Planning, developing and evaluating a piece of instruction
By Sharon Maguire, June 2008

This is an instructional plan for a unit of competency from the ICA05 Information Technology [IT] Training Package, ICAU1128B Operate a Personal Computer. The plan incorporates the major Instructional Design [ID] considerations and evaluation strategies, along with justifications of my design rationale and decisions made in context of my ID plan.

I will begin by drawing on the design model proposed by Smith and Ragan (2005), modifying where needed and utilising aspects of other Instructional Design [ID] models and principles to create my own eclectic working framework to suit the context. ID begins as a problem solving process directed by needs, and as such the planning process must begin with analysis informed by the context itself. The first component of the analysis stage, in the Smith and Ragan model (2005), is a 'needs assessment', before which I believe it would be most useful to commence with some historical background information and a broad overview of the intended learning environment itself.

In the past I have delivered units from the ICA05 IT Training Package in a face-to-face classroom environment. I currently have several students studying flexibly from home using classroom based resources. Therefore my ID plan will be formulated for an online learning environment as I would like to offer e-learning to those that cannot attend traditional classes. The first unit I will be delivering online is ICAU1128A Operate a Personal Computer [Appendix C], as this is a core unit across all qualification levels and most classes commence with this unit, consequently this will be the topic of instruction for my ID plan. This brings me then to the first step of analysis; identifying what instruction and resources already exists and identifying any problems with those resources.

1. IDENTIFYING INSTRUCTION AND RESOURCES THAT ALREADY EXISTS

I have developed several resources for the unit that have been used in face-to-face classes, these have been in use for several years and continually updated and modified according to student feedback and requirements. My delivery team has developed many generic resources for use in online courses delivered by our team. These have also been in use and continually improved over the last two years, hence I am able to concentrate purely on the instructional aspects of the unit to be delivered as opposed to broader course considerations.

1.1 General Course Resources that already exists [developed by team]:

- *Team logos, layout format and colour schemes*
- *Short Orientation Unit: Student orientation resources including how to use and navigate the TAFE Moodle LMS, online code of conduct policy, user computer requirements, health and safety in relation to workstation use, information on how to access results and how they are awarded, how to withdraw, special needs assistance, using the library, how assessments are conducted, and assessment procedures and assessment appeals processes*
- *Information on what is expected from students in relation to participation, assignments and commitment, and information on what students can expect from teachers in regard to marking, support and feedback*
- *Accessibility support and resources, screen reading software, tutorials for configuring accessibility settings*
- *General contact information, how to contact instructors and support services*

1.2 Unit learning and assessment resources that already exists [developed by me]

Resource	Possible Problems/Comments	Possible Solutions
Unit Learning Guide	*The learning guide is in the form of a word document and currently refers to resources located on TAFE's intranet.*	*Modify the learning guide so that references to internal resources are redirected to the applicable locations in Moodle.*
Self Paced Unit Workbook	*Many of the exercises in the workbook refer to resources located on TAFE's intranet.* *Some exercises require the use of floppy disks.*	*Modify the workbook so that references to internal TAFE resources are redirected to the applicable locations in Moodle.* *Modify the exercises so that they refer to the use of USB flash drives rather than floppy drives*
Screen Cast Tutorials for workbook exercises and video tutorials by Atomic Learning	*None. These are perfectly suited to transferring to an online environment*	
Practice Files for workbook exercises	*Currently residing in a folder so will need to be compressed or zipped so that the files can situated in Moodle for student retrieval*	*Will need to be compressed into a self extracting archive, as many students in the early stages are unfamiliar with zip files.*
Sample policy and procedures document use for workbook exercise	*None. This document is easily transferred to an online environment*	
Assessment Instrument	*This assessment is predominantly practical, with little theory and is designed for performance based observation of each task. It has been validated and moderated by my peers in our state wide Quality Assurance Group [QAG].*	*Instructions will need to be added on how to provide screen shots of activities* *some theory questions will need to replace tasks that cannot be observed in an online environment*

Figure 1: assessing existing resources

2. LEARNING AIM AND OBJECTIVES

A learning aim is a broad general statement on what the learning seeks to achieve, it is the intended general outcome. A learning objective focuses on student performance, making clear the intended outcome or product of instruction. Well written objectives use action verbs to specify the behaviour the learner is expected to perform. Objectives should also state conditions under which learners are to perform the task and standards criteria for evaluating performance (Arreola, 1998). Learning aims and objectives are of critical importance as they determine selection of content, the development of instructional strategies, the selection of instructional materials and construction and selection of assessment instruments for student evaluation. Learning objectives provide clarity and direction for students "objectives communicate what the instructor is trying to teach; what the students are expected to be able to do; how their achievement will be measured; and what will be accepted as evidence that they have achieved the goals." (p.4, ch.2, FSU, 2008).

Blooms taxonomy (1956:73, cited in Clark, 2004) is a widely used categorisation scheme for specifying objectives, it distinguishes between three learning domains; cognitive, psychomotor and the affective domain. The use of action verbs identifies specifically what should be learned and conveys clearly to the learner what should be accomplished, they serve to make objectives observable, measurable and obtainable (MEY, 2003). ICAU1128A Operate a Personal Computer is an AQF level two unit which requires knowledge by recall in a narrow range of areas, performance of routine tasks and basic practical skills. I have used the unit's performance criteria as a guide to developing learning objectives, but have made them more explicit and contextual.

2.1 Learning Aim

Upon completion of this unit the learner will be able to use and operate a personal computer running the Microsoft Windows XP operating system. The learner will be able to start and shut down a personal computer, log in to a user account, use and understand desktop icons and their links to programs, change the look and feel of the operating system as desired, navigate directory structures, save work, and print files. Some of the more advanced outcomes include: retrieving files that have been

deleted from the recycle bin, searching for files on a computer, altering printer settings and understanding file and folder permissions.

2.2 Learning Objectives

- *Topic 1: Start the computer and access basic system information*
  Objectives: verify that the mouse, keyboard, monitor and printer cables are correctly connected before switching the power on at both the power point and the computer. When the computer starts and the logon screen appears, insert the correct username and password to access the system and briefly describe the usage, privacy or security conditions that appear, or would be likely to appear if using a computer in a workplace situation. Navigate through the operating system to identify what software applications are installed, name the operating system version, state the amount of RAM installed, the Hard Drive size and type of CPU. Describe two different ways that you can access on-line help when using a computer.

- *Topic 2: Navigate and manipulate the desktop environment*
  Objectives: Use the correct terms to label various parts of the desktop. Change the screen resolution, the wallpaper and the screensaver and then return the desktop to its original condition. Use icons on the desktop to select and open programs and then create your own desktop shortcut. Minimise, maximise, restore and resize application windows.

- *Topic 3: Organise basic directory/folder structure and files*
  Objectives: Create and name folders and subfolders in a specified location according to directions, rename and delete folders as required. Move folders from one location to another as specified and access folders and subfolders using different pathways. Explain what file attributes are and identify which attribute indicates that a file needs to be backed up.

- *Topic 4: Organise files for user and/or organisation requirements*
  Objectives: Use windows explorer to search for specific files on the primary hard drive. Identify and locate commonly used types of files in folders and move files from one folder to another as directed. Delete files as specified

from the primary hard drive and then restore as directed. Select, open and rename groups of files as required and copy files to CD-RW disk and then erase and format the disk to remove all files.

- *Topic 5: Print information*
  Objectives: Explain in basic steps how to add a printer and how to ensure the page orientation, paper size and print quality settings are correct. Demonstrate how to change the default printer and explain how to view and delete print jobs. Print one page of information from an installed printer and explain how you would print a selected page from a file that contains several pages.

- *Topic 6: Shut down the computer*
  Objectives: Save any work to be retained and ensure that all open programs are closed in the correct manner before following the correct procedure to shut down the computer completely.

3. LEARNING ENVIRONMENT CHARACTERISTICS AND CONTEXT

Training is nationally accredited, delivered by TAFE Tasmania in a Vocational Education and Training [VET] setting. Learners will be studying online from home in isolation from other learners, therefore learning can occur at different times throughout the day as individual circumstance dictate. In Circular Head we take class enrolments at the beginning of each year, but we also accept rolling intakes, whereby students can enrol and commence study at any time throughout the year. Thus we have groups of students studying together collaboratively as a class along with students studying flexibly at their own pace. The unit will be entirely online, the Learning Management System [LMS] I will be using is Moodle 1.9, in view of the fact that this is the LMS used by my delivery team [*flex*IT]. I will be maintaining the same visual look and layout structure used by *flex*IT in an endeavour to maintain team consistency. I have created a standalone development environment by running Moodle from a USB drive. The development environment is an exact replica of the live environment running on our TAFE servers, so I am able to fully test Moodle tools and features, and experiment with delivery variations and strategies without compromising the live environment [*see figure 2*].

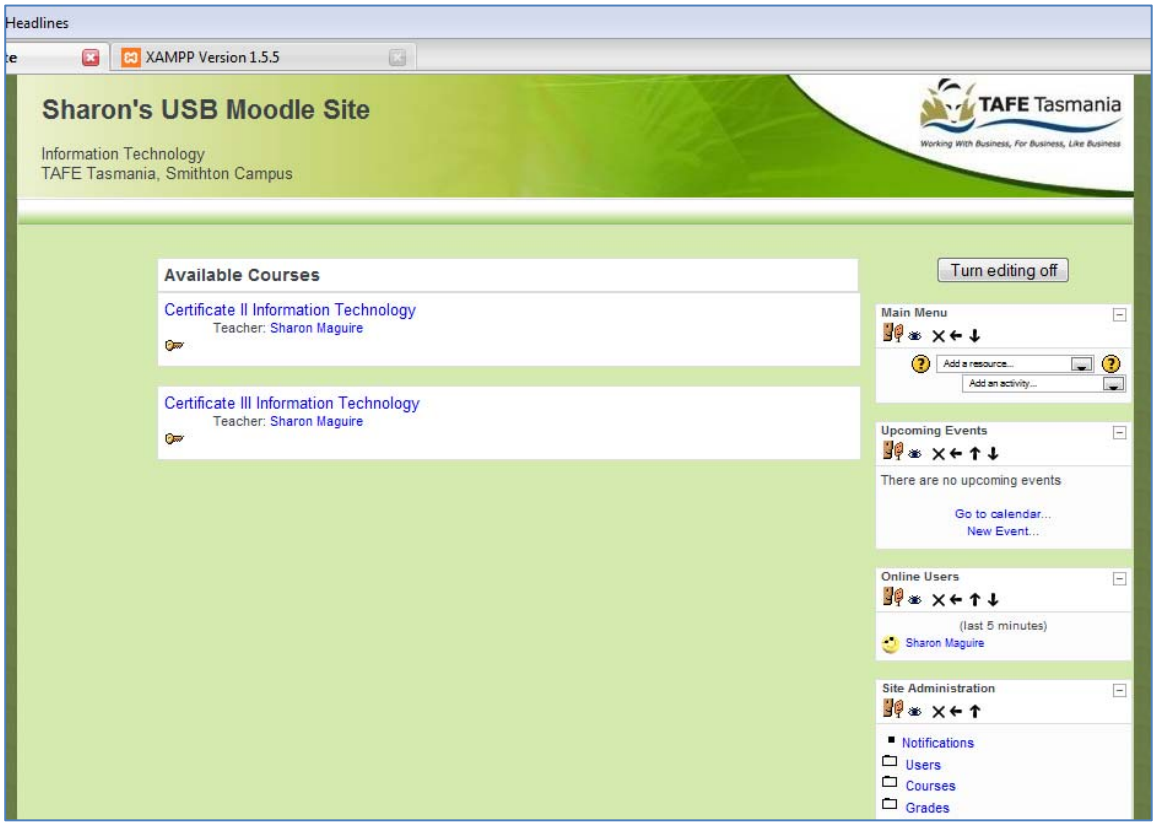

Figure 2: screen shot of LMS development environment

4. LEARNER CHARACTERISTICS

Knowledge about learner characteristics aids the selection of appropriate and relevant learning materials and resources that relate to learner needs and preferences. Knowing who the learners might be is of assistance in planning instructional strategies and support services. It also provides scope for anticipating changes and finetuning the course as learners work through it in an endeavour to cater to differing individual needs. Knowledge of learner circumstances and expectations is instrumental in the development of instruction that is engaging, satisfying and successful (Rowntree, 2000). I have taught Information Technology in Circular Head for the past nine years and as such feel that I am able to give a reasonably accurate profile of learner characteristics.

4.1 Regional Characteristics

North West Tasmania Regional Training Demand Profile (Skills Tasmania, 2008) considers Circular Head to have disproportionally high numbers of people in

low income brackets. It has the lowest proportion of people with post-secondary qualifications of the regions in the profile and it was one of two regions identified by ABS modelling as being disadvantaged in regard to socio-economic and educational characteristics.

- Most learners struggle financially so are unable to afford extras like textbooks, all learning content needs to be provided.

4.2 Demographic profile

Learners are predominately aged between 30 and 45, predominately female and most were born and raised in the district. In regard to occupational backgrounds the majority assist in running owner operated businesses, live on farms and manage family book-keeping or have been out of the workforce for many years while raising children with a view to obtaining paid employment. Most have no formal qualifications and have not participated in education since high school.

- Collaborative and social activities will create a supportive environment, tasks should highlight relevance of transfer to personal task contexts and not just be focussed on workplace based contexts.

4.3 Learning Factors – Typical learner

Many have poor computer skills, having only ever used email and basic internet searching. Most display a surface level approach to learning with little self direction, though are motivated and persistent. The motivating factor for learning are personal use, related to managing business or farm records, assisting their children and generally becoming more expert in their own computer mastery. Many express enjoyment of the social aspects [many from outer farming regions are isolated]. When completing written assessments the majority give short answers often repeating only what they have read without further expansion. There appears to be confidence and self esteem issues as most become anxious at the mention of assessment and require a great deal of reassurance and support. Learners overwhelmingly tend to

think of learning in terms of me 'telling them what to do and how to do it" and most relate learning to memorising.

- Topic activities should encourage reflective thinking, and include activities and tasks that are conducive to collaborative scaffolding to assist meaning making and provide opportunities for regular feedback from both peers and facilitator.

5. INSTRUCTIONAL STRATEGY

Stahl (2005) suggests that active engagement is a prerequisite for learning, that individual learning is reliant on collaborative learning, that human interaction "provides the primary context, motivation and source of new knowledge" (p.2). Lave and Wenger (1991, cited in Stahl, 2005) stress that participation in communities of practice is fundamental to learning. To encourage higher order thinking and potential to reach zones of proximal development (Vygotsky, cited in Engeström, 1994) learning tasks should challenge current understanding, yet be achievable and within reach of understanding, given support from fellow learners or guidance and scaffolding from a facilitator. Moodle has many features that facilitate communicative and collaborative learning, essential for developing community and trust in online learning environments, along with features that provide integrated support in the form of instant feedback.

Oliver and Herrington (2003) propose a process that promotes knowledge construction in web-based settings; they recommend that assessment be integrated within learning activities that are task based or problem based, that activities involve interactive technologies, peer cooperation and collaboration where possible as a way of scaffolding support in an integrative way, and that resources should be varied to provide multiple perspectives and diversity of choice so that learners can choose what to use and how to use it. By providing learners with variety in resources, opportunity is provided to cater for differing student learning styles, and individuals are able to make selections that suit their cognitive preferences.

Merrill's Pebble-in-the-Pond ID model (2002) advocates the importance of the first principles of design; presenting the whole task [problem] first, activating relevant prior

knowledge, showing and demonstrating, application/doing with diminishing levels of scaffolded support and feedback, and integrating and transferring knowledge to new situations. Applying Gagne's events of instruction (Kruse, n.d.) to learning activities is a useful way to ensure learning activities are effective.

5.1 Content sequence, delivery method and media selection

The following page shows an instructional topology [*figure 3*], and assumes that students have completed the orientation unit as mentioned on page 2 [*1.1 General Course Resources that already exists*]. Although topics and tasks are presented in a sequenced format, learners will be able to choose their own sequence and decide which resources they use. The collaborative activities included in the schedule support self paced learners as well as groups, as most are asynchronous in nature, synchronous chat activities can be archived for access and review at any time during study. Further chats and discussions will be held as needs arise.

5.2 Learner assessment

The instructional topology [*figure 3*] includes 15 formative assessment tasks, these are not weighted, therefore are optional. Students will be strongly encouraged to complete these tasks for their own benefit in obtaining feedback on performance and to determine readiness to complete the summative assessment. Summative assessment is recommended in the assessment guidance section of the unit, assessment is project based, designed to address critical aspects of evidence and employability skills and includes a marking schema mapping assessment tasks to performance criteria. A feedback sheet is emailed or posted to students on completion of assessment containing written comments. Recognition is available for those who can demonstrate prior learning.

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Use a scenario to highlight why knowing basic system information is important.	Present screen shots to depict customised desktop environments and themes	Podcast about folder structures	Present case study on file and folder management in a workplace	Pictures of two or three different printers and different sized paper A4, A5	Present scenario on what can happen to a computer if it is not shutdown correctly
Learning objectives	Learning objectives	Learning objectives	Learning objectives	Learning objectives	Learning objectives
Learning guide	Learning guide	Learning guide	Learning guide	Learning guide	Learning guide
Collaborative Activity: Discussion post - another scenario where knowledge of system information would be of importance	Workbook (document download) Read pages and complete exercises specified in learning guide	Workbook (document download) Read pages and complete exercises specified in learning guide	Workbook (document download) Read pages and complete exercises specified in learning guide	Workbook (document download) Read pages and complete exercises specified in learning guide	Workbook (document download) Read pages and complete exercises specified in learning guide
Facilitator comment on post	Atomic learning video tutorials on modifying desktop	Atomic learning video tutorials on folder management	External web page resources	Atomic Learning Videos on adding a printer	Atomic Learning Videos on saving files
Workbook (document download) Read pages specified in learning guide	Information on using video tutorials and system requirements	**Task 6**: Create folder structure and submit as a zip file (upload file)	**Collaborative Activity**: Discussion post: - common file types and file extensions.	Microsoft windows tutorial on adding a printer	**Task 14**: Online Quiz on saving files
Screen cast tutorial	**Task 3**: Students to submit screen shots of desktop changes (upload word doc)	External web resources on creating zip files and links to free zip software	Atomic learning video tutorials on file management	**Collaborative Activity:** Discussion post - Different ways to add a new printer and troubleshooting	Automated Feedback
Information on how to use screen cast tutorials	**Collaborative Activity**: Students to use Moodle glossary tool to build shared knowledge base of terms	Facilitator posts comments to online grade book	**Task 9**: Create folder structure and submit as a zip file (upload file)	External web page resources – links to different printer manuals	**Task 15**: Online Quiz on shutting down a computer
Sample usage policy (document download)	Facilitator posts informal comments in discussion forum	**Task 7:** Make modifications to previous folder structure and submit as a zip file (upload file)	Facilitator posts comments to online grade book	**Collaborative Activity**: students to add basic instructions to Moodle wiki on changing printer settings for the model they own – outcome is to build a wiki knowledge base	Automated Feedback
External web page resources	Atomic learning video resources on manipulating windows		**Task 10**: Add specified files to folder structure and submit as a zip file (upload file)		**Collaborative Activity**: Discussion on ensuring programs and applications are closed and difference between sleep mode and shutting down completely.
Task 1: Students to submit brief description of usage and security conditions (upload Word doc through Moodle)	**Task 4**: Online Quiz on creating shortcuts and manipulating windows	Facilitator posts comments to online grade book	Facilitator posts comments to online grade book	**Peer Review**: students can edit other students posts in the wiki to correct or expand on previous entries	
Facilitator posts comments to online grade book	Automated Feedback	Atomic learning video tutorials on file attributes	**Task 11**: Online quiz on deleting and restoring files		**Collaborative Activity:** General chat session at student agreed time to discuss topics covered and how they can be applied in practice. questions and support before summative assessment
Basic word processing tutorial to support students in submitting Task A	**Task 5**: Download online worksheets, fill out and submit through Moodle (Word doc)	**Task 8**: Online Matching exercise on File attributes	Automated Feedback	**Task 13**: Students to submit instructions on how to print selected page or range of pages from an installed printer (upload word doc)	
Task 2: Students to submit screen shots of system information and description of how online help can be used(upload word doc)	Automated Feedback	Automated Feedback	Atomic learning video tutorials on burning and formatting CD's		
	Further optional reading – web based resources	Podcast on file attributes	External web page resources	Facilitator posts comments to online grade book	
Refer to tutorial in workbook on doing screen shots	**Collaborative Activity**: General chat session at student agreed time for questions and support about initial experiences	**Face to Face:** lab workshop offered in file and folder management if student numbers permit	**Task 12**: Online quiz on burning and formatting CD's		
Facilitator posts comments to online grade book			Automated Feedback		
P r o j e c t B a s e d F i n a l S u m m a t i v e A s s e s s m e n t					
Collaborative Activity: Discussion in online forum about student computer system configurations			Further optional reading – web based resources		**Students to complete online course evaluation and feedback survey**

Figure 3: Instructional Topology

Motivate/Gain Attention	Inform Learners	Prior Knowledge	Content/Resources	Guidance/Support	Tasks/Performance	Feedback	Assessment	Transfer/Retention

Key: Gagne's Instructional events

5.3 Delivery schedule

There are no students studying Information Technology at the Smithton TAFE campus full time, as demand has been for part time study, therefore the delivery schedule reflects a part time study load. The schedule is a guideline, students will have flexibility to study at their own pace, within reason.

Total time for this unit: 15-20 hours, including readings, tasks and assessment (Part time study – 5 hours per week)			
Week 1	**Week 2**	**Week 3**	**Week 4**
Topic 1	Topic 3	Continue Topic 4	Topic 6
Topic 2	Topic 4	Topic 5	Final Assessment

Figure 4: Delivery Schedule

6. EVALUATION

Oliver and Blanksby's (2003) Learning Depth Indicator [LDI] grading tool is useful in determining potential to provide support for learning in terms of quality and meaningful knowledge construction. They suggest that a "score of nine clearly indicates a learning setting which would promote more opportunities for deep learning than a setting with a lower score" (p. 110). LDI results are provided in Appendix A.

Boud and Prosser (2001, cited in Agostinho et al., 2002) argue that learning design should address the following principles; engage learners, acknowledge the learning context, challenge learners, and provide practice. Agostinho, Oliver, Harper, Hedberg, and Willis (2002) developed an summative Evaluation and Redevelopment Framework [ERF], based on Boud and Prosser's principles, they suggest this could also be used as a formative evaluation tool before implementing an ID plan as a checklist to ensure that the principles have been considered. ERF evaluation results are provided in Appendix B.

6.1 Formative evaluation

- Evaluation has been an ongoing process through every stage of this ID plan.

- Peer review will be sought prior to implementation
- Unit delivery will be trialled on one or two learners initially using the USB development environment
- Unit delivery will be trialled on a small group live online
- Student evaluation is sought early in the unit, in Topic 2, and a student survey is provided at the end of the unit
- As with all units, evaluation is an ongoing cycle of continuous improvement

6.2 Summative evaluation

- Review of performance level in assessment outcomes, meeting instructional goals
- End of unit student surveys
- Review and reflection of feedback through chat and discussion archives
- Informal observation of student progress, attitudes, satisfaction levels, levels of engagement, ability to meet learning objectives
- Use of ERF instrument by both myself and peers after implementation and trial period.

6.3Appendix A

LDI Score: **10**

Learning Task Continuum	**1**	**2**	**3**	**4**	**5**
	content presentation and consolidation eg. sequenced content pages with interspersed activities		activity-based learning sequences eg. contextualised tasks and activities associated with content and information		open-ended tasks eg. a single authentic problem anchoring learning in a complete unit
Learning Resources Continuum	**1**	**2**	**3**	**4**	**5**
	fixed content and knowledge spaces eg. Web pages, sequential information, instruction and information combined		multiple content forms, eg. media rich resources, interactive objects tutorials, dynamic resources with feedback elements,		authentic content and information, eg. Discrete elements, library based, multiple perspectives, authentic resources
Learning Supports Continuum	**1**	**2**	**3**	**4**	**5**
	Web-based feedback eg. learning from the computer, programmed interactions and feedback		planned human interactions eg. bulletin boards, tutor roles, resource sharing		learning scaffolds eg. learning supports that vary according to needs, planned social interactions

Figure 5: Learning Depth Indicator [LDI] Grading Tool (Oliver and Blanksby, 2003)

Appendix B

ERF: LEARNING DESIGN EVALUATION FORM

1a. How does the learning design support Learner Engagement?

- Identifies learner goals, intentions and expectations ✓
- Uses prior experiences ✓
- Enables accessing key concepts in many ways ✓
- Opportunities for peer interaction and feedback ✓
- Assessment supports engagement ✓
- Supports reflection and consolidation ✓
- Engages students affectively *learner feedback needed*
- Allows learner control of learning *learner feedback needed*

1b. How well does the learning design support Learner Engagement?
(Place an X on the following range)

Very poorly | _____X_____ | Very effectively

2a. How does the learning design acknowledge the learning context?

- Links to the field ✓
- Links to broader context ✓
- Accounts for students' circumstances ✓
- Provides for application of concepts ✓
- Enables links to other contexts ✓
- Asks realistic knowledge demands ✓
- Supports multiple cultures and diversity ✓
- Matches assessment to outcomes ✓

2b. How well does the learning design acknowledge the learning context?
(Place an X on the following range)

Very poorly | _____X_____ | Very effectively

3a. How does the learning design seek to challenge learners?

- Questions student's knowledge base ✓
- Highlights limits in knowledge base ✓
- Supports student ampliative skills ✓
- Equips students to plan other learning activities ✓
- Encourages self-criticism ✓

3b. How well does the learning design challenge learners?
(Place an X on the following range)

Very poorly | _____X_____ | Very effectively

4a. How does the learning design provide practice?

- Encourages student communication and demonstration ✓
- Provides feedback at key points ✓
- Equips students to learn appropriately ✓
- Models expected performance ✓
- Encourages learner confidence and practice ✓
- Aligns goals, tasks and assessment ✓

4b. How well does the learning design provide practice?
(Place an X on the following range)

Very poorly | _____X_____ | Very effectively

5. Infrastructure and Technology assessment: How do the technologies employed, their supportive systems and particular implementation facilitate the learning design?

- Technology affordances ✓
- Scalability of design ✓
- Applicability in different contexts *many of the skills in this unit are context specific*
- Transferability to other knowledge domains ✓
- Requires special sets of skills *low skill level*
- Costs of implementation in other contexts *not applicable*

6. Description of the Learning Design
Please provide a **generic** description of the learning design in terms of the following:

- Planned learning outcomes ✓
- Activities/process that characterise the learning design ✓
- Resources that characterise the learning design ✓
- Support mechanisms that characterise the learning design ✓

7. Summary description of the learning design
Theory that underpins the learning design is highlighted throughout the ID plan. Students are expected to follow the learning guide, read appropriate sections of the workbook for each task, complete workbook exercises and interactive Moodle tasks. Resources are provided in a variety of format, text, video, podcasts, screencasts, web resources, discussion forums, chats and collaboratively built wiki and glossary. Students are supported by facilitator through discussions, chats and regular feedback. Students also support and collaborate with each other through interactive Moodle activities. Extra resources will be made available where there is a need indicated by feedback and student performance.

8. Suitability for Redevelopment

a. Upon review of your answers for all the above questions, do you think this learning design has elements that could be redeveloped as a generic learning design?

(Select/highlight your choice.)

- *Yes*
- Yes, but with the following changes/additions (gaps or deficiencies identified when answering questions).
- No, please state why.

b. What elements of the learning design should be considered/included in a redevelopment (refer to Question 6 for assistance). *In this instance I am using modified learning resources that have been designed for classroom based face to face learning, therefore I anticipate these may require further redevelopment as feedback and trial use indicate.*

Figure 6: Evaluation and Redevelopment Framework [ERF] Learning Design Evaluation Form (Agostinho, Oliver, Harper, Hedberg, & Willis, 2002)

Appendix C

ICAU1128B Operate a personal computer

Field

Use

Unit descriptor

This unit defines the competency required to operate a personal computer, including starting the PC, logging in, using and understanding desktop icons and their links to underlying programs, navigating a directory structure, saving work, printing, closing down the PC.

These units are linked and form an appropriate cluster:

- ICAU1129B Operate a word processing application

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary for the qualification in which this unit of competency is packaged, will assist in identifying employability skills requirements.

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where *italicised* text is used, further information is detailed in the required skills and knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
1. Start the computer	1.1 Check *peripheral device* connections for correct position
	1.2 Switch on power at both the power point and *computer*
2. Access basic system information	2.1 Insert user name and password as prompted and note access, privacy, security and related conditions of use displayed on introductory screens
	2.2 Navigate through the *operating system* to access *system information* to identify system configuration and application versions in operation
	2.3 Use *on-line help functions* as required
3. Navigate and manipulate desktop environment	3.1 Create and customise desktop icons
	3.2 Select, open and close desktop icons to access *application programs*
	3.3 Manipulate application windows and return desktop to original condition
4. Organise basic directory/folder structure and files	4.1 Create and name directories and subdirectories
	4.2 Identify *attributes* of directories
	4.3 Move subdirectories between directories
	4.4 Rename directories as required
	4.5 Access directories and subdirectories via different paths
5. Organise files for user and/or organisation requirements	5.1 Use *system browser* to search drives for specific files
	5.2 Access the most commonly used types of files in the *directories*
	5.3 Select, open and rename groups of files as required
	5.4 Move files between directories
	5.5 Copy files to *disk*
	5.6 Restore deleted files as necessary
	5.7 Erase and format *disks* as necessary
6. Print information	6.1 Add a printer if required and ensure correct *printer settings*
	6.2 Change the default printer if appropriate
	6.3 Print information from an installed printer
	6.4 View and delete progress of print jobs as required

7.	Shut down computer	7.1 Save any work to be retained and close all open application programs correctly
		7.2 Shut down computer correctly

RANGE STATEMENT

The Range Statement contextualises the unit of competency and provides a focus for assessment. The information provided is intended to define the scope of assessment and to assist assessors define the performance to be achieved by an individual in the workplace. The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. *Italicised* wording in the Performance Criteria is detailed as follows.

VARIABLE	SCOPE
Peripheral device	May include but is not limited to mouse, keyboard, visual display unit, monitor and printer.
Computer	May include laptops, workstations, servers or other devices.
Application programs	May include database programs, word processors, email programs, internet browsers, system browsers and spreadsheets.
Operating System	May include but is not limited to Linux 7.0 or above, Windows 2000 or above, Apple OS X or above.
System information	May include but is not limited to the hardware and software components that run a computer.
On-line help functions	An instruction manual or a portion of the manual, integrated into the program.
Attributes	Indicates several properties of the directory. For example, they indicate whether the directory is read-only, whether it needs to be backed up, and whether it is visible or hidden.
System browser	May include but is not limited to Windows explorer, Konqueror.
Disks	May include but are not limited to floppy disks, CDs, CD-RW (compact disks-read write), DVD RW, zip disks, flash drives, solid state hard drives.
Printer settings	May include layout, paper size, paper tray, cartridge type, number of copies, orientation.
Information	May include but is not limited to documents, test pages, web pages and other output.

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the assessment guidelines for this Training Package.

Critical aspects of evidence	Assessment must confirm the ability to use software, navigate around the desktop, use system features to perform tasks, and save results of work.
Knowledge and skills	**Knowledge includes:** • Basic keyboarding skills • Computer functions • Basic parts of a computer and various hardware components • Storage devices and basic categories • Basic software operation

	Skills include: • Saving and retrieving files to various locations • Mouse management (button usage) for different applications • Reading and writing at a level where basic workplace documents are understood • Ability to communicate with peers and supervisors • Seeking assistance and expert advice • Interpretation of user manuals and help functions • The ability to input user access details for accessing a personal computer (PC) (possibly a networked environment)
Assessment guidance	The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1. Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. In the case of this unit, it could be assessed in a holistic manner with: • ICAU1129B Operate a word processing application
Resources	To demonstrate competency in this unit the person will require access to: • Personal computer • Printer • Mouse and keyboard • Monitor • Basic software
Role context	Demonstrating competency will include knowledge by recall in a narrow range of areas; demonstrating basic practical skills, such as the use of relevant tools and applications; performing a sequence of routine tasks given clear direction; and receiving and passing on messages or information.

Using a personal computer is an essential business function and basic core skill in most workplaces. Demonstration of this competency will require:

- Knowledge of PC operations in a narrow range of areas
- Basic PC practical skills
- Performing a sequence of routine tasks after having received clear direction
- Receiving and passing on messages and information.

The breadth, depth and complexity of knowledge and skills in this competency would prepare a person to perform a defined range of activities many of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

An individual demonstrating this competency would be able to:

- Demonstrate knowledge by recall in a narrow range of areas
- Demonstrate basic practical skills, such as the use of relevant tools
- Perform a sequence of routine tasks given clear direction
- Receive and pass on messages and information
- Maintain knowledge of industry products and services

References

Agostinho, S., Oliver, R.,Harper, B., Hedberg, J., and Willis, S. (2002). *A tool to evaluate the potential for an ICT based learning design foster high quality learning*. Australia: University of Wollongong. p1 - 10.

Arreola, R. (1998). Writing Learning Objectives. The University of Tennessee, Memphis. Retrieved June 1, 2008 from http://www.utmem.edu/grad/MISCELLANEOUS/Learning_Objectives.pdf

Clark, D. R. (2004). Learning Domains or Bloom's Taxonomy. Retrieved May 30, 2008 from http://www.nwlink.com/~donclark/hrd/bloom.html

Engeström, Y. (1994). Training for change: New approach to instruction and learning in working life. In (pp. 11-13): International Labour Organisation.

FSU, (2008). Instruction at FSU: A guide to teaching & learning practices, chapter 2. Centre for teaching and learning. Retrieved June 1, 2008 from http://learningforlife.fsu.edu/ctl/explore/onlineresources/I@FSU.cfm

Kruse, K. (n.d.). Gagne's Nine Events of Instruction: An Introduction. Retrieved June 3, 2008 from http://www.e-learningguru.com/articles/art3_3.htm

Merrill, D. (2008). A task-centred instructional strategy. Retrieved June 2, 2008 from http://www.lscconsortium.com/resources/Task_Centered_Strategy.pdf

Merrill, D. (2002). A pebble-in-the-pond model for Instructional Design. *Performance Improvement*, 41 (7), 39 - 44.

Oliver, R. & Blanksby, V. (2003). *Online learning designs in the training sector*. In G.Crisp, D. Thiele, I. Scholten, S. Barker & J. Baron (Eds.) Interact, Integrate, Impact: Proceedings of the 20th Annual Conference of ASCILITE pp364-374. Adelaide: ASCILITE.

Oliver, R. & Herrington, J. (2003). Exploring technology-mediated learning from a pedagogical perspective. *Journal of Interactive Learning Environments, 11* (2), 111 - 126.

Rowntree, (2000). Who are your distance learners? Retrieved June 2, 2008 from http://iet-staff.open.ac.uk/D.G.F.Rowntree/distance_learners.htm

Skills Tasmania, (2008). North West Tasmania regional training demand profile. Retrieved May 23, 2008 from http://www.skills.tas.gov.au/providers/industryadvice/training_demand_profiles

Smith, P. L., & Ragan, T. J. (2005). *Instructional Design (3rd ed.).* Danvers, MA, USA: Wiley & Sons.

G Stahl (2005) "Engagement with Learning." Foreword to: D. Hung & M. S. Khine (Eds.), *Engaged learning with emerging technologies* (pp. i-v). Retrieved June 2, 2008 from http://www.ischool.drexel.edu/faculty/gerry/publications/journals/index.html

MEY, (2003). Rewriting Objectives to Learning Outcomes. Retrieved May 29, 2008 from http://www.edu.gov.mb.ca/k12/docs/support/home_ec/my_rewriting.pdf