Otago Polytechnic

Learning Design Framework for online and blended courses

22 September, 2014

Adapted from TANZ eCampus Learning Design Framework 1 May 2014

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OTAGO POLYTECHNIC LEARNING DESIGN FRAMEWORK[1]

PURPOSE

The Otago Polytechnic Learning Design Framework outlines the education principles and design methodologies, consistent with Otago Polytechnic's Learning and Teaching Strategic Framework, to enable developers create programmes and courses. In particular it will guide Otago Polytechnic's use of blended learning as a fundamental course delivery model. It will also guide the development of wholly online courses and resources.

Otago Polytechnic e-Learning Goals

Otago Polytechnic's e-learning goals apply to the development of wholly online courses and resources as well as to the online components of blended courses.

Interoperable, reusable, sharable

Online courses/resources and their contents are independently shareable. When designing wholly online courses, every effort should be made to ensure that the course-in-itself, the learning modules, the assessments, and any instructional material may stand on its own. This means that each element should be designed in such a way that it fits within the course context and contextualization, and would be equally effective if removed from the original environment and, with minor adaptation, placed within a different course, Byte or set of learning resources.

Within this general requirement, the choices of external authoring and activity tools and the appropriate use of LMS must ensure a high quality user experience and also enable re-usability of specific content across multiple courses and be informed by the data and progress checking requirements for generating the Otago Polytechnic learning analytics and learner dashboard.

Facilitation Ready and standalone

Specialist learning design and development teams including academic staff as subject matter experts will create the courses/resources ready for delivery. When writing content, assessments, activities or instructional guidelines, the author or designer should take great care to ensure that the material presented is free from idiosyncrasies and personal references.

[1] Adopted from TANZ eCampus Learning Design Framework, created by Nicola Marae Allain, Ph. D., in consultation with Phil Ker, Otago Polytechnic, and TANZ learning design and quality assurance teams led by Vasi Doncheva, Northtec, Sally Pairman, Otago Polytechnic, David Sturrock, NMIT, Dr. Shirley Wilson, CPIT, Shane Wohlers, EIT

Academic staff will facilitate the courses though provision of ongoing teaching presence, formative feedback on assessments, and a summative evaluation at course completion. When appropriate to the topic, course and programme, courses should be designed to allow an autonomous learner to access the material, instructions, assessments and expectations without the need for facilitation.

Facilitators will not have permission to change all aspects of the course related to course information, content, learning resources and assessments, except through an approved revision process (to be defined).

Creative Commons Licensing and Open Educational Resources

For courses/resources developed specifically for Otago Polytechnic, ***when feasible and wherever possible, courses and their components should be created with open educational resources and use materials licensed under the Creative Commons.***

Support Appropriate to Learner Levels

Courses should be designed to accommodate learner levels and expectations, as appropriate. See The New Zealand Qualifications Framework (NZQF) for a description of learner levels.

Consideration must also be given to the learner's proficiency in online educational environments, and familiarity with the Otago Polytechnic Moodle interface.[2] Developers should take a programmatic approach to planning how learning competencies and online comfort levels are scaffolded within and across courses.[3]

With regards to e-learning proficiency levels, the **novice** to online courses will need strong scaffolding and clear explanations of how to navigate the course or resource, complete tasks, and access built-in supports. These should point to generic online student support resources available from Otago Polytechnic (under development). If identified student resource needs are yet to be developed, designers could either request that they be built, or create them for the course.

The **intermediate** e-learner (who has completed 1-3 online courses) will still need scaffolding and to access built-in supports, but should be familiar with the basic aspects of navigating a course or resource and completing tasks.

In the spirit of supporting the development of autonomous learning, we expect that the **advanced** e-learner (who has completed more than three courses online) should be able to navigate a course or resource with confidence, and will only need a reminder of where to find support should s/he need it.

[2] Note that proficiency using the internet, social media and web 2.0 tools doesn't necessarily transfer to understanding how to navigate an online course and participate in online learning activities.

[3] See Kranzow, Jeannine. "Faculty Leadership in Online Education: Structuring Courses to Impact Student Satisfaction and Persistence." *Journal of Online Learning & Teaching* 9, no. 1 (2013). http://jolt.merlot.org/vol9no1/kranzow_0313.htm

LEARNING DESIGN PRINCIPLES

Otago Polytechnic Learning Design principles[4]

Learning design refers to the process of explicitly designing learning activities, content, tools and supports to enable a learner to meet a specific learning goal. It also defines the process for ensuring that the learners' experience of a course is consistent with the statements about learning, teaching and assessment in the programme regulations and related policies. A well-developed learning design rationale will inform programme design as well as course development.

Otago Polytechnic's learning design principles acknowledge the learner is at the core of our programme, course and assessment design. It is important that the learner's experience and existing knowledge is recognized and utilised within the learning process.

Otago Polytechnic is committed to using blended learning as a delivery model for on-campus courses. Blended learning increases learner control over the time, place, path, and/or pace of his or her learning; ensures the relevancy and currency of courses; and enables staff to delivery high quality courses within resource constraints.

All Otago Polytechnic programmes, whether provided through blended delivery or wholly online, will utilise experiential learning pedagogies. Learning is gained from experience. Through reflection on authentic activities or work place experience learners make meaning, gain understanding and new knowledge that can be actively tested. Experiential learning can be teacher-led or learner-led so long as the learner actively participates in experiences, reflects on these and applies new learning through action.

Otago Polytechnic will apply the following principles as part of its learning design processes:

1.	**Learner engagement** Consideration shown to one or more of the following: a variety of activities including an authentic focus; learners are active & engaged with peers and staff; learners are able to reflect on and integrate the learning experience; engagement strategies will take account of cultural responsiveness.
2.	**Constructive alignment** There are consistent, coherent and logical interconnections between graduate profile, intended learning outcomes, teaching/learning activities and assessment activities. Content to be appropriately structured & purposeful. Courses should develop learner capability, ie. Personally effective, future focused, sustainable practitioners (see Otago Polytechnic's capability assessment tool).

[4] *These are evaluated in the Learning Design Quality Standard = *"Most of the TANZ Learning Design principles are applied appropriately to the course and content."* Learning Design Principles drafted for TANZ by Martin Jenkins, Michael Smythe, Dr. Shirley Wilson, et al.

3.	**Activity-based and authentic assessment tasks** The topic design enables learning to be constructed through the use of activities and, or supported by interpersonal communication. (Topics are not driven by information transference). Assessment tasks are based around real-world tasks and/or contexts.
4.	**Constructivist approach as appropriate to the learning context** In what ways are problems, issues and activities situated for the student using authentic examples that connect to the real world beyond the classroom? This includes acknowledging the appropriate level and types of learning, including a variety of learning styles.
5.	**Challenge learners and develop learner autonomy** Consideration shown to how learners will be provided with opportunities to develop skills and knowledge through tasks that are problem based. Structured learning activities will be the focus of student-managed learning.
6.	**Feedback & practice** Consideration given to how learners articulate and demonstrate to themselves and others what they are learning, supported by regular constructive feedback and social dialogue (tutor and peer). Online formative assessment activities will support learning.
7.	**Learner guidance** Consideration shown as to how learners are supported and guided through their learning, demonstrating clear scaffolding to encourage greater student responsibility. This includes guidance on how to use technology in learning and how to manage structured learning activities.
8.	**Pedagogically appropriate technology use** Where technology is used, it should extend the potential for learning, and not be used simply for its own sake. Learner capability and support requirements will form part of this decision.

The above list is adapted from JISC (2009) and is informed by the work of Oliver (1999, 2001), Oliver and Herrington (2001), AUTC, (2003), JISC, (2009), Kahn & O'Rourke, (2004).

BLENDED LEARNING

Blended learning involves leveraging digital technologies to afford each learner a more personalized learning experience, meaning increased learner control over the time, place, path, and/or pace of his or her learning.

The definition of blended learning is a formal education programme in which a learner learns:

At least in part through online learning, with some element of learner control over time, place, path and/or pace:
+
at least in part in a supervised on-campus experience

+
and the modalities along each learner's learning path within a course or subject are connected to provide an integrated learning experience.

(Clayton Christensen Institute).

The intent of a blended learning approach is to carefully match the learning design to the desired learning outcomes, taking into account the nature of the concepts and skills to be learned, and the potential contributions of available technological and traditional tools and approaches for enhanced learning.

Key assumptions of blended learning:

- Thoughtfully integrating face-to-face and technology-supported learning approaches
- Fundamentally rethinking the course design to optimize learner engagement and the alignment between learning outcomes, learning tasks and asseessments
- Restructuring traditonal class contact hours, and potentially altering the learning environment and contexts.

(Adapted from Garrison & Vaughan, [2008] and QUT Blended learning - http://www.els.qut.edu.au/blendedlearning/index.jsp)

See Blended learning PPT

ONLINE COURSE DESIGN GUIDELINES

An Otago Polytechnic online course includes the following:

- **a comprehensive course overview**, complete with schedule and learning paths, including description of prerequisite skills and knowledge required to succeed (may include tools required). Learning Paths are a required component of the course outline that indicate the general approach, activities and topic structure of the course, including assessments. Learning Paths will ideally be illustrated with visual infographics or flow charts.
- **reusable learning objects**, defined in the broadest sense (this may be learning modules, content guides, or contextualized learning bytes) to present the course content
- **formative and summative assessments and activities** (which may include student led or facilitated discussion)
- **instructional guidelines** providing context for the learner
- **built-in, pre-written opportunities for establishing teaching presence** (such as instructor commentaries on the course topics +/or activities)
- **guidelines for the facilitator** (hidden from learners) to include strategies for providing teaching presence when the course goes live.

In addition, where possible and appropriate to the course topics, they should value and include **examples from and/or references to Māori culture, knowledge and language**.

Courses should include activities and content that build learner capability, i.e. personal effectiveness skills, work-readiness, future focus and sustainable practice.

Recommended course elements

1. **A "How to Navigate this Course" type orientation**.

2. **A fully developed "course overview" or "course outline" syllabus type document** (or set of pages) showing the learner how everything comes together.

The following structure provides an example:

1. Welcome
2. Course aims and outcomes
3. Course expectations (includes peer to peer interaction and communications; roles – time frame for facilitator responses etc.)
4. Pre-requisite knowledge and skills or capabilities that will be required (can reference SSS resources if don't have these)
5. Structure, learning paths and completion requirements

6. Assessment
7. Reflective Journal/Learning Diary (optional)
8. Submitting work
9. Accessing resources
10. Accessing support
11. Tools you will need to know how to use
12. Getting started
13. Policies and procedures (signpost)
14. Programme regulations (signpost or include)

3. **Learning Paths.** Learning paths guide learners through the course. They should both illustrate and explain the learning activities, and how they are to be used to fulfill the learning outcomes/objectives.

4. **Readings and Resources.** Otago Polytechnic has a preference for the use of OER resources and minimizing the use of commercial text books to enable reusability. Learners have access to Library services. To ease long term maintenance, rather than full in-context reading references, a separate topic-based bibliography should be provided, including textbook references, which can be easily customized for each delivery.

5. **Reusable Learning Objects and Standalone Learning Modules.** To enable sharing of similar topics across courses and programmes.

6. **Assessments and learning activities**, with opportunities for both formative assessment and summative assessment. Online formative assessments will be developed.

7. **A full contextualization of the course content and learning** (situating the learning within the discipline and current concerns, etc.) provided by academics as subject matter experts (SME). This could be done by providing brief "instructor commentaries" or other such document that would precede the Learning Module for each topic. The presentation of the tutor commentary within Moodle should be as personalized as possible.[5]

8. **A user-friendly visual design applied to the whole course** (not only to the Learning Modules). See below for specifications on visual design. This design should have consistency across all courses within a programme and with Otago Polytechnic branding requirements, but still clearly be focused on the quality of the user experience required for each course.

9. **A learner-friendly tone and contextualization of learning** present throughout the entire course, and consistent between the RLOS, learning modules, course information documents, assessments, and all pages of the course.[6]

10. Where discussions are used, **course discussion starter pages (Moodle forum settings) should frame discussion with a similar look and feel to the pages presented in the learning modules**. Discussion starter information and/or instructions should be placed directly in the forum starter page (and not just in the learning modules or course information documents).

[5] NMIT uses CSS to change tutor images and name across commentaries in a course.
[6] This may require the use of an editor, especially in a course developed by multiple authors.

11. Where possible and appropriate to the course topics, they should **include examples from and/or references to Maori culture and language.**

12. **Guidelines for the facilitator and transfer/re-contextualisation instructions** for the design team, provided in a separate course document hidden from learners.

Social Media and Web 2.0 Tools Integration

When appropriate to the learning, courses and learning modules should integrate opportunities to interact with social media and web 2.0 tools and applications. For specialized courses, this might include interactive portfolio applications for web and mobile media.

Additional Considerations

Supports:
Integrate support for using the course technology and institutional level learning resources.

Provide clear guidelines and context for materials and assessments as well as learning modules. These should be integrated into course level documents (and not just in the course outline).

Reusable Learning Objects (RLOS)
Add instructions for learning designers, facilitators & tutors that support ease of use, transferability, and customisation[7].

Provide appropriate contextualization for the RLOs to be integrated into comprehensive credit-bearing courses.

To enable flexibility of re-use and for adding tutor presence and contextualization, it is recommended that RLO's have a limited size appropriate to a specific topic or within the weekly workload of the delivery schedule of the course (e.g. five hours study time).

File formats
Refer to the technical standards document for preferred file formats for documents and other media.

Assessment formats and tools
Online formative assessments will be developed for each course and used to promote learning and provide feedback to learners through analytics and visual dashboards.

[7] See the NMIT TANZ Learning Byte Oral Presentation course for an excellent example of how a course template may be designed to host a series of related reusable learning objects (RLOS) within an environment that provides instructions for developers and tutors. The RLOS seem to stand alone, and the learning designers provide a thoughtful supporting context to assist others in using them effectively.

Turnitin will be used prior to submission of all summative assessments.

Strategies to use in the assessment design process:

- Aim for authentic learning design to adhere to learning design principles and reduce plagiarism opportunities.
- Decrease the use of essays and replace them with discussion based activities, case study exercises, and opportunities for active and applied learning. If essays are used as a primary assessment strategy, incorporate a significant reflective element (and have students submit essays to Turnitin).
- Formative assessments could include, but are not limited to, online quizzes with auto marking options.

Navigability and Course Format

Course Format

Moodle provides different options for displaying the course (course formats). The one topic format will be the standard format for OP courses. This format supports both topic and week-based course structures and improves ability to present instructional guidance and content in clear chunks. Student feedback has been positive for improved navigability and visual appeal.

Moodle "Blocks"

Moodle provides the option of setting up "blocks" on the right or left side the home page. These are anchored, and remain constant throughout the course.

We recommend using a selection of standard, mandatory blocks, leaving the remainder optional to the design teams. Recommended blocks are as follows:

1. Tutor contact details
2. News
3. Quick search
4. Progress bar/s
5. Upcoming events or calendar
6. Recent activity

Notes:
1. This specification will be impacted by choice of overall Moodle theme. The Decaf theme includes the Moodle navigation and administration blocks in the horizontal menu horizontal menu The Awesome Bar can be merged with the standard Moodle custom menu bar or kept separate. This reduces the number of blocks required and enables a single column of blocks to be used.

Mobile Compatibility

Many learners access online courses with mobile devices such as tablets and smartphones. Ideally, courses and activities should be designed for maximum compatibility for mobile access and interactions.

The Moodle site should have responsive theme and media (images/video) sizes and formats appropriate for viewing on at least tablet devices.[8] RLO's must be able to be viewed on these devices as well, although depending on their purpose may be optimized for larger screens. Some thought will also be required for supporting use of the Moodle-supplied mobile app.

Student progress tracking

Course learning design should include the use of tools to track student progress within courses beyond simple assessment results. This might include the use of Moodle completion tracking (criteria-based or student self-completion), progress bar and/or badges. Assessments should be designed to allow for tracking, online marking and the use of Moodle grade book features. These features should integrated with Otago Polytechnic's learning analytics strategy and programme goals, as well as the concepts of individual learning plans and a student dashboard/portal.

VISUAL DESIGN AND BRANDING

Recommendations for Visual Design

1. Create consistency in navigability, look, feel, and format across OP courses.

   Courses will share navigational conventions and labeling of navigational devices (arrows, icons). The choice of Moodle course format will influence the navigation.

2. Develop a standard for font, icons and screen layout to be applied to all courses. These include:

   - **Standard font and font sizes for headers, subheaders, and text body.**
     Within the LMS, these should be set by theme styles applied to text and standard heading formats (i.e. do not specify font details directly to text). NMIT used labels combined with CSS to apply styles to headings and other Moodle page elements. This method could be extended to cover more elements and different styles for Otago Polytechnic.[9] [10]
   - **Similar standards for printable documents,** with variation for print readability, etc. This includes a standard layout and formatting requirements for printable documents and forms.
   - **Editorial Standards for Reusable Learning Objects.** Ideally, a theme or style template could be applied within the RLO authoring tool (eXe, Articulate and Captivate all allow for this).[11]
   - **Standard icons to be used for all courses and programmes**. Icons can be handled using the Font Awesome, which provides a series of graphics in font form, therefore reducing the bandwidth required to load the pages. [12]

[8] The Decaf theme was originally created by Lei Zhang and Paul Nicholls from CPIT.
[9] https://moodle.org/plugins/view.php?plugin=mod_customlabel
[10] NMIT looked at a non-core module called course elements to achieve a similar end, but felt this solution may be less reliable, and would reduce Moodle's native re-usability options.
[11] NMIT will provide specifications for what they have used in the pilot courses.

- **A standard screen layout across courses.** A two column layout with blocks on right-hand side is recommended.

3. Enrich courses with visual design, media rich elements, and graphic enhancements (relevant images, data visualization). These should be present in course information pages as well as learning modules. Apply a standard for image size and media specifications.

4. Design for accessibility. To do this, alt-tag all images and icons, add captions, and ensure that screen-readers and audio readers will be able to access content. These steps will create web content granting disabled learners equal access to information. If possible, provide transcripts for videos. Provide alternative assessments if the current formats are not accessible to learners with disabilities.

Branding

Branding elements include (but are not limited to) Logos, colours, fonts, styles, layouts, and standard graphics. These can be set at the theme level in Moodle, using CSS.

[12] http://fontawesome.io/icons/

TECHNICAL SPECIFICATIONS

Authoring Tools

In the first phase of the learning design for OP courses, Moodle Native tools should be used for course authoring, along with multimedia authoring tools selected by the development teams. Currently, eXe, Articulate, and Captivate are used for learning object development. Pilots are underway with Bracken, Ocean Browser and Kura Cloud.

Course Design and Methodology[13]

The proposed model follows 3 distinct phases in product production: design, development and evaluation. A team of experts approach is recommended in order to produce high quality product efficiently.

Design and development team

Expertise	Skills / team role
LD – learning design	Define LOs; design assessments, create the learner journey, learning activities, and scaffold the learning; design the overall course flow, sequencing of instruction, storyboard, course theme, learner engagement with content, context and learning interface.
SME – subject matter expert	Write course content and contribute to course outline. Provide current subject matter knowledge and expertise in defining learning outcomes, assessments and reviewing and selecting learning resources. Provide the instructor commentary, develop course topics, learning activities and overall flow of the course; design discussion questions.
DL - digital librarian	Identify and source appropriate resources: readings, articles, e-texts, e-books, videos, presentations, digital media and web based resources.
Dev – developer	Produce the designed learning experience into the selected format (wiki, web, SCORM, eXe, etc.). Place in T&L repository and embed in selected LMS.
MD – multimedia developer	Design and develop and publish multimedia resources (graphics, videos, animations etc.)
DAV - Design assistant for visual resources*	Source appropriate graphics, images and other visual resources as needed
Editor	Editing as needed to ensure constant tone and voice throughout a course
PPR - Pre- production reviewer*	Testing for functionality, technical issues (broken links), spellcheck etc.
QAE – quality assurance evaluator	Review and provide feedback on learning design and final product against established quality and technical standards.

[13] Developed by Vasi Doncheva v1.5, 2/24/2014

Phase 1 – planning and design	Phase 2 – development	Phase 3 – evaluation
Initial design planning meeting to establish: Write Learning Outcomes – LD and SME Develop learning matrix (mapping LOs to assessments) – LD and SME Design assessments / evidence of learning – LD and SME Design learning journey / course flow / theme / storyboard - LD Design learning activities and support resources - LD in consultation with SME Develop facilitation guide – LD and SME Follow up design meeting if needed Source and select text resources – DL and SME Source visual resources – DAV* Excellent course outline as a product of this stage	Create course – Dev, LD and SME* Following LD script develop and organize - Dev - topics - learning activities - assessments Place in T&L resource repository and embed in the course – Dev and MD Develop multimedia, graphics, videos based on LD script / storyboard – MD Place media in repository – Dev Embed in courses - Dev Review and edit course to ensure consistent tone and voice – Editor *	Internal QA review and evaluation – SME / QAE (including pre moderation) Feedback to LD and Dev Review and implement changes as per internal QA review Review and prepare for eternal evaluation - PPR * External QA review and approval

* these tasks will be initially performed by other roles until development reaches volumes that will justify additional roles and staff to be added (e.g. DAV role could be performed by DL, Editor and PPR could be part of internal QA review role).

CONCLUSION

The Otago Polytechnic Learning Design Framework provides the overall guidelines for online and blended course development and designing the learner experience to develop capability. This document does not stand alone. The following documents provide key aspects of the Learning Design Framework:

1. Otago Polytechnic Quality Standards
2. Otago Polytechnic Quality Standards – User Guide & Evaluator notes
3. Quality Assurance for Otago Polytechnic Courses and Programmes (under development)
4. Otago Polytechnic Technology Standards. (under development)