

This is the author version of an article published as:

Heathcote, Elizabeth A. (2006) Learning design templates – a pedagogical just-in-time support tool, in Minshull, Geoff and Mole, Judith, Eds. Designing for Learning, chapter 4, pages pp. 19-26. JISC Development Group.

Copyright 2006 (please consult author)

Accessed from <http://eprints.qut.edu.au>

Learning design templates – a pedagogical just-in-time support tool

By Elizabeth Heathcote, Queensland University of Technology

e.heathcote@qut.edu.au

Abstract

An ongoing obstacle to the widespread adoption of effective and engaging online teaching is the degree of pedagogical understanding required by the academic to make the most of the available online tools. This paper describes the Learning Design Templates project at Queensland University of Technology, which provides academics with templates that embed specific pedagogical principles, for example problem based learning, work integrated learning and creative thinking skills. These 'learning design templates' consist of online tools, examples and suggestions that are carefully structured around generic learning activities. The templates can be customised to suit a range of subject disciplines, and are situated within an educational framework. This short paper outlines the rationale and process undertaken to create the learning design templates.

Introduction

The Learning Design Templates project arose from an identified need to reconsider how the learning management system environment can better support student learning at Queensland University of Technology. Although the in-house built Online Learning and Teaching system (referred to as OLT) already has the technical capabilities to produce engaging learning environments, lecturers do not often have the time, understanding of technical capabilities of the system or pedagogical expertise to design online learning resources in an effective way (Burnett and Dawson 2005). While learning designers can assist academic staff in this regard; resourcing and time limitations mean that this support is rarely just-in-time or widespread. In addition, managing the multiple teaching priorities of face-to-face lectures and tutorials along with the lack of know-how mean that in blended

environments such as that at Queensland University of Technology, many academics resort to content-based designs or information repositories for their subjects.

Various evaluations of students and staff of Queensland University of Technology conducted during the period 2003- 2005¹ highlighted how the learning management system was primarily used as an information dissemination mechanism consistent with the goals of flexible delivery (accessing course content at variable time and place) of the mid 1990s. with the capabilities of the learning management system primarily being used for the easy dissemination of high volumes of course and unit content files. Assistance for academics with the structuring of online learning activities and socio-constructivist pedagogical online learning designs such as scaffolded activities and group discussions, is required for active learning activities to be part of the online learning experience for students. Although staff development and learning design consultation can provide that assistance, with over 4000 units of study, just-in-time supports needed to be built-in to the usage of the learning management system as much as possible.

Templates as Pedagogical Design Supports

The development of the learning designs templates are intended, through their structure and their linkages with other resources, to allow academic staff to include pedagogically-sound learning designs into their online learning environments. The project is currently in pilot phase. The aims of the project were to:

- group individual OLT resources into templates and sequences which situate the tools within a sound pedagogical framework;
- promote lecturer understanding of the pedagogical principles underpinning the chosen learning designs;

¹ The evaluations were:

- An internal Online Services survey to students and staff which included questions on use of the learning management system (internal report);
- A survey of Australian Technology Network university students on learning management systems (Platts: 2004);
- An evaluation of the use of various types of communication, assessment, information dissemination and information design tools (Heathcote: 2005).

- provide academic staff with a selection of learning sequences and templates which can be modified according to their teaching aims and the context;
- provide options for blended learning, by ensuring academic staff have options for carrying out some designs face-to-face and others online.

The project team began research into existing work on Learning Design templates by considering both the extensive work completed by University of Wollongong on reusable learning designs, and the IMS Learning Design Specification. In deciding which templates to build, the team researched a large array of pedagogical approaches and specific learning activities that have been developed over decades of educational theory. We classified these according to the focuses outlined by the AUTC project, and then chose a small selection to develop as a prototype (see figure 1, below). The team chose two large templates that imply a whole-of-course approach (problem based learning and work-integrated learning), one that could be used across the course or for a discrete activity (group problem solving), and small learning activity templates that encapsulate a single activity (such as deBono's Six Thinking Hats and SWOT analysis).

Learning design templates

A learning design template is a set of OLT resources that can be used and reused for a particular learning and teaching purpose. It can incorporate the design of an entire unit, for example using a Problem Based Learning template, or it could simply comprise of a small activity that you could use as part of a tutorial.

Learning design templates are designed to save time in preparing a unit OLT site. They also feature a particular pedagogical approach (eg groupwork, reflection etc) and are designed to work within a particular learning environment (eg large cohort online, small cohort blended mode etc).

Learning design templates will be available in 2006. If you would like to help trial and test one or more of these templates in your unit, please contact the project manager, [Liz Heathcote](#).

Template Name	Focus	Applies to	QUT Graduate Attributes	Activity Type- Individual, Group	Thinking level	Class size
Group Problem Solving	Collaborative, role-play	Entire site	Communication Teamwork	Group	All	10 to 50
Creative thinking tool: Force fit analogy	Concept/Procedure Development	One page	Problem Solving / Critical Thinking, Creativity / Design	Individual	All	All
Creative thinking tool: Morphological box	Concept/Procedure Development	One page	Problem Solving / Critical Thinking, Creativity / Design	Individual	All	All
Creative thinking tool: SCAMPER	Concept/Procedure Development	One page	Problem Solving / Critical Thinking, Creativity / Design	Individual	Intermediate	All
Creative thinking tool: Six thinking hats	Concept/Procedure Development, Role-play	One page	Problem Solving / Critical Thinking, Creativity / Design	Individual	Basic, Intermediate	All
Plus Minus Interesting	Concept/Procedure Development	One page	Problem Solving / Critical Thinking	Individual	Basic	All
Unit at a glance	n/a	Entire site	Managing/ Organising	Individual	All	All
Work integrated learning	Project/ Case study	Entire site	Life management/ Life-long learning, Technical/ Professional/ Research	Individual and Group	Intermediate	All

Figure 1: Overview information on the available templates

Academic staff can browse the full list of templates, and select one that suits their teaching requirements. Once the template is copied to their site, the academic can customise the template to suit their unit. In order to ensure staff had an overview of the various possible uses of the templates, these were classified according to scope, learning focus, graduate attributes, groupwork vs individual work and class size.

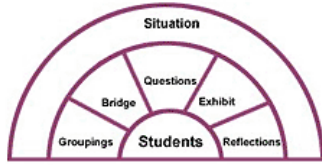
Design strategy

QUT has a team of Learning Designers who work with academics to create learning activities and experiences. The team decided to further the concept of 'learning design templates' first developed by an Australian University Teaching Committee (AUTC) project². The templates needed to be context-independent, yet provide a pedagogical framework for academics to develop their online learning materials.

Each template consists of its description and associated resources (see figure 2), a sequenced generic learning activity, accompanied by examples and suggestions for how staff can tailor and facilitate students' use of the template. Eventually, as the examples build up, we intend to show practical examples, case studies and staff comments alongside the templates themselves for academic staff to see the template in context. Once out of the pilot phase, the intention is to develop the sharing of ideas within the academic community – provide for comments, tips and reflections on the templates for ongoing evaluation and sharing of ideas.

² Outcomes from the AUTC project "Information and Communication Technologies in Flexible Learning" are available at <http://www.learningdesigns.uow.edu.au/>

Group Problem Solving



This template applies the constructivist approach, saying that students learn best through making personal meaning for themselves, through personal and social construction of knowledge. It contains six basic elements: situation, groupings, bridge, questions, exhibit and reflections. Originally intended for classroom learning, the template applies the concept in a practical way to an online environment.

The **Situation** frames the agenda for student engagement by delineating the goals, tasks, and forms of the learning

episode.

Groupings are the social structures and group interactions that will bring students together in their involvement with the tasks and forms of the learning episode.

Bridge refers to the surfacing of students' prior knowledge (so they can place it within their own cognitive maps, values, attitudes, expectations, and motoric skills) before introducing them to the new subject matter.

Questions are prompts or responses that stimulate, extend, or synthesise student thinking and communication during a learning episode.

An **Exhibit** asks students to present publicly what they have learned; this social setting provides a time and place for students to respond to queries raised by the teacher, by peers, or by visitors about the "artifacts of learning."

Reflections offer students and teachers opportunities to think and speak critically about their personal and collective learning. This encourages all participants to synthesise their learning, to apply learning artifacts to other parts of the curriculum, and to look ahead to future learning episodes.

Tip 1: Forming student groups

Consider different ways of managing student groupings. Take a look at the tips we've got at the OLT [Group work area](#) tool.

Links

- [Discussion topic](#)
- [Group work area](#)
- [Assignment page](#)
- [Notepad](#)
- [Designing for learning, Engaging learners](#)
- Gagnon, G. & Collay, M. (2001). [Designing for Learning: Six elements in constructivist classrooms](#). California: Corwin Press.

Activities

- [Register](#) to try this template in your unit.

Fig 2: Information about each template

The template itself is a set of resources within the online learning and teaching system that are copied in their original sequence into the subject website, for subsequent editing, contextualisation and modification by the academic. The learning activities may be as small as a 5 minute guided brainstorm for students to complete (see for example figure 3), but they include instructions, examples and additional resources for staff and suggested instructions to students that staff can modify.

Fig 3: Templates provide instructions to staff on setting up the learning activity together with some tips

Where to from here?

Evaluation of the templates in our pilot units across the faculties is planned for midyear 2006. Since the goals of the project primarily related to just-in-time pedagogical support within the online learning environment, the first target will be to evaluate the way academic staff understand the sequencing/ grouping, the degree of support required and the degree to which the templates need to be contextualised to the unit content.

A second-level evaluation is envisaged as the overall usage of the online learning environment in active student tasks and student interactions compared to information dissemination.

Acknowledgements

The author wishes to acknowledge the work of Naomi Waldron and Peter Duffy, Learning Designers involved in the Learning Design templates project, and authors of many of the ideas presented here; and Allison Brown, champion of the project and learning design in general. Thanks also go to Shane Dawson, reviewer, partner and inspiration.

Bibliography

Platts, B. (2004a, November). ATN online learning surveys project 2004, online learning student survey: Combined ATN universities sample report of findings. Sydney: Institute for Interactive Media and Learning, University of Technology

Heathcote, E., Dawson, S., (2005), 'Data Mining for Evaluation, Benchmarking and Reflective Practice', In *Proceedings of the E-Learn World conference on e-learning in corporate, government, healthcare, & higher education*, Vancouver, Canada

Hokanson, B., & Hooper, S. (2004). Levels of teaching: A taxonomy for instructional design. *Educational Technology*, 44(6), 14-22.

Jonassen, D. H., Peck, K. L., & Wilson, B. G. (1999). *Learning with technology: A constructivist perspective*. Upper Saddle River, NJ: Merrill.

Kember, D., & Murphy, D. (1994). *53 interesting activities for open learning courses*. Avon, UK: Technical and Educational Services Ltd.

Masterman, L., & Lee, S. D. (2005). *Evaluation of the practitioner trial of LAMS: Final report*. Learning Technologies Group and the Oxford University Computing Services.

Oliver, R. (2004). Using blended learning to engage students. In QUT online learning & teaching conference 2004 (Ed.). Brisbane, Australia: Edith Cowan University.

Oliver, R., Harper, B., Hedberg, J., Wills, S., & Agostinho, S. (2002). Formalising the description of learning designs. *HERDSA*, 496-504.

Siemans, G. (2004). Learning development cycle: Bridging learning design and modern knowledge needs. E-learn Space.

West, R. E., & Graham, C. R. (2005). Five powerful ways technology can enhance teaching and learning in higher education. *Educational Technology*, 45(3), 20-27.

Wilson, B. G. (1966). *Constructivist learning environments: Case studies in instructional design*. Englewood Cliffs, New Jersey: Educational Technology Publications.