Develop and evaluate e-learning resources

This unit specifies the competency required to develop and evaluate e-learning resources based on an agreed design concept.

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 electronic technology. This includes but is not limited to web-based and computer-based resources, virtual classrooms, digital collaboration, Internet, Intranet, Extranet, interactive CD-ROM, hand-held computers and satellite broadcast.

- In the TAA04 Training and Assessment Training Package, learning resources are defined as learning products that have been specifically developed to address a substantive area of learning such as a Training Package, a qualification or a learning program. 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 developing an e-learning resource following a design concept. It involves working with others to develop and evaluate a prototype, improving the e-learning resource based on the evaluation and then working with others to develop the finished resource. It addresses this competency from the perspective of contributing to the development of content, not the technical specifications. However, technological literacy to work with technical experts is necessary.

- The competency of creating the design concept is separately addressed in TAADES503A Research and design 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.

- This unit has some content overlap with TAADES502A Design and develop learning resources which focuses on print-based learning resources but it is differentiated by the technological skills, knowledge and application required to perform this work. It is recommended that individuals undertake TAADES502A Design and develop learning resources before commencing TAADES503AA Research and design e-learning resources or this unit of competency.

- This competency would normally be achieved in a collaborative working environment involving a project team that develops the complete e-learning resource.
The prototype developed for evaluation may not be a fully functional e-learning resource. Parts of it may be in detailed draft or presentation form, such as a storyboard, with supporting information yet to be built into an e-learning resource.

The competency specified in this unit is typically required by instructional designers, learning product developers, trainers/facilitators, training consultants.

### Unit Sector

<table>
<thead>
<tr>
<th>Element</th>
<th>Performance Criteria</th>
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| 1. Participate in the development process | 1.1 Individuals who can contribute expertise to the e-learning resource development are identified and proposed to the project manager  
1.2 Own role in developing the e-learning resource is identified and agreed with the project manager including responsibilities for client liaison, where relevant  
1.3 Roles of each team member and their contribution to developing the e-learning resource are clarified through team discussions  
1.4 A collaborative work ethic with team members is demonstrated throughout the development process  
1.5 Appropriate documentation is maintained throughout the development process |
| 2. Develop the e-learning resource prototype in conjunction with others | 2.1 The design concept and any relevant standards or guidelines are read, interpreted and clarified  
2.2 The identified target audience and their learning needs and characteristics are identified or confirmed using information from the design phase  
2.3 The technical parameters and technological requirements are discussed with team members throughout development phase  
2.4 Learning expertise is applied to write or present the learning content for the prototype in accordance with the quality requirements of the design concept  
2.5 Technical and/or content issues are raised with relevant persons immediately they arise and collaborative approaches are used to resolve them |
| 3. Trial and evaluate the e-learning resource prototype | 3.1 Tools which specify relevant criteria for trialling and evaluation are developed in collaboration with others  
3.2 Trial sites/audiences/users are identified, confirmed and the trialling/evaluation process is undertaken in collaboration with others  
3.3 Feedback and results from the evaluation are documented and analysed to determine any changes or improvements relating to own areas/s of development responsibility  
3.4 Identified modifications are made and the prototype is finalised in collaboration with others |
4. Collaborate in developing the full e-learning resource

4.1 Designated responsibilities in developing the e-learning resource are carried out and any milestones, budgets and timelines are met

4.2 Other members of the project team are supported in fully developing and completing their designated components of the resource

4.3 The completed e-learning resource is evaluated through a collaborative process with team members against criteria, standards and guidelines

**KEY COMPETENCIES**

<table>
<thead>
<tr>
<th>Key Competency</th>
<th>Example of Application</th>
<th>Performance Level</th>
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</thead>
<tbody>
<tr>
<td>Communicating ideas and information</td>
<td>working with others in the project team applying expertise to writing or presenting ideas</td>
<td>3</td>
</tr>
<tr>
<td>Collecting analysing and organising information</td>
<td>analysing information from different technical experts gathering a range of different forms of information to contribute to the project</td>
<td>3</td>
</tr>
<tr>
<td>Planning and organising activities</td>
<td>organising and planning activities throughout the project in collaboration with others meeting required timelines within the project</td>
<td>3</td>
</tr>
<tr>
<td>Working with others and in teams</td>
<td>working with team members understanding personal role in the team</td>
<td>3</td>
</tr>
<tr>
<td>Using mathematical ideas and techniques</td>
<td>working within technical parameters setting up evaluation tools</td>
<td>2</td>
</tr>
<tr>
<td>Solving problems</td>
<td>fitting different parts of the project together solving problems within the team identifying and addressing risk management issues</td>
<td>3</td>
</tr>
<tr>
<td>Using technology</td>
<td>applying a range of technology required to develop e-learning resources learning new forms of technology</td>
<td>3</td>
</tr>
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</table>

**RANGE STATEMENT**

The Range Statement adds definition to the unit by elaborating critical or significant aspects of the performance requirements of the unit. The Range Statement establishes the range of indicative meanings or applications of these requirements in different operating contexts and conditions. The specific aspects which require elaboration are identified by the use of italics in the Performance Criteria.

Project manager may include:

- self
- supervisor
Roles of each team member may include:

- project management
- communication
- graphic design
- multimedia
- software design
- computer programming
- audio-visual expertise
- research
- instructional design
- content writer/developer
- editing
- proofreading

Documentation may include:

- draft materials/content
- draft e-learning activities
- technical specifications
- tools for evaluation
- feedback/results of trial/evaluation process
- comments/feedback from client

Design concept includes:

- the basis for the proposed design including sample design construct or representation for the e-learning resource

Standards or guidelines may refer to:

- Guidelines for Toolbox Learning Materials
- Guidelines for Training Package support materials
- competency standards
- Web Content Accessibility Guidelines from the World Wide Web Consortium (interoperability)
- Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training
- requirements under the Australian Quality Training Framework (AQTF) for access and equity
- legislative requirements relating to:
  - disability discrimination
  - equal opportunity
  - racial discrimination
  - sex discrimination

Target audience and their learning needs must 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
Characteristics may include:
  • level and breadth of work experience
  • level and previous experiences of formal education
  • skill/competency profile
  • socio-economic background, age, gender, range of abilities (disabilities)
  • cultural background and needs
  • specific needs - physical or psychological
  • motivation for learning
  • language, literacy and numeracy needs of learners
  • learning style and preferences

Technical parameters and technological requirements may include:
  • type of electronic media
  • required technical software and hardware
  • learner management interfaces
  • technical navigation tools
  • integration of media

A prototype may include:
  • CD-ROM
  • web pages
  • storyboards
  • audiovisual resource
  • virtual classroom
  • simulation via Internet/Intranet/Extranet
  • satellite broadcast
  • computer-based resource
  • a skeleton of a resource
  • a representation of colour, look and feel of the resource
  • written information yet to be built into the resource

Quality requirements include:
  • 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

Tools may include:
  • surveys
  • interviews
  • trial applications

Relevant criteria may include:
  • navigation/ease of use
  • quality instructional design
  • application of relevant standards
EVIDENCE GUIDE

The Evidence Guide provides advice to inform and support appropriate assessment of this unit. It contains an overview of assessment followed by identification of specific aspects of evidence that will need to be addressed in determining competency. The Evidence Guide is an integral part of the unit and should be read and interpreted in conjunction with the other components of competency.

Assessment must reflect the endorsed Assessment Guidelines of the TAA04 Training And Assessment Training Package.

To demonstrate competency against this unit candidates must be able to provide evidence that they can develop and evaluate a prototype e-learning resource by following the design brief, and ensure that learning outcomes/competency standards are addressed.

The e-learning resource must meet the principles of instructional design, be well structured and organised, and provide variety for the learner and clear pathways for learning. The designer will work with a project team (which may include a range of experts from various technical fields) on the development of the e-learning prototype resource and final product to ensure the learning components are addressed.

The prototype developed for evaluation may not be a fully functional e-learning resource. It may include information that will be built into an e-learning resource by team members who have the expertise required to complete the resource.

Required knowledge includes:

- knowledge of IT principles, for example:
  - Internet
  - technology capabilities
  - e-learning methodologies and vocabulary
- project management, for example:
  - time management
  - work flow
  - team management
  - meeting budgets
  - administration
- effective learning using technology, e.g. using:
  - multiple perspectives
  - opportunities for reflection
  - opportunities for collaborative learning
  - authentic assessment
  - incremental learning
  - variety
  - organisation
- language, literacy and numeracy appropriate for the learner group
- resources available to support learning, for example:
  - books
  - articles
  - documents
  - manuals
  - web links
  - lectures
- differences in e-learning 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 that
differ electronically 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 person makes a mistake
  • how to get help
  • techniques to hold the user’s attention
• relevant policy, legislation, codes of practice and national
  standards including Commonwealth and state/territory
  legislation, for example:
  • 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
• relevant occupational health and safety (OHS) knowledge
  relating to the work role, and OHS considerations to be
  include in the content of the e-learning resource
• OHS obligations of the training and/or assessment
  organisation, the trainer/facilitator and learner
Required skills and attributes include:

- overcoming barriers to e-learning, for example:
  - using graphics and pathways which are appealing and engaging
  - identifying and addressing lack of technical knowledge in potential users
  - learning, using and applying electronic technology
  - collaboration skills to:
    - work with vendors and consultants
    - share ideas and information
    - seek feedback on the e-learning design
  - communication skills to:
    - negotiate
    - problem solve
    - listen to others
    - adjust personal use of technical language to meet level of understanding of other collaborators/likely users

Products that could be used as evidence include:

- final or prototype e-learning resource
- parts of the e-learning resource under development
- plans, diagrams or notes taken during development
- evaluation tools developed
- results of prototype trials

Processes that could be used as evidence include:

- how team roles were allocated and why
- how learning outcomes/competency standards were related to technical parameters
- how trial sites/audiences were selected and why

Resource implications for assessment include:

- technology required for development
- 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 Requirements and Key Competencies
- 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:

• evidence of supporting and contributing to the development for an e-learning resource through collaborative working relationships with colleagues
• contributing to the development of the prototype
• developing the specific components/areas of content
• conducting the trial and evaluation
• responding to feedback, modifying the prototype and finalising the resource in association with team members

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:
  • TAADES503A Research and design e-learning resources
  • TAATAS503A Manage contracted work.