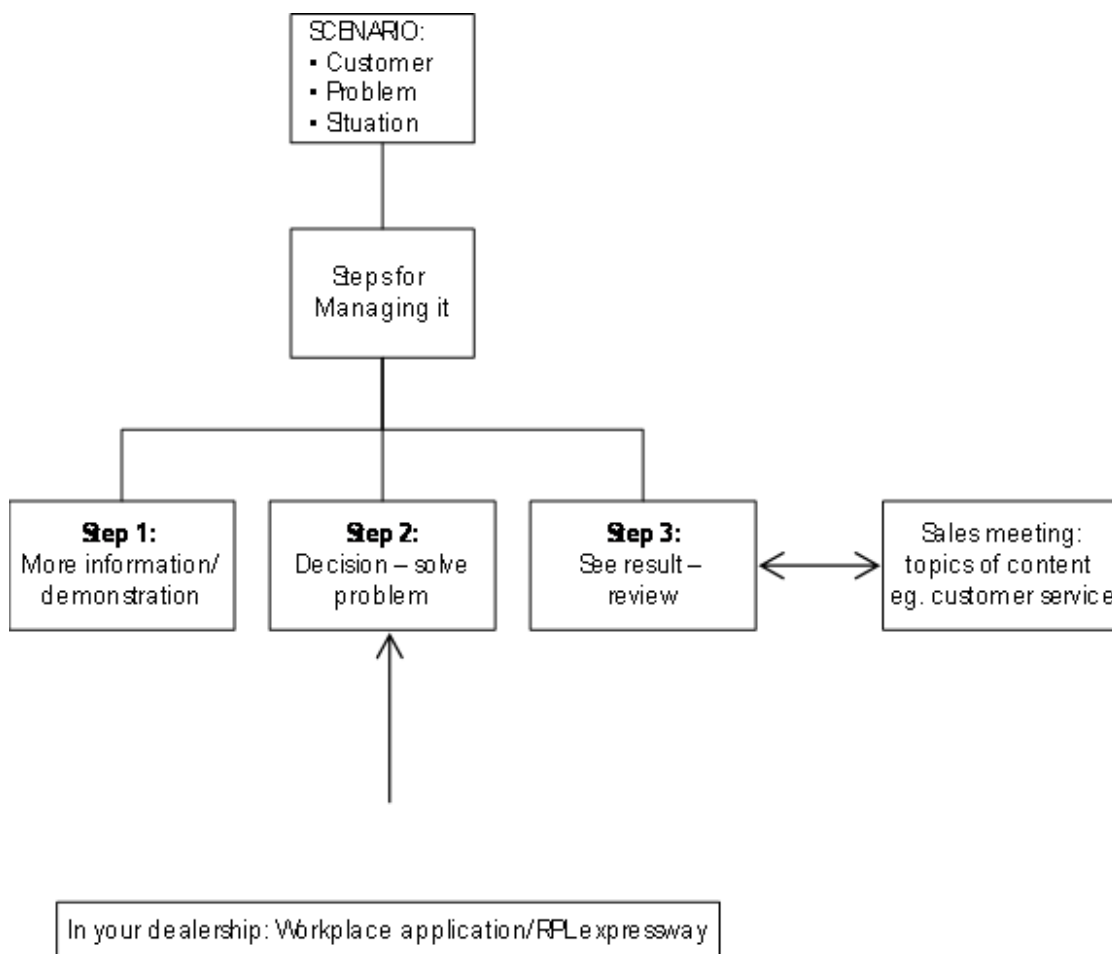
Whilst some of this planning may have already occurred, especially for a larger resource development project, such as a website or CD, in step 5, it is at this stage that you'll take a closer look at each of the individual learning resource which encompass the overall design.

How will the features you selected in Step 6 work together to create a meaningful learning sequence?

Hint:

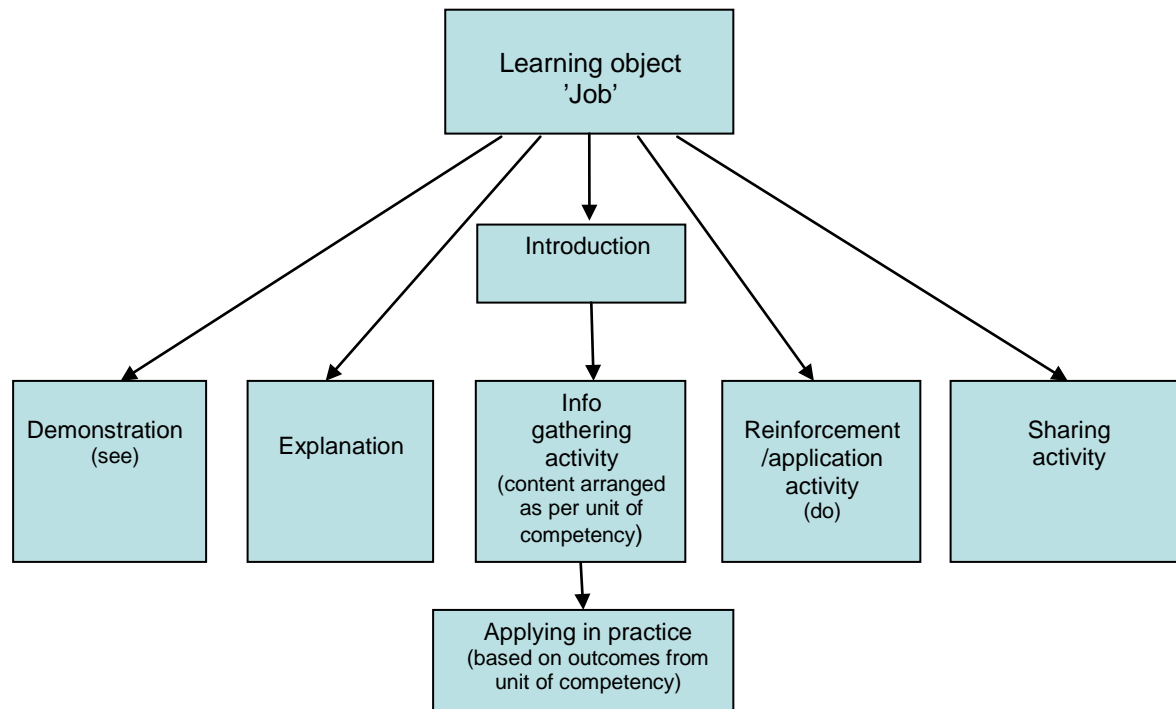
Try creating a map or flowchart indicating how and where the features you selected will fit in the learning resource(s). Again, remember to consider the learning design type you have selected.

Example 1



This example is from the Series 11 *Automotive Sales Toolbox* tender submission – sample learning sequence. It shows an example of how design features have been selected and flowcharted to indicate the learning sequence of a collection of learning resources. Note that this is demonstrated here for an entire Toolbox and may not be indicative of a single learning object.

Example 2



This example is from the Series 9 *Automotive Toolbox*. It demonstrates how design features have been selected and flowcharted to indicate the learning sequence of a collection of learning objects.

Template - Flowcharting the learning sequence

Draw a diagram to demonstrate what role the selected features will play in the design and how they fit together to show a learning sequence (step 8). Note that the flowcharting done in step 5 could be combined with this flowchart, if desired.

Features:

Context
Guidelines
Task
Activities
Learning supports
Glossary
Mapping
Practical application
Collaboration tool
Assessment

Flowchart:

Step 8: Select interactions

Whilst you may have had some ideas about interactions and applications in the initial planning steps of the design process, it is at this stage that you need to consolidate these ideas and determine where they fit into your now detailed plans.

In the VET sector, applications that can simulate workplace tasks are powerful teaching and learning tools, however, your choices may be limited by:

- expertise
- cost
- time
- available software.

Analysing existing resources on the internet is a good reference point when you are looking for ideas about multimedia applications. Look at the resources available in LORN⁸ and Toolboxes⁹.

Hint:

What multimedia applications, activities could be included in your learning design? Remember to consider your target audience – their preferred learning styles, literacy, numeracy and computer skills.

⁸ <http://lorn.flexiblelearning.net.au>

⁹ <http://flexiblelearning.net.au/toolbox>

Example

Types of learner interactions

The following is a list of examples of possible online learner interactions. Your design should not be limited to these examples. Select the interactions you may want to include in your design (Step 9).

√	Interactions
<input type="checkbox"/>	Existing reusable applications, such as ARED ¹⁰ or any in-house design tools
<input type="checkbox"/>	Quiz
<input type="checkbox"/>	Online debate
<input type="checkbox"/>	Threaded discussion
<input type="checkbox"/>	Bulletin board
<input type="checkbox"/>	Flickr/Slideshare – sharing via graphics
<input type="checkbox"/>	Wiki
<input type="checkbox"/>	Text messaging
<input type="checkbox"/>	Podcasting
<input type="checkbox"/>	Research including web quests
<input type="checkbox"/>	Online search
<input type="checkbox"/>	Role play
<input type="checkbox"/>	Video demonstration
<input type="checkbox"/>	Interactive panorama
<input type="checkbox"/>	Collaborative projects
<input type="checkbox"/>	Portfolio development and peer review
<input type="checkbox"/>	Email games

¹⁰ ARED is a Framework e-learning development tool designed to allow teachers and trainers with little more than basic computer skills to easily build their own e-learning resources. It is available at: <http://flexiblelearning.net.au/ared>

Step 9: Identify media

Once you know what interaction you will be developing, you can begin an inventory of the media you'll need to collect to populate them. This will include:

- images
- video
- voiceovers
- sound effects
- music.

Hint:

Anticipating some of these things now may help you to staff and resource the project in its early stages, before storyboarding commences.

Example

(NA)

Template

This is an extract of Template 1: Project planner, available in full in the Appendix. Complete 1.6: Proposed media/applications.

1.6 Proposed media/applications

(List ideas for the types of media, images, applications, other resources that might be required in the development.)

Software/hardware/staffing implications:	
--	--

Step 10: Validate the design

It is vital, at this stage of the project, to submit your design plans to a range of key stakeholders for feedback. This is important for a number of reasons:

- It creates “buy-in” so that you can maximise uptake of the product upon completion.
- It validates content – this is particularly important if you are outsourcing this aspect of the project.
- It minimises the need for major design changes later in the project when much time and expense has already been invested.
- It ensures the product meets the needs of the target audience.
- It identifies any errors or problems in the design at an early stage.

Key stakeholders might be internal or external to the project and could include:

Internal stakeholders:	External stakeholders:
Project Manager	Teachers
Multimedia team/developers	Industry
Mentor/colleagues	Industry Skills Council

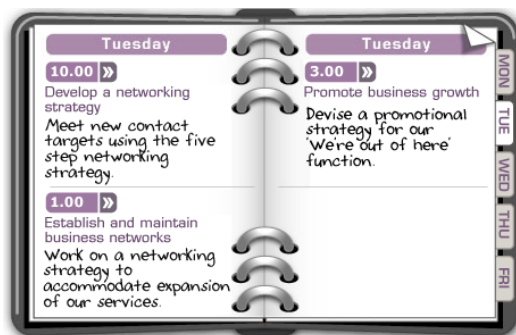
Hint:

You may need to modify your design several times, and for a range of reasons, before coming up with a final version that meets the needs of all stakeholders. This step might need to be repeated throughout the steps.

Case study

The Series 9 *Employment Consultant Skills Toolbox* provides training for people working in or planning to work in the employment services industry. The initial interface idea was to provide an interactive PDA (personal digital assistant) for user navigation. However, once industry experts were consulted the feedback was that although the PDA was ‘cutting edge’ technology of the day, which few consultants actually used them and so would not identify with the device.

The interface was subsequently changed to the diary interface shown below reflect how employment consultants organised their work.



<http://toolboxes.flexiblelearning.net.au/series9/903.htm>

Reviewer forms

Reviewer forms can be used to gather feedback at all stages of a project. They can be issued to reviewers on an individual basis or used to record focus group comments.

Example reviewer survey

Our project team would appreciate your views on a learning resource currently being developed for ...

Please tick yes, no, or not sure for each question and write any extra comments in the spaces provided.

Images/graphics	Yes	No	Not sure
1. Are the images/graphics clear and uncluttered?			
2. Are the images/graphics appealing to the target audience?			
3. Are images/graphics realistic for the industry context?			
4. Do images/graphics avoid stereotypes?			
5. Are the images/graphics of people inclusive (such as, different cultures, ages and/or genders)?			
Comments regarding the images/graphics			
Activities	Yes	No	Not sure
6. Are the requirements clear for each of the activities?			
7. Is the strategy for assessment of competency adequately explained?			
8. Are the requirements clear for the communication and collaboration activities?			
9. Are the activities designed to actively engage and challenge learners rather than transmit information?			
Comments regarding the activities			

Resources	Yes	No	Not sure
10. Are the requirements clear for use of the resources, such as the information in the Support section?			
11. Is the amount of information given enough to help the learner do the activities?			
12. Is the content accurate?			
Comments regarding the resources			
Industry context	Yes	No	Not sure
13. Is the content relevant to the element of competency (including the performance criteria, range of variables and required skills and knowledge)?			
14. Is the content relevant for the industry context?			
15. Is the language and content used appropriate for the target audience (including those with language, literacy and numeracy challenges) at the particular certificate level?			
Comments regarding the industry context			
Summary			
16. What do you like about the product?			
17. What do you dislike about the product?			
18. Is there something missing from the content? (Circle one) YES NO If YES, what should be added?			
19. Any other comments			

Thank you for your time in reviewing this product. Please return this form to [insert email address or a street address where this form is to be sent to]

PART C: STORYBOARDING

Working effectively in teams

Often you will need to work with other people to develop a complete learning resource. For example, you may need someone to take and edit photographs, provide content, draw diagrams or build multimedia applications.

Sometimes the people you need to work with are located close by, so communicating what you want isn't very difficult. At other times, they may be located across town, interstate or overseas.

This section contains useful information about how to work effectively when you are collaborating with other people to produce a learning resource.

Even if you are working completely on your own, some of this information will still be useful. For example, if you have to hand over what you have been working on to someone else to complete on your behalf.

Storyboarding

What is a storyboard?

A storyboard is a set of instructions that will be accessed by the development team of a learning resource. It is the blueprint for what content, images and interactions will be in the learning design and how it should look, and is compiled by the instructional designer/writer.

Storyboard templates are like all other training documents in that they are unique to the organisation, the people using them and the purpose of the materials development. Each multimedia team has its own style of storyboard they prefer to work with; some prefer to work with tables, others use a word-processed document, images or thumbnail sketches.

- The style and format will need to be negotiated between the multimedia developer/s and the learning designer. However, most storyboards have the same features in common.
- Header – includes details about the team, name of the project, unit / pathway / or learning resource name, date, personnel.
- Page number – the number (sequence) of the screen.
- Content – text to be placed on each screen.
- Instructions – guidelines to various personnel in the development team about how to treat the content.
- Personnel responsible – who is responsible for each of the instructions.
- Application name/description – details of what multimedia application is required on each screen.
- Application content – explicit content to be placed in the application and instructions about where, in the learning resource, this content goes.
- Images, audio, video required – either details of multimedia required or location of the file for existing multimedia.
- Opportunity for feedback – dates, including time for feedback from various personnel about the initial storyboard plan.

Storyboards are the main form of communication between development team members but it's important to be aware that storyboards may change often and can form part of broader discussions about the development of the learning design. Whilst they may be the blueprint, they should by no means be static and may need to be revisited often in the life of the learning design development.

Benefits of storyboarding:

- Limit communication problems and misunderstandings.
- Assist in timelines, scheduling and division of work.
- Are useful when learning designers are not located in the same place.
- Provide documented evidence of what is in the learning design for audit purposes.
- Are useful documents to refer to when updating the learning design.

Challenges of storyboarding:

- Version control problems due to the to and fro nature of the storyboard.
- Limited face-to-face communication and collaboration.
- Need to be adjusted to suit the personnel in the development team, their preferences and the needs of project.

Project teams

The following are team members you might work with on a learning resource who will need to access and use the storyboard you write. Depending on your team's size and make-up, some of these roles will be carried out by one person, so you'll need to adjust your storyboard to suit.

- Learning designer – collaborates with content expert to initiate storyboard, works with team on design and development.
- Project Manager – checks the storyboard, does quality assurance (QA) edit on the content and instructional design, advises the team that storyboard is 'ready for designer' - sometimes there may be an editor involved at this stage, who does a full proofread/edit on the content with any changes going back to the content expert/learning designer to address.
- Graphic designer – establishes look/feel of the learning resource and does all illustrations, graphics etc as required in the storyboard.
- Multimedia developer – undertakes programming etc required to 'build' the learning resource as per the storyboard.
- Desktop publisher – carries out any work required for print-based resources eg Word documents etc used within the learning resource.
- Audio-visual producer – produces and develops any audio or video components required in the learning resource as per the storyboard.

All teams have their own approach to storyboards. Here's how one team works:

Case study:

"Our process is basically that each team member does an initial 'skim' of the storyboard to read through the content and get a 'feel' for what the learning resource (or task/activity etc) is all about. They then look for the instructions from the learning designer that are within the storyboard - these are colour-coded for each person eg pink for learning designer (DEV), green for graphic designer (GD), blue for desktop publisher (DTP) etc. GD - looks for instructions re illustrations, colours required, styles eg heading 1/2, rollover states etc that require a colour scheme, checks specs/info re required sizes etc, DEV - identifies content for HTML development, checks for any programming requirements (eg javascript, flash etc) - everybody looks for their part in there. The storyboard needs to be very detailed and specific and serves as a 'master plan' for the whole team to follow."

Sample storyboards

The following are sample storyboards showing the styles often used by development teams.

Sample 1

This sample lays out the information in a table and provides instructions to development team members through a colour-coded system. You may need to add/move colours to cover the various team-members involved in creating a learning resource, or use a role code system without colour.

This example is an excerpt from a storyboard for a complete learning object.

Unit: RTE4112A:Manage milking shed routines Title: Manage shed milking routines Project Manager: XXX Author (ID): XXX Content Developer/Writer: XXX Storyboard version: Version 3	Key: Pink = Development notes Blue = GD : Notes for Graphic designer Green = CW : Notes for content developer/writer Orange = DTP : document to be formatted Black = Text seen on screen/print Red = Areas needing attention (work in progress)
--	---

Learning object home page starts

Resource name appears at top of page 'Paddock to Processor' in large letters with 'total milk harvesting' underneath in smaller letters.

Welcome to **Paddock to Processor**. This resource is about managing shed milking routines. You can find out about:

- milk harvesting routines, schedules and recording requirements
- safe work practices
- industry quality assurance practices and procedures.

Choose Learning to start. If you already have skills and knowledge in managing shed milking routines, **choose Recognition to find out more about skills recognition**.

GD: 'Learning' and 'Recognition' options presented via graphic representing two tracks – graphic to replicate flow chart arrow idea and carried through to other pages (as discussed with GD). Track 1 is the recognition track (for learners who wish to use recognition pathway and possibly apply for skills recognition) and track 2 is learning track (for learner who wish to do the activities and assessment items).

Note: Text alternative may be necessary depending on how graphic is produced. Learner needs to be able to select Learning track or Recognition track.

Learner chooses either Learning track or Recognition track.

Learning object home page ends

Learning track – intro start

Global menu items to appear on all page:

Learning Home, Recognition Home, Activities, Info, Assessment

Welcome to the Learning track. As you work through this resource, you will examine the milk harvesting system for your workplace.

You will review or establish standard operating procedures (**link to** document explaining what SOPs are –can use <http://www.thepeopleindairy.org.au/resources.htm> - use document template (GD to provide) in these areas:

- before milking
- during milking
- after milking.

You can read over the assessment requirements by choosing Assessment from the menu, or choose a link from the flowchart to work through some learning activities. (nb these instructions assume global nav. Is at top of page and flow diagram is below)

Prepare Process flowchart that includes pre milking, milking, post milking and system review stages. Please change total routine to system review in graphic.

May need text alternative depending on how this is built.

Insert flowchart diagram here. Learners choose option from flowchart representing pre-milking, milking, post-milking and system review stages.

Learning track – intro ends

Pre milking pages start

Describes pages if pre-milking selected from flowchart interface

Page 01 – Introduction starts

There's lots to be done before milking starts. Having work routines with standard operating procedures helps make sure all tasks are done in a safe and efficient manner.

Choose an activity. If you're ready, go straight to the pre milking assessment.

Activity page as developed in mock-ups but add an introduction tab on left hand side of page, global nav needs to go in on all activity pages and Total routine changed to System review

Page 01 – Introduction ends

Pre milking page 02 – Activity 1 starts

H1: Examining processes

Text: In this activity you will look at some common pre milking processes and how these processes relate to work routines and standard operating procedures.

Part A

- Open the interactive [pre milking flowchart](#) link to pre milking flowchart based on document: [premilking_flow.bmp](#) – extra information required on each step in the flowchart, plus safety check information and short QA requirements.
- Select the steps of the flowchart for more information.
- Are there differences between what's shown in the flowchart and the pre-milking setup in your workplace eg missing steps, additional steps? Write down any differences and then do Part B.

Part B

You've identified the steps in pre milking for your workplace, now it's time to think about the work tasks involved.

- Is one person able to perform all the pre-milking tasks? If not, how many people are required? Which tasks would each person be responsible for? Why?

All the tasks that a person is responsible for could be called a work routine eg on a rotary dairy a work routine for one person might include: identifying and documenting cows unsuitable for milking and performing tasks such as udder preparation and cupping on.

- For an introduction to safe work practices and work routines, watch the Pits and People video from the CowTime Dairy Decisions CD. **(Note from ID: CowTime resources have been included at content writer's request. Use of these resources in this learning object assumes that all learners have the Cowtime Resource. Video is 58mb and runs for 16 mins 43 secs)**
- For further information about work routines read Quick Note 2.2. **(Note from CW: can we make this into an audio file?)**
- Discuss work routines with a small group of other learners. Focus your discussions round ways you could standardise work routines eg making routines that are safe, efficient, evenly divide work tasks amongst the workers.
- Make a summary of your group's discussion and share your summary with other groups.

You should now have the knowledge you'll need to write standard operating procedures.

Pre-milking page 02 – Activity 1 ends

Pre-milking Page 03 - Activity 2 starts

H1: Standard operating procedures

Text: Standard operating procedures (SOPs) are written so that work routines can be performed in a consistent manner. In the dairy industry, all procedures must comply with relevant standards such as occupational health and safety (OHS), food safety, quality assurance, and environmental impact.

This activity introduces SOPs and demonstrates their importance.

Part A

- Write down the steps you would follow to make a cup of coffee, white with two sugars, in your workplace and post the steps to your discussion area. Remember to consider OHS, food safety, quality assurance and environmental impact.
- Examine what others have posted in the area. Look at the variations between your response and some of the others. Think about why there are variations. Discuss why there are variations.

Part B **(Each part to be revealed once selected).**

Your goal is to write a procedure so that the coffee is always made to the required standard.

Select an area to see what's important.

As discussed, interactive diagram so that when user selects an area, information is revealed.

Area	Information
Resources	In this kitchen, there is instant coffee, kettle, white sugar, full-cream milk, 250 ml mug, and teaspoon.
Order that the steps are done in	The order in which the steps are performed is also important, eg does the milk go in before or after the water?
Who does it	Who makes the coffee is important to know, eg Who is allowed to do it? Who is responsible for doing it?

Safety	Are there particular hazards to consider, eg electricity, heat?
--------	---

Open the standard operating procedure ([link to sop_template.doc](#)) template. Write a position description for the person making the coffee and the procedure to be followed to make a standard cup of coffee.

Pre-milking Page 03 - Activity 2 ends

Pre-milking Page 04 – Activity 3 starts

H1: Staffing issues

Text: Oh no! Your farm hand has got the cows in and has just let you know that the shed hand rostered on hasn't turned up for work! What are you going to do?

Discuss with other learners what you do in your workplace about:

- staff rosters
- how you let staff know when/where they are working
- how you let staff know about any changes to the roster
- coping when someone doesn't come in to work.

Have a look at the information section to find out more.

Pre-milking Page 04 - Activity 3 ends

Pre-milking information section start

- Read about standard operating procedures ([link to SOP document - CW to create](#))
- Look at this example of a staffing roster. ([link to roster to be written by CW](#))
- Look at examples of a pre milking SOP ([link to pre_milking_routine.doc DTP to format](#)) and a start up SOP ([link to startup_routine.doc DTP to format](#))
- Listen to this dairy farm manager talk about staff rosters. ([link to audio interview to be recorded – script to be written by CW](#))

Pre-milking information section end

Pre-milking assessment section start

H1: Assessment requirements

This assessment task requires you to write standard operating procedures for pre-milking work routines in your workplace.

More information about assessment ([Link to Assessment page](#))

Pre-milking assessment section end

Pre-milking pages end

Note: The completed storyboard would include milking, post-milking and system review stages.

Sample 2

This sample shows a less visual and more text-based storyboard. It doesn't include any formatting regimes, enabling the multimedia team to cut and paste the content as appropriate. This type of storyboard would suit a team working in close proximity that can easily communicate ideas and requirements. It would also suit a team where the writer or learning designer has limited experience in online development and would be more comfortable concentrating on the content. It may, on the other hand, be a preliminary storyboard which could precede a more complex storyboard like the one shown in Sample 1.

Unit: BSBSMB301A Investigate micro business opportunities

Element 1: Describe business ideas

Page description	Notes
<p>Interface and entry screen 01 (before post it note selection)</p> <p>Images (left hand side): Six 'post it' notes. Each post it note has one of the following written on it:</p> <ul style="list-style-type: none"> Investigate opportunities Develop a proposal Organise finance Source information Comply with regulations Home <p>Images (right hand side): Alternating images of five individual faces and introductory text.</p> <p>Welcome to Be Your Own Boss, the Toolbox to help you learn about running a micro business.</p> <p>Select a 'post it' note for an introduction to the topic, then choose 'get started' to begin learning. Or, choose 'to do' from the top menu to see all the topics.</p> <p>If you already have skills, knowledge or experience in setting up a micro business, you can explore the recognition pathway in the top menu.</p>	<p>Images (right hand side): The five alternating faces are five individuals used in the scenarios throughout the Toolbox.</p> <p>The selection of each unit of competence will result in the presentation of a different scenario. Suggested scenarios are:</p> <ul style="list-style-type: none"> Handy man (male) (unit - investigate business ideas) Personal trainer (male) (unit - resource requirements) Walking tours (female) (unit – proposal or regulations) Beauty therapy (female) (unit - finances) Nursery business (unit – proposal or regulations) <p>Backgrounds of persons in above scenarios:</p> <ul style="list-style-type: none"> Retrenched person (handy man) Skilled young person – ambitious (personal trainer) Person wanting to turn hobby into profession (walking tours) Unemployed person (beauty therapy) Indigenous Australian (nursery business) <p>Suggested businesses/people for scenarios:</p> <ul style="list-style-type: none"> Handyman - ? Personal trainer, Immortal fitness - Byron Walking tours, Walk to art – Bernadette Beauty therapy – suggestion by Rod Cook, ex student Nursery business – NSW reference group contact
<p>Interface and entry screen 02 (after 'Investigate opportunities' post it note selected)</p> <p>Image: Photograph of Barry</p> <p>Text: "After being retrenched from my job, I thought long and hard about what to do. I'd been doing some small maintenance jobs around the house, and also for friends, when one of them said, "Thanks Barry, I tried to get a tradie in to do that job, but do you know how hard it is to get someone interested in small jobs? They only want to do the big ones." It got me thinking and I started looking into some <u>business ideas</u> and quickly I realised I needed to <u>identify my market</u> and think about <u>things that might affect the market in the future</u>. There sure was a lot to</p>	<p>The learner is presented with the scenario of Barry, a home handy man who starts thinking about starting his own micro business.</p> <p>The learner can go directly to an element of the unit by selecting an underlined link in the body of the text, or go to a summary page listing all the elements by selecting the 'Get your business started' link.</p>

<p>think about! ”</p> <p>To find out more about investing business opportunities choose Get your business started.</p>	
<p>Investigate opportunities (summary page)</p> <p>Image: generic summary page image</p> <p>There are some myths that exist about successful businesses such as, ‘They just happened to be in the right place at the right time’, or, ‘They were just lucky’. Usually the reality is much different. Careful investigation, planning, commitment and passion are likely to be just a few of the reasons behind a successful business.</p> <p>Choose one of the links to find out more.</p> <p>Business ideas</p> <p>Learn more about micro business ideas and opportunities, different business types, potential customers and the range of skills needed to pursue a business opportunity.</p> <p>Identify market needs</p> <p>Learn more about using primary and secondary sources of information to research market size, requirements, trends and risk factors.</p> <p>Factors affecting the market</p> <p>Learn more about factors that might affect your market such as projected changes in population, economic activity, availability of resources and labour and movements in prices.</p> <p>If you believe you may already have the skills and knowledge associated with investigating micro business opportunities, you can choose the recognition pathway from the menu at the top of this page.</p> <p>In this storyboard, the learner chooses ‘Business ideas’</p>	<p>Image with text – no audio</p> <p>This page allows a first time user to view and access each of the areas of learning associated with the unit ‘BSBSMB301A: Investigate micro business opportunities’.</p> <p>Each of the three areas relates to an element of the unit.</p> <p>The learner can also access an RPL pathway for the unit.</p>

Wireframes

Another form of storyboarding is a wireframe. This is a thumbnail or a visual representation of that might be contained on the screen. It is used more for demonstrating how the structure and navigation work in a learning resource and usually doesn't contain detailed content.

Wireframes are often used for:

- initial planning
- presentation of concepts
- selection of a prototype from a range of concepts
- communicating with clients and stakeholders
- planning sequencing and navigation
- directing team members about where content should be provided
- identifying any artwork or media required.

Wireframes can range from simple structural drawings of the site to a high-fidelity simulation of the navigation, which has movements, functional links and complex interactions. Software is available to produce wireframes easily and efficiently, such as Adobe InDesign, Illustrator and Photoshop.

The following is an example of a simple wireframe which demonstrates what the user will see when they select from the menu on the interface.



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Functional specifications

A functional specification (also known as functional spec, specs, functional specifications document (FSD), or program specification) is the documentation that describes the resource to be developed. It is completed by the writer or instructional designer and is handed over to the developer, complete with content, media and instructions.

It is a complex form of a storyboard which combines target audience information, wireframes, flowcharts and storyboards. This type of document is often used when all of the content must be reviewed prior to development of the online product. This is typically the case when a developer and instructional designers work in isolation from one another and need all details to be documented.

Editing and proofreading can also be carried out on content using this method, before it is placed in the product by developers, minimising redevelopment and online changes to content. Sign-off of content can be obtained from clients and stakeholders using this detailed version of a storyboard.

On the other hand, a functional specification can also be a living document used as a form of ongoing communication between the various members of the team, depending on how it is implemented.

The following example demonstrates the type of information you might find in a functional specification, although format and detail will vary.

Example - Toolbox functional specification

Toolbox title:

Toolbox ID:

Developer:

Date:

Document version:

1. Amendment history table

All amendments to this functional specification document should be listed in the table below.

Any amendments to toolbox content following the initial full population of this document should be made using the 'Tracked changes' feature in Word.

Date	Document version	Task	Name and organisation
		Population of elements required for Proof of concept (POC) submission	
		Updates following feedback on POC submission	
		Document fully populated for mid-term submission to e-Works	

2. Interaction map

<Developer, please insert an interaction map on this page. The map should show the flow (learning pathways) between all key screens in the toolbox. Please identify each screen with an ID such as S1. You should also clearly identify the learning objects contained within the toolbox. I.e., clearly show the planned learning object breakdown on the interaction map.>

3. Inventory of key screens

<Developer, please list all key screens contained within this toolbox.>

Screen ID	Screen name

4. Inventory of learning objects

<Developer, please list all learning objects contained within this toolbox.>

Learning object name

5. Learner profile

<Developer, please insert a description of the learner profile for this toolbox. This information will inform quality assurance reviews of the toolbox content. Ensure that you include information in each of the following subsections.>

5.1 Knowledge and skill prerequisites

<Insert information about any knowledge and skill prerequisites that learners should have before completing this toolbox.>

5.2 Literacy level

<Provide an overview of the literacy level of the target audience. Editor will use this information to inform their reviews.>

5.3 Numeracy level

<Provide an overview of the numeracy level of the target audience. Editors will use this information to inform their reviews.>

6. AQTF learner levels

<Developer, insert the appropriate learner levels in this section. Like the learner profile information, this information will inform quality assurance reviews.>

7. Special content considerations

<Developer, please provide a brief description of any special content considerations for this toolbox. Refer to the additional guidelines in each subsection below.>

7.1 Image requirements

<Content considerations may include the need to use specific images. For example, to ensure educational soundness in a toolbox on air ventilation in houses, it may be necessary to use images of high-set wooden houses in the Queensland as opposed to low-set Edwardian brick houses in Victoria.>

7.2 Voice artist requirements

<Special consideration may also need to be given to the choice of voice artists. For example, in some toolboxes it may be most authentic to include interviews with workers from a variety of ethnic backgrounds. In such cases, it is critical to select voice artists who have culturally appropriate accents.>

7.3 Terminology requirements

<To avoid unnecessary queries and inappropriate changes, it is important that educational soundness and editorial reviewers are aware of any specific terminology decisions. If your subject matter expert has advised that particular terms need to be used, please note these decisions in the table below.>

Terminology decisions

8. Generic content

Each toolbox must include the following disclaimer and copyright text.

8.2 Disclaimer statement

The disclaimer statement should be accessed from a link on the splash page of the Toolbox.

The text must read:

The content of this Flexible Learning Toolbox product is provided for educational purposes only. No claim is made as to the accuracy or authenticity of the content.

The Commonwealth, through the Department of Education, Employment and Workplace Relations, does not accept any liability to any person for the information or advice (or the use of such information or advice) which is provided in this material or incorporated into it by reference. The information is provided on the basis that all persons accessing this material undertake responsibility for assessing the relevance and accuracy of its content. No liability is accepted for any information or services which may appear in any other format. No responsibility is taken for any information or services which may appear on any linked websites. Any business names within this Toolbox product are created for metaphoric purposes, are fictitious and do not represent or have any involvement with registered companies or people outside of this product.

8.3 Full copyright statement

The full copyright statement should be accessed from a link on the splash page of the Toolbox.

The text must read:

The views expressed in the copyright work do not necessarily represent the views of the Commonwealth of Australia.

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Conditions for the licence can be found at <http://www.aesharenets.com.au/S4>. Queries regarding the standard AEShareNet–S Licence conditions should be directed to the AEShareNet website at <http://www.aesharenets.com.au/help/support/>.

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1. The licence is limited to Australia and New Zealand.
2. You are entitled to charge a cost recovery fee for distribution or communication of the original work only if you are an educational provider and use the material within your organisation or use the material for the services of your organisation. Otherwise no fee may be charged.
3. If you Develop an Enhanced Version of the material for:
 - a. commercial distribution; you must provide a copy of the Enhanced Version and the proposed pricing for the Enhanced Version to the Commonwealth at least twenty (20) Business Days prior to distribution.
 - b. non-commercial distribution (eg cost recovery); notification is not required.

Use of this work for purposes other than those indicated above, requires the prior written permission from the Commonwealth. Requests and notification of the distribution of Enhanced Versions should be addressed to Training Copyright, Department of Education, Employment and Workplace Relations, GPO Box 9880 Canberra City, ACT, 2601 or email copyright@training.com.au.

8.4 Short copyright statement

The short copyright statement should be displayed on the footer of every page in each toolbox and learning object.

The text must read:

© Commonwealth of Australia 2010 | Licensed under AEShareNet Share and Return license

Note that the two sections of the copyright statement should be separated by a vertical line (|), as shown above.

9. Screen specifications

9.1 S0: wireframe

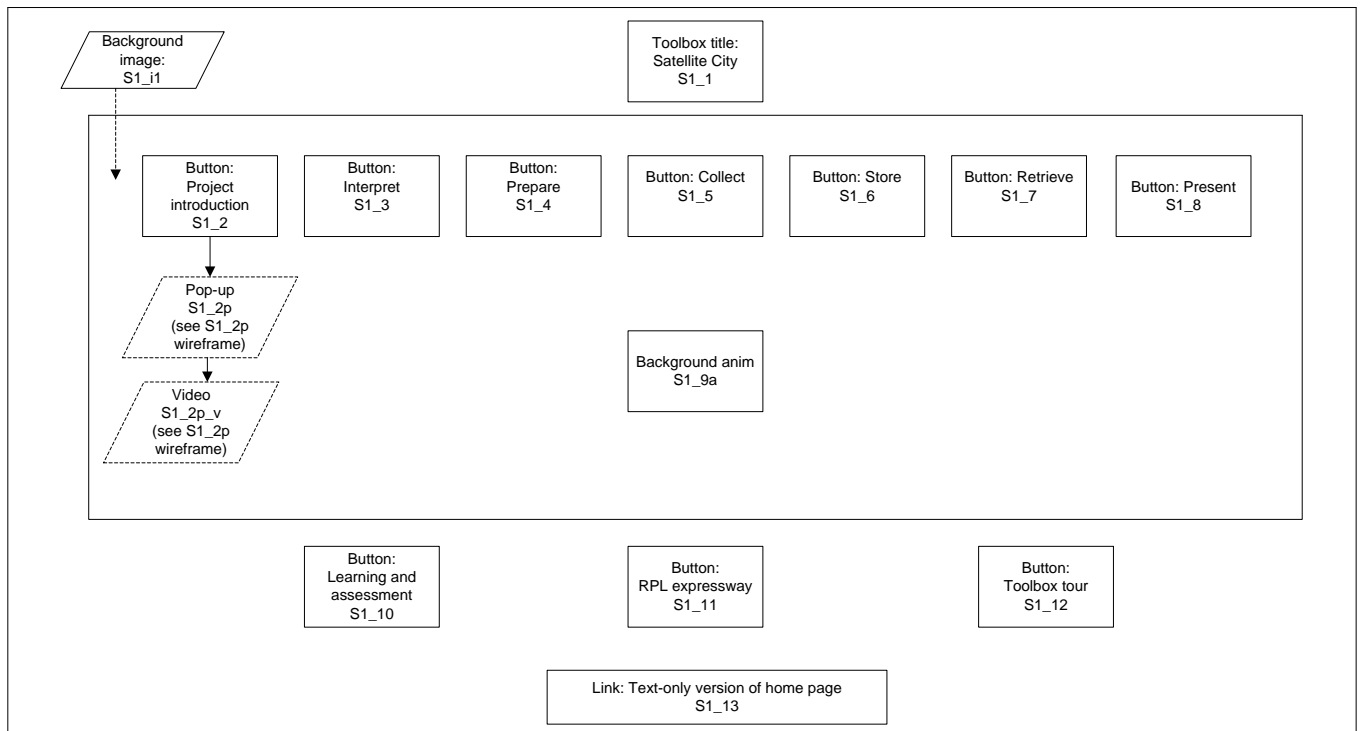
<Developer, please insert a wireframe for the splash screen on this page. Ensure that you use a unique ID to reference each screen element in the wireframe.>

9.2 S0: table of content and events

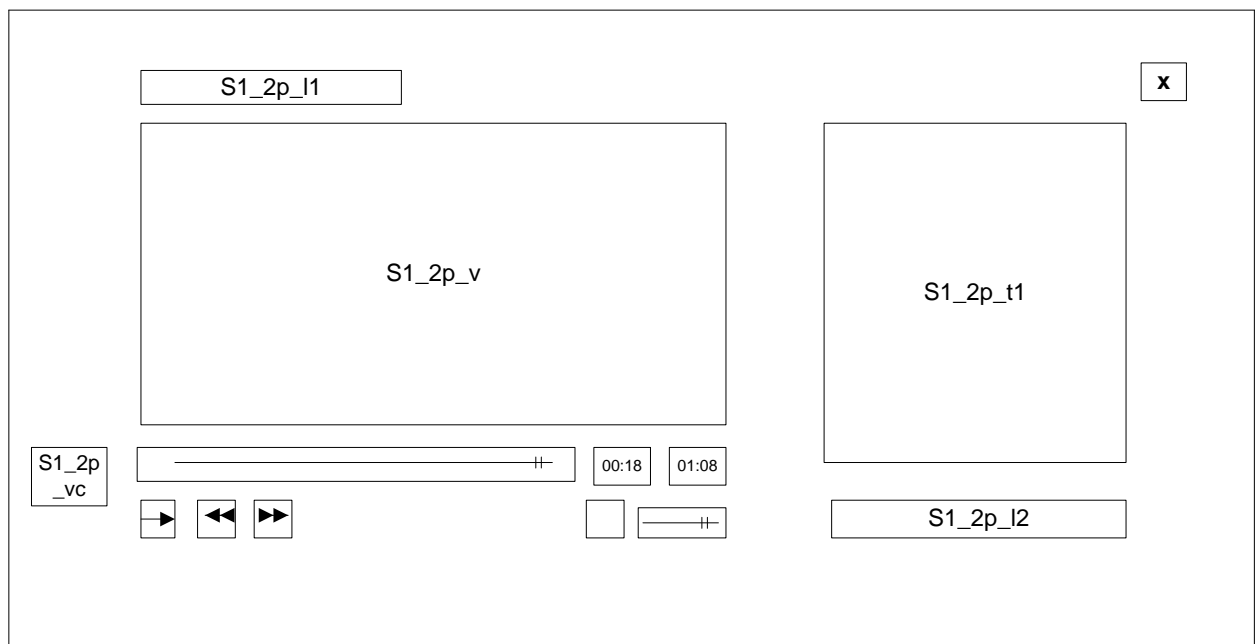
<Developer, please complete the table below to show the interactions and content for this screen.>

Unique ID	Element description	User or system events	Onscreen text	Audio

9.3 S1: Home page: wireframe




S1_2p (pop-up layout)



9.4 S1: Home page: table of content and events

Note on video sequence: the video will help set the scene for users. It will also serve the purpose of drawing learners into their role as a surveyor. It will show images of the development site and its associated wildlife, plus images of a surveyor at work using tools such as the Dataman GPS. It is planned to show a young female surveyor.

Unique ID	Element description	User and system events/	Onscreen text and images	Audio
S1_1	Title text	User reads	Satellite City	
S1_i1	Background image Photographic image of site for Civonti Gardens: country scene showing dam in foreground and mountains and skyline in background			
S1_9a	Background animation showing two butterflies flying in foreground of site image			
S1_2	Button with label	User selects; opens pop-up S1_2p containing: * S1_2p_t1 * S1_2p_v + video controls * S1_2p_l1 * S1_2p_l2	Project introduction	
S1_2p_t1	Pop-up text	User reads	Throughout this Toolbox you will be working on the Civonti Gardens land development project. This short video will give you an overview of the project, and what's involved for you as a surveyor. You can also view the project brief via the link below.	
S1_2p_v	Video sequence and voiceover	User selects Play icon on control panel to watch and listen to video. Play icon is highlighted on arrival at screen. Transitions between some images in the video sequence will be shown by a person's	<i>At key points in the video sequence, the following annotation will appear on screen:</i> Wetlands ecosystem Enhancing parklands	Welcome to the creation of an exciting new residential development, Civonti Gardens, situated not far from the main town centre. Well what is Civonti

Unique ID	Element description	User and system events/	Onscreen text and images	Audio
		hand flicking images off screen – like the action used to update content in a touch screen mobile	<p>Satellite City Environmental redevelopment</p> <p>Your role ...</p> <p>... a surveyor</p> <p>Existing locations</p> <p>Satellite and aerial images</p> <p>Dataman GPS</p>	<p>Gardens?</p> <p>This development includes land that currently supports creatures big and small, as well as an eco system teaming with life, which the council would like to enhance and keep in place.</p> <p>But how do we do this?</p> <p>Well that's your job. You'll be taking part in redeveloping this area with a team of experts. Your role in this ground-breaking project will be as a surveyor.</p> <p>Your brief will be to investigate existing locations and identify the proposed redevelopment area and existing wetlands of interest.</p> <p>You will locate current urban development on existing photography, examine satellite and aerial photography, and take part in surveying the area with the help of your Dataman.</p> <p>All of the results collected will go towards a submission to the council.</p> <p>Enjoy and the best of luck!</p>

How to develop storyboards

To develop your own storyboard, follow these steps below. They can be customised to suit you and your development team.

1. Talk to all of your team members to find out if there's a preferred storyboard style already in place.
2. Develop a header which identifies your project. If multiple learning resources are to be developed, you should devise a method of distinguishing them via a numbering system or a regime of headings. Remember to also apply a page numbering system to this.
3. Determine the personnel, roles and responsibilities on your team.
4. Allocate a code for providing instruction for each team member in your storyboard. This could be colour, codes, initial etc.
5. Decide how this information will be presented – table, series of flowcharts, thumbnail sketches, wire frames.
6. Trial the storyboard on one small learning sequence to make sure you are comfortable with it and all team members are clear on what is required.
7. Make necessary changes to the storyboard as a result of trial.
8. Get started! And remember a strategy for version control so that all team members are working on the right version of the storyboard.

Working with a content expert

Throughout all of these steps in the learning design process, one of the greatest challenges for a learning designer is not having the subject matter expertise to inform their work. This is where content writers or experts are important. However, very often the content person will know a great deal about the subject matter and may even be a great teacher, but they may know nothing about writing, learning design, learning resources, learning objects or online learning. It is the learning designer's job to work closely with the content expert and extrapolate the information they need to populate the storyboard.

Many strategies can be employed to do this, including:

- Ghost writing – having the content expert explain the topics and then write the content on their behalf.
- Remodelling existing delivery resources – asking the content expert to gather existing resources they use in their teaching and modify them to suit the learning design.
- Developing a template – so content experts can write on their own, based on the chosen learning design.

The method chosen will depend on the skills of the content expert, the time available, their location and a range of other factors. What is important, however, is to get details about how the topic is taught either in the classroom, in practical tasks or on-the-job. It's a good idea to develop a tool you can use to get those finer details from the content expert and then work with them in the storyboard phase.

The following template, prepared for the Series 11 *Fit to Fly Aviation Toolbox*¹¹ is an example of how this information can be obtained from the content expert, either verbally or in writing.

Unit: MEA112B Plan and implement civil aircraft maintenance activities	
Element: 2	Implement aircraft maintenance activities.

Instructions for content writer

- The headings in the following table are provided to assist you in writing content for this project.
- Use language that the intended audience would understand.
- Fill in as many of the sections as possible. If it is not applicable, type 'NA' in the relevant section.
- Add any specific terminology and acronyms to the glossary, give a brief description.
- Information included must be your own original work or if it is taken from someone else's work (eg a book or the internet), you must provide full details of the source.

Obtaining information from your content writer:

Name of the performance criterion/a being covered:	
2.1 Roles and responsibilities of maintenance personnel are communicated and agreed.	
In your industry, or your experience, what is this topic about? Give a description that you would use to inform new students about the topic.	
[Click here and type...]	
List and describe methods you would use in a classroom to present relative content to students.	
[Click here and type...]	
Provide full details of any specific resources that you have or could use (eg books, websites, video, audio, diagrams, etc).	
[Click here and type...]	
Write down any specific information that a student 'must know' in relation to this topic.	
[Click here and type...]	
Provide at least one scenario or case study that could be used when presenting this topic to a class.	
[Click here and type...]	
For the scenario/s that you have provided above describe some 'what if?' situations that could occur. List the sorts of decisions, and consequences of those decisions, that people in this situation may have to make.	
[Click here and type...]	
Give examples of questions, exercises and/or techniques that you use, during a class, to reinforce content and develop underpinning knowledge of students.	
[Click here and type...]	
Provide examples of questions, exercises and/or techniques that you use to assess if a student has achieved competency. In other words, how do you get students to prove that they know it?	
[Click here and type...]	
Can you think of any online interactive application that, if built, would assist the learner? If so describe (draw diagrams if you wish) what it would look like, do, and how a student would interact with it.	
[Click here and type...]	
Glossary.	
<i>Term</i>	<i>Description</i>
[Click here and type...]	[Click here and type...]

Appendix: Templates

1. *Project planner*
2. *Macro planning the learning sequence*
3. *Detailed features of the learning sequence*
4. *Flowcharting the design*
5. *Types of learner interactions*

Template 1: Project planner

1.1 Project scope

Staffing:	<i>(Enter the number of staff/man hours available here)</i>
Timeline:	<i>(Enter the due date or number of weeks here)</i>
Size:	<i>(Describe the size of project here eg. three learning resources, Toolbox)</i>
Budget:	<i>(Enter the total budget or allowable man hours here)</i>

1.2 Definition of learning resource

(Describe what the learning resource will cover here)

1.3 Parts of unit covered (List all elements, performance criteria, required knowledge etc to be covered by this learning resource here).

Elements	Performance criteria	Required skills/knowledge	Range

1.4 Existing resources

(List all available resources books, websites, teacher notes, hardware and software, etc here)

1.5 Assessment strategy

(Describe overall assessment strategy here)

Assessment Task 1	(List proposed individual assessment items here)
Assessment Task 2	(List proposed individual assessment items here)
Assessment Task 3	(List proposed individual assessment items here)
Assessment Task 4	(List proposed individual assessment items here)

1.6 Proposed media/applications

(List ideas for the types of media, images, applications, other resources that might be required in the development.)

Software/hardware/staffing implications:	
--	--

Template 2: Macro planning the learning sequence

Complete the following table to gather your ideas. Remember to consider the learning design type you have selected (Type 1, 2 or 3).

Context in which the skills are applied.	
What type of learning would support or replicate this effectively online?	
The basis for the learning sequence.	
The role of elements and/or performance criteria in this sequence.	
Type and level of guidance provided (including role of facilitators).	

Now try flowcharting these ideas to demonstrate how the learning sequence might work. Refer to Examples if you need some help. You can use this space to plan your flowchart.

Template 3: Detailed features of the learning sequence

Select the features you want to include in your design.

√	Feature	Details
<input type="checkbox"/>	Context	
<input type="checkbox"/>	Guidelines	
<input type="checkbox"/>	Goal	
<input type="checkbox"/>	Activities	
<input type="checkbox"/>	Learning supports	
<input type="checkbox"/>	Glossary	
<input type="checkbox"/>	Mapping (if applicable)	
<input type="checkbox"/>	Practical application	
<input type="checkbox"/>	Collaboration tool	
<input type="checkbox"/>	Assessment	

Template 4: Flowcharting the learning sequence

Draw a diagram to demonstrate what role the selected features will play in the design and how they fit together to show a learning sequence. Note that the flowcharting done in Step 5 could be combined with this flowchart, if desired.

Features:

<i>Context</i>
<i>Guidelines</i>
<i>Task</i>
<i>Activities</i>
<i>Learning supports</i>
<i>Glossary</i>
<i>Mapping</i>
<i>Practical application</i>
<i>Collaboration tool</i>
<i>Assessment</i>

Flowchart:

Template 5: Types of learner interactions

The following is a list of examples of possible online learner interactions. Your design should not be limited to these examples. Select the interactions you may want to include in your design.

[illegible]

¹² ARED is a Framework e-learning development tool designed to allow teachers and trainers, with little more than basic computer skills, to easily build their own e-learning resources:
<http://flexiblelearning.net.au/ared>

Resources

Below is a selection of online resources that may be of assistance when writing and developing content.

23 learning 2.0 things - <http://plcmcl2-things.blogspot.com/>

Listed on this site are 23 Things (or small exercises) that you can do on the web to explore and expand your knowledge of the Internet and Web 2.0.

ARED - <http://flexiblelearning.net.au/ared>

This tool is designed to allow teachers and trainers with little more than basic computer skills to easily build their own e-learning resources.

Australian Flexible Learning Framework - <http://flexiblelearning.net.au/>

The Australian Flexible Learning Framework site has information on getting started in e-learning, a resource centre, news and events plus a comprehensive outline of their business activities.

Australian Qualifications Framework - <http://www.aqf.edu.au/>

The Australian Qualifications Framework (AQF) is a quality assured national framework of qualifications in the school, vocational education and training (VET), and higher education sectors in Australia.

Competency navigator - <http://www.competencynavigator.com/>

The Competency Navigator database is underpinned by over:

- 30,000 national competency units
- 100,000 elements of competency
- 3,000 qualifications
- 2,000 occupations

The Competency Navigator also contains performance criteria, skills and knowledge as well as evidence requirements to support recognition of prior learning for a range of popular qualifications.

Employability Skills - <http://employabilityskills.training.com.au/index.php>

To search for what employability skills are included in a qualification, access the website above. Go to the Employability Skills Summary section and enter the qualification code into the search box and click on the Find button. You will be provided with a list that contains the Employability Skills that this qualification covers.

Employability Skills for the Future - http://www.dest.gov.au/NR/rdonlyres/4E332FD9-B268-443D-866C-621D02265C3A/2212/final_report.pdf

The Australian Chamber of Commerce and Industry and the Business Council of Australia have undertaken research to provide the Department of Education, Science and Training with a detailed understanding of the employability skills needs of industry. This report provides a consolidation of research with small, medium and large-sized enterprises during 2001. The outcome of the research has been the development of an Employability Skills Framework that has strong industry support from a representative sample of stakeholders.

The Impact of E-learning on Employability Skills Development -

http://flexiblelearning.net.au/files/E-learning_Employability_Report.pdf

Employability skills are being written into VET competency standards in training packages and their explicit development has been made a requirement from July 2008. This report, produced by the national training system's e-learning strategy, the Australian Flexible Learning Framework (Framework), considers how technology (e-learning) can assist.

Designing e-learning - <http://designing.flexiblelearning.net.au/>

This site provides some answers to two big questions

- What is e-learning? The Gallery of strategies has over 100 click-and-view samples plus teaching guides
- How do you do it? The Learning design and Learning materials sections offers detailed sample designs and course maps

To help you find what you're looking for, there are a range of different e-tours through the resources on this site.

E-standards for training - <http://e-standards.flexiblelearning.net.au/standards.htm>

This site outlines the national training system's recommended technical standards and guidelines to enable interoperability. Some standards and guidelines may be education or sector specific, while others are general internet standards.

Improving your instructional design - <http://www.cathy-moore.com/resources.html>

When you've developed a course outline, you can generate a graph to see how engaged the learners will be at each point. On the graph you enter values representing the factors you want to measure, such as interactivity and challenge, and immediately see how well each part of the course meets your requirements. It's a simple spreadsheet with instructions included.

Learning object repository network - <http://lorn.flexiblelearning.net.au/repositories>

LORN currently has seven member repositories contributing more than 2500 learning objects for download in a wide range of industries and subject areas, including business, community services, electrotechnology, horticulture, tourism, and hospitality. The number of learning objects increases as repository owners build their collections.

Listening to students' and educators' voices –

<http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/Resources/Documents/ListeningToStudentsVoices.pdf>

This report outlines findings collected from listening to and analysing the views and expectations of students within Australian education and training institutions about learning with technologies.

Recognition of Prior Learning –

<http://www.aqf.edu.au/AbouttheAQF/Pathways/RecognitionofPriorLearningRPLpathway/tabid/158/Default.aspx>

If you'd like to know more about RPL, visit the AQF website at for a complete overview on RPL. In June 2004, a set of National Principles and Operational Guidelines for Recognition of Prior Learning (RPL) was endorsed. These guidelines are also in the 4th edition of the AQF Implementation Handbook (p91-97) -

<http://www.aqf.edu.au/AbouttheAQF/Pathways/RecognitionofPriorLearningRPLpathway/tabid/158/Default.aspx>

Social e-learning; Your guide -

http://socialelearning.flexiblelearning.net.au/social_elearning/index.htm

In this resource you can explore the opportunities and challenges that you might discover with social e-learning in practice, and get practical guidance and tips from e-learning practitioners. Listen to the keynote from Anne Bartlett-Bragg to find out more about the practice behind the case studies, strategies, tools and activities presented in this resource.

Storytelling techniques - http://www.cathy-moore.com/resources/story_handout.pdf

A one page handout that lists fiction techniques that make e-learning more engaging.

Storytelling: The vital role - <http://www.anecdote.com.au/whitepapers.php?wpid=20>

This whitepaper describes why leaders should develop their storytelling skills to better engage people, ensure their ideas stick and to form strong interpersonal connections. It also offers some ideas on how to find and recount your personal experiences in a business context.

Toolboxes by series / code -

<http://toolboxes.flexiblelearning.net.au/preview/byseries.htm>

This website provides you with access to all Toolboxes. You may want to review the previous series of Teacher guides for guidance or clarification.

VET Teacher E-learning Toolkit - <http://e-standards.flexiblelearning.net.au/docs/2008-networks-tet-recommendations-v1-0.pdf>

This document was developed by the Australian Flexible Learning Framework (Framework), through the E-standards for Training business activity. It specifies the minimum web and desktop-based functionality requirements needed to support elearning in the national training system. The purpose of this document is to inform the development of vocational education and training (VET) Standard Operating Environments (SOE) to support the e-learning functionality required by teachers and trainers.

Web 3.0 technologies -

http://technology.timesonline.co.uk/tol/news/tech_and_web/the_web/article2726190.ece

Web 3.0 has been described as “giving the internet itself a brain”. If you would like to see where the internet could be heading in the next decade or so you may enjoy reading *Web 3.0 and beyond: the next 20 years of the internet* and *What is Web 3.0?* available at: http://www.routhtype.com/archives/2007/08/what_is_web_30.php.

Web Content Accessibility Guidelines (WCAG) - http://e-standards.flexiblelearning.net.au/docs/vet_wcag_2.0_evaluation_report_v1.0.pdf

A report on the implications of the introduction of the Web Content Accessibility Guidelines 2.0 for the VET sector.

Wiki projects - <http://wikiframes.pbworks.com/2%3A-Designing-Wiki-Projects>

Designing a wiki project involves seven essential steps to building the framework for a collaborative wiki project. These seven steps are listed on this website.

For more information

Flexible Learning Toolboxes

Phone: 1300 736 710

Email: toolboxhelp@flexiblelearning.net.au

Website: flexiblelearning.net.au/toolboxes

Australian Flexible Learning Framework

Phone: (07) 3307 4700

Email: enquiries@flexiblelearning.net.au

Website: flexiblelearning.net.au