Australian Government

Department of Education, Employment and Workplace Relations

TAADES503B Research and design e-learning resources

Release: 1

TAADES503B Research and design e-learning resources

Modification History

Not applicable.

Unit Descriptor

This unit specifies the competency required to research the requirements for e-learning resources and to design resources based on that research.

Application of the Unit

Learning resources are designed to enhance and support the effectiveness of the learning process. They provide guidance, materials, learning and assessment activities, and relevant information that address the competencies/learning outcomes to be achieved by the learner.
An e-learning resource is any learning resource that is assisted by information and communication technology. This includes but is not limited to web-based and computer-based learning resources, virtual re-creations of vocational contexts, digital collaboration, Internet, Intranet, Extranet, interactive CD-ROM, hand-held computers and satellite broadcast.
E-learning resources are used to support e-based learning or blended delivery and may be used in conjunction with print-based or other learning resources. The complexity of the e-resource will vary depending on its focus, type and audience. The emphasis is on the clarity and structure of the learning resource and how the technology supports this, not the technology itself.
This unit focuses on the e-product design. Development of the e-learning resource is addressed separately in **TAADES504B Develop and evaluate e-learning resources.**
Separate competency standards have been developed because these two functions are often undertaken separately and by different team members. Where competency is required across both the design and development phase co-learning and co-assessment is recommended.
TAADES503B Research and design e-learning resources and **TAADES504B Develop and evaluate e-learning resources** are also closely linked with **TAADES502B Design and develop learning resources**, which focuses on print-based learning resources. Some outcomes and performance requirements of this unit are duplicated in **TAADES502B** but the overall competency is differentiated by the technological skills and knowledge that are applied and integral to performance. It is recommended that individuals undertake **TAADES502B** before commencing **TAADES503B** or **TAADES504B**.
The competency specified in this unit is typically required by instructional designers, learning product developers, trainers/ facilitators and training consultants.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.
Performance criteria describe the performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 **Research and interpret the e-learning resource requirements**	1.1 The **brief**, **focus** and **type of e-learning resource** is clarified with the client
	1.2 The **likely target audience/s** and the **e-learning environment** is **researched**
	1.3 The **characteristics of the learners/end users** are identified and their suitability for e-learning is evaluated
	1.4 **Existing information** which may be relevant is investigated and analysed
	1.5 Training Package and/or **other relevant criteria** are read, interpreted and analysed to determine suitability for e-learning delivery and assessment solutions and the outcomes of this analysis is clarified with the client
	1.6 **Ethical and legal considerations** are identified and acted upon

2 **Generate options for e-learning resource**	2.1 **Standards and guidelines** relevant to the design and development of e-learning resources are identified and clarified
	2.2 Competency standards or other relevant criteria are interpreted to generate and conceptualise design ideas in conjunction with **other people**
	2.3 Principles of **instructional design**, **other design techniques** and **learning theory** are applied in proposing and selecting suitable ideas for the e-learning resource
	2.4 Possible **constraints** are identified and considered in developing design options
	2.5 **Materials** for the trainer/facilitator are identified and documented
	2.6 A preferred design concept is selected and justified as meeting the client requirements
3 **Create the design concept**	3.1 **Critical feedback** is sought from relevant persons and is interpreted to modify and improve the design concept, as required
	3.2 Collaborative arrangements to finalise the design concept are established, where appropriate
	3.3 Sample content is developed which reflects the demonstrated application of e-learning instructional design principles and contains **appropriate e-learning activities**
	3.4 The design demonstrates flexibility of application with contingency pathways integrated and described in the concept
	3.5 **Learner, trainer/facilitator support mechanisms** are built into the design
	3.6 A **representation** of the e-learning resource is created
4 **Finalise the e-learning design concept**	4.1 The design concept is reviewed in conjunction with relevant persons
	4.2 The review process addresses **relevant criteria** to ensure relevance to the product and learner needs

4.3 The design concept is adjusted where required and finalised

4.4 The design concept is approved by the client

Required Skills and Knowledge

Not applicable.

Evidence Guide

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of Assessment

To demonstrate competency against this unit candidates must be able to provide evidence that they can research and design a e-learning resources that address the competency standards to be achieved (or learning outcomes derived from the competency standards), and that reflect the application of instructional design principles and other relevant principles, standards and guidelines in conceptualising the design.

The e-learning resource must meet the needs of the client and end user, be creative, easy to navigate and suitable for the learning content and the target audience. Collaboration with others in creating and finalising the design must be demonstrated.

Evidence Requirements

Required knowledge includes:	language, literacy and numeracy appropriate for the learner group
	cultural and educational background of the learners
	design features which facilitate access to e-learning by range of likely user groups, for example:
	people with a hearing impairment
	those with language, literacy and numeracy needs
	IT principles, for example:
	Internet
	technology capabilities
	e-learning methodologies and vocabulary
	how to create an effective learning experience using electronic technology, e.g. using:
	multiple perspectives
	opportunities for reflection

opportunities for collaborative learning

authentic assessment

incremental learning

variety

organisation

best practice design

a range of e-learning environments and their application in designing e-learning resources

differences in e-learning mode versus face-to-face mode, for example:

ways of communicating electronically versus face-to-face for the learner and deliverer

electronic terms and new language that makes reference to specific functions of e-learning

ways of sharing information and collaborating electronically that differ from face-to-face learning

instructional design for electronic materials, for example:

systematic instructional strategies

learning design principles

criterion-referenced test items

order of increasing difficulty

opportunities for review of material and repetition

the need for interactivity

inclusion of a variety of approaches and techniques for presenting information and activities

structure of the information

what happens if the learner makes a mistake

how to get help

techniques to hold the user's attention

project management, for example:

time management

team management

meeting budgets

administration

relevant policy, legislation, codes of practice and national standards including Commonwealth and state/territory legislation, for example:

design of e-learning resources to meet worldwide accessibility and usability guidelines

copyright and privacy laws relating to electronic technology

security of information

plagiarism

competency standards

licensing

industry/workplace requirements

duty of care under common law

anti-discrimination including equal opportunity, racial vilification and disability discrimination

workplace relations

industrial awards/enterprise agreements

OHS relating to the work role, and OHS considerations to include in the design of the e-learning resource

OHS obligations of the training and/or assessment organisation, the trainer/facilitator and learner

Required skills and attributes include:

representing an e-learning design in a variety of ways, for example:

describing the learner's pathway through a program to a designer

writing the e-learning pathways in a report

describing the e-learning pathways in a sketch or drawing

referring to examples of other e-learning products with similar attributes to the desired online outcome

learning, using and understanding electronic technology

anticipating or predicting risks and plan contingencies

ability to design e-learning resources in alignment with AQTF requirements e.g. if designing resources to support Training Packages

collaboration skills to:

work with vendors and consultants

share ideas and information

seek feedback on the e-learning design

research skills to:

determine the suitability of the learning content for electronic development

identify constraints, resources, standards and guidelines required to design and develop e-learning resources

generate options for the e-learning resource

communication skills to:

negotiate

solve problems

listen to others

adjust personal use of technical language to meet others level of understanding

Products that could be used as evidence include:	a design plan documentation of ideas generated documentation of briefs developed consultations and collaboration with others feedback from clients/learners demonstration web site CD-ROM
Processes that could be used as evidence include:	description of the final e-learning resource how learning outcomes were addressed in the design and why how instructional design principles were maintained how evidence gathering opportunities were incorporated and why
Resource implications for assessment include:	computer system and other technology support personnel
The collection of quality evidence requires that:	assessment must address the scope of this unit and reflect all components of the unit i.e. the Elements, Performance Criteria, Range Statement, Evidence Guide, Employability Skills a range of appropriate assessment methods/evidence gathering techniques is used to determine competency evidence must be gathered in the workplace whenever possible. Where no workplace is available, a simulated workplace must be provided the evidence collected must relate to a number of performances assessed at different points in time and in a learning and assessment pathway these must be separated by further learning and practice assessment meets the rules of evidence a judgement of competency should only be made when the assessor is confident that the required outcomes of the unit have been achieved and that consistent performance has

	been demonstrated
Specific evidence requirements must include:	a minimum of one completed design concept for an e-learning resource which reflects the outcomes and performance requirements of the unit and which demonstrates application of the specified knowledge and skills required to demonstrate the performance requirements
Integrated assessment means that:	this unit can be assessed alone or as part of an integrated assessment activity involving relevant units in the **TAA04 Training and Assessment Training Package**. Suggested units include but are not limited to: **TAADES504B Develop and evaluate e-learning resources** **TAATAS503B Manage contracted work**.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

The briefmay include:	client proposal
	identified gap in the learning product market
	a tender
	an organisational need
Focusmay include:	a Training Package
	a Training Package qualification/qualifications
	a traineeship/apprenticeship qualification
	an accredited course
	individual competency standards/modules/subjects
	a non-accredited course
	a learning program
	a learning resource to support introduction/ implementation of new technology/equipment

Type of e-learning resourcemay include:	Training Package toolboxes
	assessment materials
	trainer/facilitator materials
	learner materials
	professional development materials
	generic skills materials
	industry/enterprise specific materials
	self-paced or instructor-led materials
Likely target audience/smust include:	who the learning resource is for
	what the learning resource is designed to do
	why an e-learning medium is being considered
	how the learning resource will be used
	where learning resource will be used
The e-learning environmentmay be:	web-based
	computer-based
	digital collaboration
	virtual environment
	Internet/Intranet/Extranet
	satellite broadcast
	a combination of these environments
	operate through learning or content management systems/platforms, for example:
	WebCT
	Blackboard
	Janison Toolbox
Researchedmay include:	Internet research
	questionnaires
	evaluations of existing products
	literature reviews
	interviews
	informal discussions
	focus groups

	workshops
Characteristics of the learners/ end usersmay include:	level of prior experience/knowledge of content area
	skill/competency profile
	technical skills in operating in an e-environment
	access to the type of computer required for e-learning
	range and response to previous learning experiences
	level of education
	socio-economic background, age, gender
	current work
	work culture
	cultural or ethnic background
	disability or learning support needs
	preferred learning styles
	motivation for learning
	English language, literacy and numeracy needs

Existing informationmay include:	industry/end user needs
	industry best practice and culture
	existing relevant learning and e-learning resources and materials
	relevant Training Packages/competency standards
	relevant courses, curriculum, modules
	workplace procedures, documentation, and requirements
	industry coverage
	roles and responsibilities of groups and individuals
	information from industry experts and advisers
Other relevant criteriamay include:	learning/assessment strategy
	learning outcomes of curriculums
	accreditation requirements
	curriculum design
	occupational health and safety (OHS) implications for delivering the learning strategy
Ethical and legal considerationsmay include:	contract preparation
	meeting contractual requirements
	intellectual property
	regulatory requirements including OHS
	organisational requirements
	equity issues and needs
	potential legal consequences of false, misleading or incorrect information
Standards and guidelinesmay include:	Guidelines for Toolbox Learning Materials
	DEST Guidelines for Training Package Support Materials
	Training Package competency standards
	Preferred Standards to Support Cooperation in Applying Technology to Vocational Education and Training

	Web Accessibility Guidelines for content from the World Wide Web Consortium (interoperability)
	requirements under the Australian Quality Training Framework (AQTF) for access and equity
	legislative requirements relating to:
	disability discrimination
	equal opportunity
	racial discrimination
	sex discrimination
Other peoplemay include:	colleagues/team members
	the client
	staff of Industry Skills Councils/advisory bodies
	supervisors/coordinators
	project reference groups
	technical specialists
Instructional design principlesmay include:	the need for learner-centred activities and interactivity
	the need for collaborative learning opportunities
	the need for authenticity in learning and assessment activities
	presenting material in a logical order and sequence and in order of increasing difficulty
	opportunities for review of material and repetition
	inclusion of a variety of approaches and techniques for presenting information and activities and for encouraging participation by learning
	structure of the information
	ensure learning is embedded in a realistic and relevant context
	what happens if the learner makes a mistake

	(feedback) how to get help techniques to engage the learner in learning
Other design techniquesmay include:	creative thinking, for example: brainstorming mind mapping scenario setting lateral thinking visual/graphic design, for example: format composition balance typography images/graphics charts/diagrams
Learning theorymay include:	cognitive learning theory behavioural learning theory information processing theory andragogy problem-based learning
Constraintsmay include:	limits of the technology and what types of things it can do financial limitations to achieve proposed options low levels of information technology (IT) skills of trainers/facilitators and intended learners/end users anticipated difficulties due to language, literacy and numeracy skills of learners/end users limited access of intended learners/end users to the necessary technology logistical issues access to relevant technical/subject matter

	experts
Materialsmay include:	trainer/facilitator guide technical guide guide to using the learning resource
Critical feedback may be from:	instructional designers graphic designers information technology experts intended learners/end users communication experts audio-visual experts language, literacy and numeracy specialists programmers IT help desk personnel the client project stakeholders members of the reference group critical friends

Appropriate e-learning activitiesmay include:	tutorials quizzes case studies images audio problems interviews projects tasks web-based role-play e-games for learning simulation checklists online discussions work-based practice activities
Learner, **trainer/facilitator support mechanismsmay include**:	telephone hotline for technical support email facilities regular learner contact with trainer/facilitator or tutor opportunities for feedback instructions orientation/induction schedules procedures
Arepresentation of the e-learning resourcemay be:	proof of concept web site shell diagrammatical representation sketches samples of other similar e-learning products product brief storyboard, for example: PowerPoint presentation html or handwritten show board

Relevant criteriamay include:	benchmarks/learning outcomes are achievable through e-learning design is relevant to targeted learners design is easy to navigate/use design encourages participation and engagement design motivates and provides effective learning resources design provides opportunities for learner reflection and collaboration design meets needs of client

Unit Sector(s)

Not applicable.

Competency Field

Learning Design