Designing for active learning online with learning design templates

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Online course templates based on specific learning designs were developed to support course enhancement at the University of New South Wales. Course designs are based on constructivist theory and activity theory with an emphasis on promoting active learning. Collaborative learning and problem-based learning models were used to design templates based on successful online and blended courses. A simplified template with a learning activity focus was used in staff training programs and as a basis for school templates. Templates were developed in Blackboard Vista, but could be applied in other learning management systems. This paper outlines development, implementation and evaluation of the templates and discusses the barriers and potentialities in dissemination of learning design templates.

Keywords: learning design, constructivism, activity theory, collaborative learning, problem-based learning

Introduction

A learning design can be thought of as a pedagogical model for a course, focused on learning activities that will support teachers and designers to develop particular kinds of learning experiences (Bennett, Lockyer, & Agostinho, 2004). One of the aims of a learning design is to enable the features of a successful course to be applied to other courses so these may also promote successful outcomes for students and staff. Conceptualising a course in terms of the nature of the learning activities and interactions, without specific reference to discipline, content, and context, can be very difficult for teaching staff who are naturally and deeply concerned with discipline issues and course topics. This makes a learning design a complex abstraction, a course model without the content and context that normally defines a course. A way of overcoming this problem is to use learning designs that are widely used and have a track record of success. At The University of New South Wales (UNSW) online course templates have been created to facilitate course development based on collaborative learning and problem/project-based learning designs. It was important that the template development should not only demystify for teachers the task of designing an online learning environment, but that development should be less laborious.

In this paper we consider the educational rationale for the learning designs, how they were applied to online courses and templates, student feedback on courses using the designs and staff feedback on their use for course development.

Prior and current approaches to learning design

"Learning design has emerged as one of the most significant recent developments in eLearning", reported James Dalziel (2003, p.1), citing Laurillard (2002), and Harper and Oliver (2002). In fact there had already been significant activity for some years up to that point, in recognition of a situation where academics in higher education were exhorted to use technology to share and reuse teaching resources in the form of 'learning objects', while having no clear framework or guidelines for effectively developing learning and teaching processes while doing so (Harper, Oliver, & Agostinho, 2001; Oliver, 2001). Some benchmark projects were initiated, demonstrating a variety of approaches.

The Australian National Training Authority (ANTA)'s 'Flexible Toolbox Project', initiated in 1999, aimed to integrate online resources with suggested learning strategies and support material for the online delivery of vocational education and training. Oliver (2001) reported that at that time most examples of

high quality online learning designs were discipline-specific, and difficult to use as generic exemplars. However, in working with a framework that emphasised activity-centred learning designs, such as problem-based, case-based and inquiry-based learning, some innovative approaches to online learning were developed as generic frameworks where activities were separated from resources, allowing subject matter to easily be removed and replaced.

The success of these toolboxes in the VET sector led to an Australian University Teaching Committee project involving the University of Wollongong (Oliver, Harper, Hedberg, Wills, & Agostinho, 2002) in developing a website that presents a range of generic learning designs and tools focusing on academics using ICT in a higher education environment. In this case the learning designs were developed from existing exemplars which were extrapolated into generic processes, and are described in terms of the student activity encapsulated, eg: 'Review, Interpret, Construct, Justify: A situated problem focussed learning design' (see HREF 1). While this project has been a major development, Oliver recently asserted that 'university teachers are still waiting for theoretical and practical guidance in the design of effective e-learning strategies and activities' (Oliver, 2006, p1). This lack of guidance may be a result of looking for an e-learning strategy, rather than seeing e-learning as a support framework that will enable more effective learning and teaching strategies to be adopted. The theoretical and conceptual basis for effective learning and teaching strategies has been available for some time, with models for course design and a wide range of exemplars. Learning designs may be a means of adapting effective learning and teaching models to an environment in which e-learning can play a critical role.

Educational rationale

Many academic staff members see the adoption of online course support or entirely online courses as an opportunity to enhance student learning outcomes. They often seek higher levels of student engagement leading to improved performance on assessment tasks. Research on design frameworks for using technology to encourage active learning aimed at high level learning outcomes suggests a learning environment that provides a range of tools, resources, and guidelines to support the required learning activities (Hannafin & Land, 1997). The type of environment they propose (1997, p. 168) may use a range of designs to suit varied approaches, topics or disciplines:

> Technology-enhanced, student-centred learning environments organize interrelated learning themes into meaningful contexts, often in the form of a problem to be solved or an orienting goal, that bind functionally their features and activities. They provide interactive, complimentary activities that enable individuals to address unique learning interests and needs, study multiple levels of complexity, and deepen understanding. They establish conditions that enrich thinking and learning, and use technology to enable flexible methods through which the processes can be supported.

Environments such as these support learning by providing a range of tools, resources, and guides. The environment can replicate elements of an authentic professional situation to make the learning task relevant to the students' interests (Herrington, Oliver, & Reeves, 2003).

This concept of a technology-enhanced, student-centred learning environment is based on key assumptions of constructivist theory – that the student must engage in an active, experiential learning process to form an individual, meaningful understanding, preferably through problem-solving and reinterpreting the material for presentation from their own perspective. Jonassen, Mayes, and McAleese (1993, p. 233) suggest: 'The most important epistemological assumption of constructivism is that meaning is a function of how the individual creates meaning from his/her experiences'. The most effective learners make learning an active and engaging process, to develop a rich pattern of meaningful associations (Biggs, 2003). This process has been described as a generative approach, leading to deeper levels of processing after surface levels have been discarded (Jonassen et al., 1993). In the constructivist view, knowledge and the context in which learning occurs are closely related. Knowledge is not seen as abstract – it is only meaningful within a context, and is 'inert', having little real value, when separated from its context (Hannafin & Land, 1997). Educational technologies can enable active learning with access to relevant information and a range of interactive tools.

Constructivist approach and activity theory

Constructivist theory has been criticised for being insufficiently prescriptive for course design or the design of learning activities (Jonassen, 1999). The technology-enabled student-centred learning environment described above by Hannafin and Land (1997) suggests a problem-oriented approach and a

range of tools and features, but this focus may not provide clear guidance on ways to structure a course to make the best use of the tools. They provide examples, but it is still a big step for a teacher and/or course developer to conceptualise a course within that framework. Jonassen (1999) suggests activity theory as a framework for analysing the needs and tasks associated with designing a constructivist learning environment.

Activity theory is focused on the practices the activity is based on, in the context of the situation in which it occurs. Jonassen suggests that educational design needs to concentrate first on broad patterns of activity before considering narrower and more detailed aspects of learning task, and that the task of designing a constructivist learning environment, with its interdependent components of a problem/projects base, related cases, information sources, cognitive tools, and conversation and collaboration tools, should be based on the skills that are required to solve the problem. He proposes a six step process for designing learning activities, in order to clarify the purpose, and analyse the component structure and context of the activity. It is focused very specifically on the nature of the task, the processes needed to complete it, and the object the students produce that is both the focus of the learning task and the evidence of it. The approaches to course design discussed here are based on specific forms of activity and outcomes.

Constructivist and activity theory in courses and templates at UNSW

The learning design concept provides a way of developing courses that are consistent with constructivist and activity theory. Two well-established learning designs that set up an activity system and the tools and mediators to support it have been used at UNSW as a basis for online and blended course designs, and for templates that support these designs to aid course development. The learning designs are:

- Collaborative Learning (CL). Online discussion is used to foster continuous active engagement with course topics, the tutor, and other students. This is a valuable course design for maintaining engagement by off-campus students.
- Problem/project-based learning (PBL). This design requires students to engage with the kind of complex problem that professionals have to deal with. Online resources can be used to provide a student-centred, active learning environment to support learning processes.

These learning designs apply the activity theory approach to encourage high level outcomes from the product they require. They are both based on many years of research and development of the design which makes the learning design less of an abstraction and easier for academic staff to conceptualise as a course.

Collaborative learning template development

The collaborative learning (CL) course model was developed in response to identified professional needs for graduate capabilities that go beyond subject knowledge, such as the ability to: work in teams, analyse complex issues, communicate and negotiate in ways that require interpersonal skills, and provide effective leadership (Stinson, 1990). This requirement engenders a broader context for educational development than that of purely discipline knowledge and understanding - one which can be supported by an activity-based learning design. The CL approach was developed to foster those skills by creating a learning environment in which students work together to share their ideas and to negotiate a shared understanding (Milter & Stinson, 1995). Sharing knowledge and understanding means that students learn from their peers as well as their teachers (Jonassen, Myers, & McKillop, 1996).

An important aspect of CL is that students can apply their own experience to the learning process, and benefit from the experience of others. In this way, students can use their own interests and experience as ‘springboards’ to the achievement of a deeper level of knowledge generation. This has been described as a move from dependence to interdependence, using dialogue as a fundamental mode of enquiry (Palloff & Pratt, 1999). An important aim is to develop critical thinking, reasoning and problem solving skills. Glaser (1990, cited in Jonassen et al., 1993) argues that cognitive development occurs through processing concepts that are originally experienced in social contexts and that while meaning may be an individual construct, shared understandings result from social negotiations of meaning.

In an online format, collaboration is usually mediated by online discussion, a vital part of which is to keep students actively engaged. Palloff and Pratt (1999) suggest a range of activities that foster active engagement, including:

- Posting instructions and learning expectations;
- Forming teams and posting guidelines for their performance;
- Encouraging a search for real life examples;
- Using dialogue as enquiry by encouraging thought provoking expansive questioning;
- Sharing responsibility for facilitation among group members;
- Promoting constructive feedback.

These processes can form the pedagogical basis for a course design that maintains active engagement and a collaborative focus on course topics. This activity can be maintained throughout the course, rather than in short bursts around assessments, contributing to deeper learning outcomes. This model was used and has been effective in improving student engagement and learning outcomes in off-campus courses in various disciplines, including a masters program in agribusiness at the University of Melbourne (McAlpine, 2000), and an online course for off-campus students at the University of New South Wales, where contribution to discussions was an assessed activity (McAlpine & Ashcroft, 2002).

CL Template
The main focus of the learning design of the CL template is online discussion. In courses that provided the basis for the template, students were expected to engage in discussion on a new topic each week. This meant readings and/or other investigative tasks such as online tutorials or learning analytical techniques each week, with required participation in an associated online discussion. Discussion modules are structured as learning activities – with an introduction and a learning activity associated with each discussion, based on the approach developed by Gilly Salmon (2002). The activity and discussions may be grouped into a module lasting a few weeks, or each week can be a separate module, depending on the preferences of the tutor. In the Vista LMS different elements were arranged into a learning path, using a 'learning module', so that each module contains an introduction, followed by a sequence of activities each paired with a discussion. Discussions need to be moderated to ensure effective participation (Salmon, 2000). Students can be guided to act as moderators which can lead to higher levels of student engagement and be less demanding on academic staff time (Ashcroft & McAlpine, 2004).

To support the activity focus the template includes a resource area. Resources may be linked to specific weekly activities, and/or arranged in the resource area for access at any point in the course. The template has a survey for gathering student feedback on the course. This includes generic questions with a Likert scale, associated with the collaborative learning method, such as:

> 14. The online discussions were a valuable exchange of information and ideas with the facilitator and other students.
> 15. The online discussions developed my ability to express and share my ideas.
> 16. Discussion with other students helped me to be more aware of and understand a wider range of perspectives.
> 17. The online discussions helped me to learn more about the course than I would have learned working on my own.
> 18. The online discussions encouraged me to investigate important issues.
> 19. I found collaboration through online discussion engaging.
> 20. Participation in online discussions encouraged me to focus on critical issues.

Other standard items for this and other institution templates are:

- 'Start Here' area that includes the course outline and links to technical and academic support pages and services.
- 'Course Resources' area for general resources that are additional to or associated with a specific topic or problem.
- Overview of all assessment activities that may be embedded in the course activities.
- Page for course administration documents (eg timetables), including an hidden information area for teachers.
- Generic student feedback survey that focuses partly on specific (CL or PBL) learning processes so that the course tutor can evaluate the effectiveness of these and make ongoing improvements.

More information on this template is available at HREF 2.

Implementation
The CL template was used to support a new postgraduate course in Good Manufacturing Practice for off-campus students. Using the CL template enabled the online course to be set up rapidly. The collaborative discussion aspects were embedded in the course structure and used by tutors in coordination with printed resources.

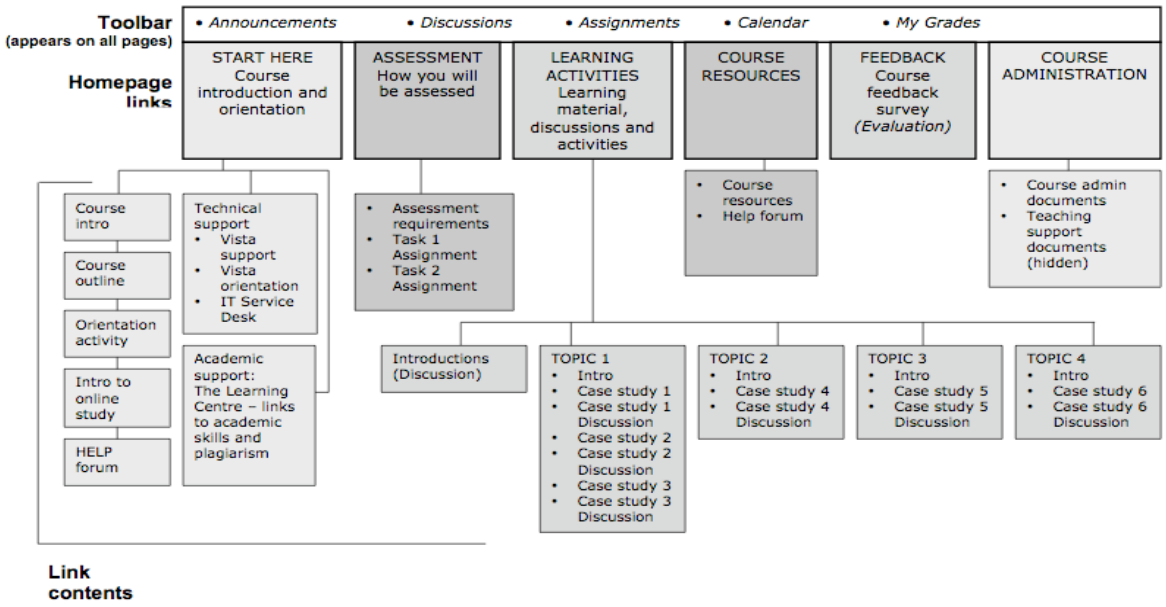

Figure 1: Collaborative learning template structure

Sample Course Evaluation

Design of the online course 'Seeing Australia' was based on the learning design used in the Agribusiness masters program developed at the University of Melbourne (McAlpine, 2000, McAlpine & Ashcroft, 2002). The design has been adapted to different learning management systems. Online discussions and group tasks were used to build high levels of student engagement and continuous interaction with the course materials, the course tutor and the other students. The trial introduction of the course, with a small cohort of students, demonstrated high levels of engagement in which the course tutor could see the development of understanding of key concepts in the online discussions. An evaluation questionnaire was completed at the end of the first iteration of the course.

The online discussion and group learning tasks elicited a strong favorable response (see Table 1). While the content itself was regarded as difficult by this cohort, the online discussion meant that students felt that their learning had been facilitated, and response to the content was very positive.

Typical responses were:

> I am very satisfied with the online Group Project method of learning. It was something very new to me and my group members. I would not have acquired such a method of learning if not for this online Group Project. Thank you.
>
> I am happy with the group learning tasks. I enjoyed working with the other group members.

Table 1: Student feedback on online collaboration

Q	SA - strongly agree → SD - strongly disagree	SA	A	US	D	SD
9	The online discussions enabled me to exchange information and ideas with the tutor and other students.	5	1			
10	The computer conference discussions helped me learn more about the subject than I would have learned working on my own.	4	1			
11	I worked closely with other students on the group learning tasks.	2	3	1		
12	I learned a lot from other students while working on the group learning tasks	2	3	1		

Although the course content had been reduced, the responses to the questionnaire confirmed that the learning outcomes were met by allowing longer time to discuss difficult concepts.

> When I enrolled for this subject, I thought Seeing Australia was a 'holiday subject' not requiring any effort to learn new concepts. It was in the thick of the subject that I learned

that Seeing is not necessarily what I used to think but a whole new concept which I never knew existed.

Observations from the course tutor plus the students' feedback above indicate that the aims of high-level engagement and development of conceptual understanding were met in this course. This learning design is the basis for the CL design used in several current courses.

Problem/project based learning template development

Graduates from medical schools were seen to lack the skills needed to function in a complex professional environment, and examination systems were seen to promote learning of excessive and irrelevant detail rather than to develop understanding and reasoning (Shanley & Kelly, 1998). Problem based learning (PBL) was developed in this discipline to take a more student-centred approach using scenarios that are typical of professional practice. Students work in small groups to identify the issues in the scenario and what they need to learn, engage in independent study, then share their learning to propose a solution (Hmelo-Silver, 2004).

In the PBL approach student learning activity is focused on a complex problem scenario that is ill-structured and open-ended, allowing a range of possible solutions (Boud & Feletti, 1997; Hmelo-Silver, 2004). Students need to work through a staged process involving: formulating and analysing the problem, generating hypotheses or possible solutions, investigating resource materials and acquiring knowledge to resolve the problem, applying knowledge to propose a solution, and evaluating (and revising) their own solutions (Hmelo-Silver, 2004). In this approach, the kind of constructivist learning environment proposed by Hannafin and Land (1997), including presentation of the problem scenario, access to resources, cognitive tools, communication tools, can provide a support framework for the PBL process.

This model has been applied to a range of courses at UNSW. In a course in Materials Engineering a group project to propose the best materials for an improved device or tool provides a focus for the application of knowledge. The online environment includes a discussion forum for small groups, online tutorials as resources, guides to working in groups and online discussions used so that each group can peer review the reports and recommendations of other groups (Allen, Crosky, McAlpine, Hoffman, & Munroe, 2006). A course in virtual reality (VR) modelling for mining engineering students used videos of a working mine to set up a scenario for the learning task of VR modelling the process (McAlpine & Stothard, 2005). Students worked in groups to produce working models of mine processes to demonstrate training or safety features. Online discussions were used to focus students on key aspects of mine operations, safety and training processes. The course was developed in PBL format to enable off-campus students and on-campus students to work together on the same material.

Almost all aspects of these PBL courses were managed in some way through the online learning environments, and based on a constructivist approach to learning design.

PBL Template
The PBL template is designed to support one or more problem scenarios or projects as the major learning activities for a course. The problem needs to be effectively introduced, and students need to be guided and supported through the PBL process, with the aim of encouraging self-directed learning (Hmelo-Silver, 2004). The template structure provides an area for each problem that includes:

- A space for the problem, which should set out the scenario and contain all information and documentation that is relevant to the problem, These should be as authentic as possible to make the problem seem 'real' in the minds of the students.
- A path for the students to follow to produce an object that represents a resolution (such as a design, a report, set of recommendations). The path represents the stages the students should work through to resolve the problem, and may have intermediate presentations or submissions if the students are working on the same problem scenario for several weeks.
- Resources that the students will use to resolve the problem - these should be generic information and tools associated with the topic. They may include texts and lecture notes, articles, websites, databases, online tutorials, and should include authentic sources, such as websites and databases that working professionals in that area would use. The resources should be specific to the topic, but not the problem. All information associated with the problem should be in the problem space, so that if the problem is changed in the following year, the resources remain the same.

- Any additional guidelines that the students may need. The resources associated with the template include some general guidelines on topics such as online study and working in groups. Additional guidelines should be focused on the techniques associated with that kind of problem.

This structure is presented as a set of placeholders in the template, to encourage the course tutor to organise problem scenarios in a way that provides students with all of the relevant information and guidance. The template includes generic links and pages as described previously, and the resources for teachers include a brief explanation of the PBL process, including actions for each stage and the supports that should be online (see HREF 3).

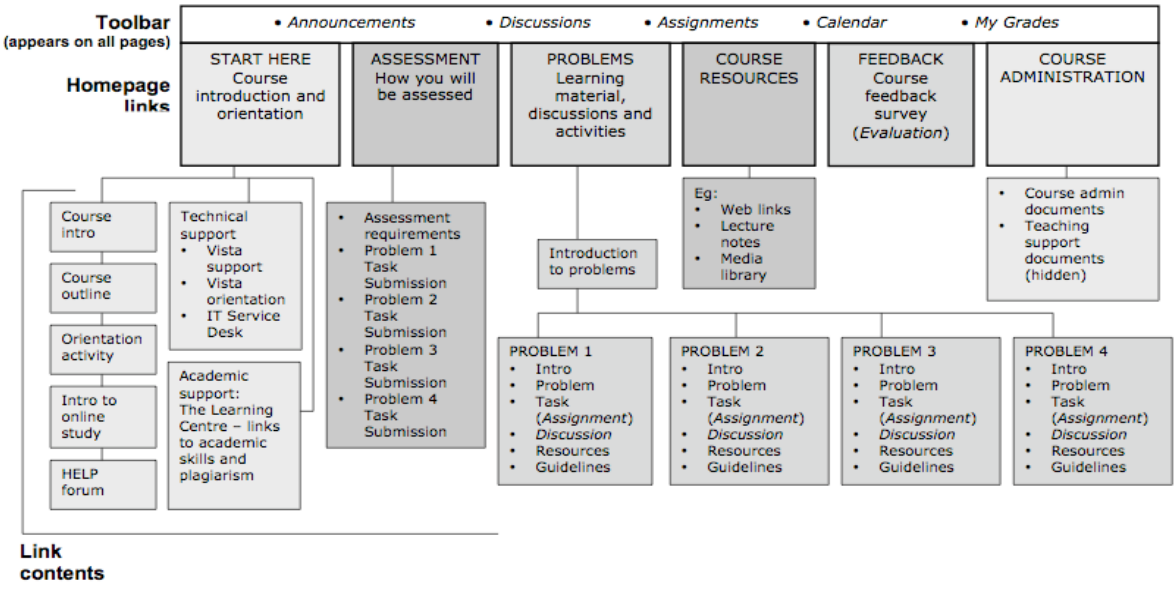

Figure 2: Problem-based learning template structure

Implementation

The PBL template has been used for two very different course developments. The first is a university preparation course in international relations. The course was structured around a range of key issues, each presented as a problem scenario and used as the focus of study for several weeks. The students were on campus and attended classes. The first problem included a guide to the problem-solving process so that students may become more self-directed while using the PBL approach by having a clear process, and gain confidence in their ability to work in this way. Some problems were studied individually and others included group work and a group assignment. Students were encouraged to use online discussions from the beginning. Even though the students met in class the online discussions helped to maintain their focus on the problem-solving task outside of the classroom and were very important for group work. In the second semester students were able to participate in an online role play on a simulated international issue, a very challenging activity that demanded high levels of engagement from the students. The early development of problem-solving approaches and the use of online discussions prepared the students for a challenging and rewarding learning experience.

The second course to use the PBL template was Engineering Design and Innovation. This course used the template to set up an environment to support a design project, and most of the course was focused on a single project. The initial development was for a class of 250 students, which required particular emphasis on structured support for the problem-solving (in this case, design) process, because of the number of groups that needed to be facilitated. Guides were prepared for individual and group tasks, and group facilitation guides were prepared so that students could take turns at Facilitation. The online environment for the students included:

- Information on the design brief (problem scenario)
- Guidelines for working in groups
- A graphic overview of the stages of the design process with links to materials for each stage
- Tasks and guides for individual preparation and group design activities
- Guides for individual students to facilitate the group design activities
- Access to course materials and learning resources
- Online discussions for each project group

- Online peer review and assessment of individual written reflections
- Online submission of group reports
- Online peer review and assessment of individual student contributions to a group during the design, development, and report writing processes (McAlpine, Reidsema, & Allen, 2006).

With this support, students could become accustomed to working in a self-directed way with some input from group mentors. The project group discussions were used extensively by most groups to enable them to maintain progress on their group design and report.

Although very different in their nature, both courses worked well in the PBL template, which provided a structure for effective presentation, access and management of learning activities.

Sample Course Evaluations
The course in Engineering Design and Innovation was a test for the PBL template in Vista. While initially used for 250 students, the course needed to provide a consistent framework for over 1000 students working in 10 different school project groups. More importantly, it needed to support and enable large numbers of students to undertake a design project and to work in groups with minimal facilitation. Feedback in focus groups suggests that while group work and peer review processes are not trouble-free, the students find the process highly engaging and they appreciate the opportunity to design and build a device in response to a project brief. The design projects allow the student a great deal of flexibility and require both divergent and convergent thinking processes to generate a wide range of ideas for the design, then to evaluate these systematically to find the optimum solution for each group.

Question	Agree or Strongly Agree %	Disagree or Strongly disagree %	NR
M1 I had previous knowledge of some aspects of the major project that I selected	64	36	
M2 The project enabled me to build on knowledge I already had	83	17	
M3 I found the project topic appropriately challenging.	95	5	
M4 I learned a method of approaching open-ended problems by carrying out the problem/project tasks.	90.5	9.5	
S1 I used the Design Notebook instructions for individual notebook tasks	79	21	
S2 I used the Design Notebook instructions for group notebook tasks	80	20	
S3 My group downloaded and used the Group Facilitation Guides	83.5	16.5	
S4 The purpose of the online components of the course was clearly communicated to me.	82	16	2
S5 The online instructions for individual and group tasks helped me to learn the design process	83	15	2

Figure 3. Engineering design and innovation: Student survey

A survey conducted on one project group after the first offering of the course in Semester 1, 2006, had 124 respondents. One set of survey questions focus on perceived cognitive development. The PBL approach is intended to foster active learning in an approach that will enable the student to solve complex open-ended problems. Responses M2 – M4 (Figure 3) show that the students felt they built on prior knowledge, were appropriately challenged by the project, and learned a method of solving open-ended problems, all key aims of the learning design. Another set of questions focus on the learning support materials developed to guide the process and to promote self-directed learning. Responses S1 – S3 (Figure 3) show that the students made use of the learning support materials – guides for individual and group work. As these were added to the online course for student use but were not compulsory there was some concern about the extent of their use. These responses indicate that they were used by most students. Response S5 shows strong support for the assistance these guides provided in learning the design process – a key aspect of effective problem-solving in this course.

The evaluation of the International Affairs and Perspectives course asked the students to comment on various aspects of the course. The comments for the first offering in 2005 – 2006 were enthusiastic. A comment that focused on the skills developed shows a student's awareness of these in this instance of PBL design:

> The skills I have developed include communicational, analytical, organisational and perceptual skills. … I developed analytical skills through analysis of sample issues, asking questions on why some aspects of an issue may be problematic or beneficial. I developed organisational skills, particularly when working with a team, where organisation is crucial to success. This includes the process or delegation. I also developed perceptual skills, being able to view issues from different perspectives and how each party within an issue would be affected by it.

The following quotes indicate the way two students see the overall effect of the course design.

> … I believe studying IIP is 'opening my eyes' if you will, to the various local, national, international and global issues of today. It teaches a flexible look on certain controversial aspects, opening minds to different ideas and concepts.
> … it can be said that it is an honour for me to participate in this IIP course because it teaches me to think independently.

Basic plus template development

As many staff members are unlikely to change the whole orientation of their course to suit the PBL or CL course models, a less-demanding template was needed to introduce an orientation towards an active learning approach, without having a major emphasis on a specific course model. This template (Basic Plus) has the same generic and support material as the CL and PBL templates, so that the full range of resources are available to students (see HREF 4).

The difference in this template is in the course materials page, which is simply designated 'Learning activities', prompting a focus on activities, rather than content, as the way to organise course materials, while making no assumptions as to what the learning activities may be, and providing no guidelines. As such it was not used for supported course development, but was assigned to training modules used by some staff members, and as the basis of some school templates. As most staff members who received Vista training were assigned a school template carrying school branding, prepared by support staff within the school without reference to any specific learning design, we were interested in how useful the Basic Plus template was to staff, and whether its structure promotes an activity-focused approach for staff members who use this template without discussion with course developers.

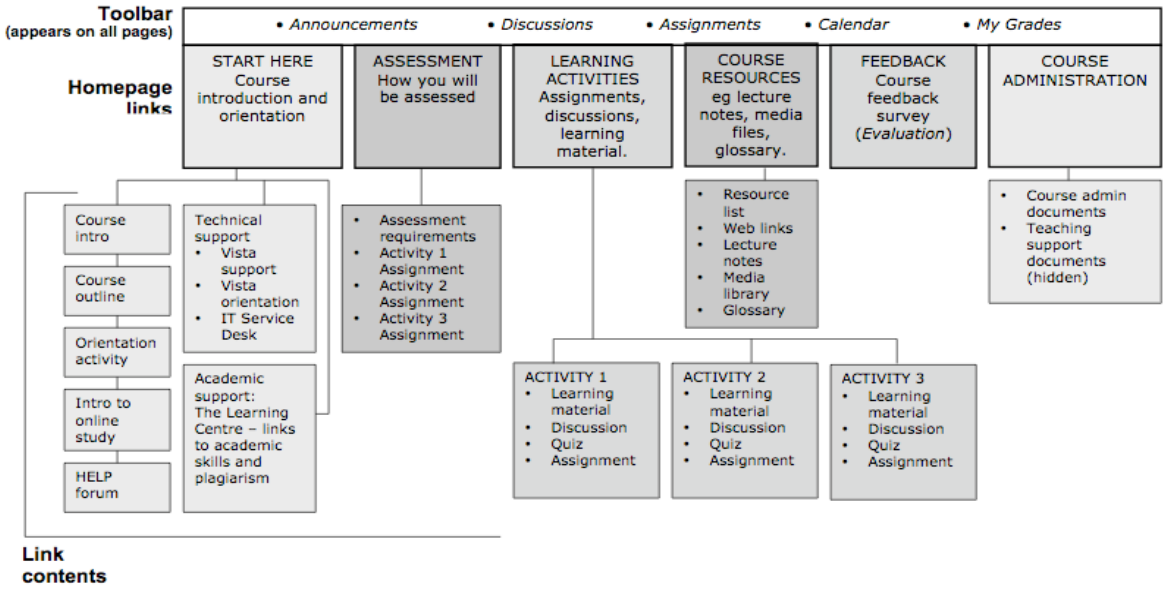

Figure 4: Basic plus template structure

Evaluation
Evaluation of this approach indicated that of around 200 users who had the template assigned to their practice module, only 16 had gone on to use the template in setting up a course. (It should be noted that at

this stage many users were still teaching using the previous WebCT LMS, and had not yet begun to develop or teach in Vista). A brief survey was sent to those users, with some equivocal results.

- Most respondents (over 66%) reported that:
  - the template provided a good basis for their course design,
  - the template materials were a valuable addition to (or helped them decide what to add to) their online course,
  - they used the online guidelines for template use, and found them helpful.
- A small majority (56%) found that using the template seemed to be more efficient than building from scratch
- A significant minority (33%) found the template structure restrictive and found it difficult to edit to suit them.

When asked if they found that the course structure provided in the template promoted an activity-based learning design, it seemed that most had already decided on a course structure before using the template, so it did not make a significant difference. This may explain why some found the structure restrictive. Two contrasting comments indicate the range of perspectives:

> It didn't make a huge difference to my course design, as I already had [this structure] in mind when I planned the course.
>
> It helped me keep the course centered on activities related to the topic under study.

Question	Agree or strongly agree	Disagree or strongly disagree	Don't know /no response
Used your Vista practice module (or school template) for setting up a course module design that you are now using for teaching	100	0	0
The template structure: Provided a good basis for my online course design	89	11	0
The template structure: Was too restrictive	33	50	17
The materials contained in the template were a valuable addition to my online course.	78	22	0
When building my online course: I used the template guidelines on the EDTeC website (or the school template guidelines).	83	17	0
When building my online course: I think that using the template was (or could have been) more time-efficient for me than building all of the course elements from a blank template.	56	22	22
When building my online course: It was difficult to edit the template [recreate template elements] to suit my online course.	33	67	0
The template guidelines on the EDTeC website were clear and helpful.	67	0	33

Figure 5: Survey on staff use of the basic plus template

Dissemination issues and future directions

Various technical issues of the LMS meant that these templates were more difficult to disseminate in a general way than we had anticipated. However, evaluation of the various implementations of the different templates revealed broader dissemination issues relating to academic teaching culture and practices.

Of the users that were given the basic plus template to work with, most appreciated the embedded resources and structure, but a substantial a minority thought it would be more efficient to build from scratch, suggesting that rearranging or removing template elements was time-consuming. Only one person of the small sample agreed that the template structure had influenced their learning design, so it is evident that simply making the template and online guides available, while providing useful resources for many users, did not substantially influence learning design. In contrast, dissemination of the CL and PBL templates, much more focused and supported, was very effective, albeit in a relatively small number of

courses. Successful implementations have resulted from course teachers requesting educational design services, and being supported by educational developers through the course design and development process.

To use a generic learning design, academics need to understand the purpose and rationale of the design, and then how it may be applied in their discipline and teaching context. In many cases, this requires a paradigm shift in pedagogical approach, and our experience was that this does not happen by simply providing the template structure with online information. In fact, many hours of consultation over several weeks was required for the successful course developments discussed here, during which the 'generic' template was customised to suit different contexts. This substantially reflects the recommendations of the DAAPIIHE report (McKenzie, Alexander, Harper, & Anderson, 2005) which advocates "supporting teachers in developing student-focused understandings of teaching and learning", "consultative and collaborative forms of development" and "support for the adopters to engage in the learning necessary to adapt, implement and evaluate project outcomes", among other recommendations for dissemination of innovations in higher education.

Although this dissemination approach is slow and laborious, it was effective in both developing effective online learning experiences, and developing the pedagogical and technical skills of the academics involved. The courses they have developed are now able to provide a template for future development, where the pedagogy and its application are understood through the experience of course design and development – a constructivist learning experience for them. The development also provides a context-specific case-study to support dissemination of the learning design in their discipline. This experience suggests that the way forward may be to focus on customised learning design templates, where an educational designer works with academics and development teams to develop customised templates which can be applied to future course development in their discipline.

The template designs are available for general use, and can be found online at http://www.edtec.unsw.edu.au/inter/dload/flex_ed/vista/template_guide.htm. We recommend that these be accessed and promoted by educational designers working to support academics to develop the understanding necessary for successful course design and implementation.

Conclusion

After the best part of a decade, developers and educationalists are still aiming for the Holy Grail of educational design – generic learning design templates that academic teachers can access and use effectively without substantial hands-on support. Perhaps the reason we are still looking is that such a thing does not yet exist, perhaps cultural and generational change mean that in the future teachers will have the pedagogical understanding required for independent use of generic learning designs. However, teachers can be supported to create customised, reusable and shareable learning designs, and thereby contribute to the necessary cultural change in higher education learning and teaching. Course templates have the potential to leverage effective course developments to academic programs given sufficient development support. This may be their true value as an agent for transforming learning and teaching.

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Online sources

HREF 1: http://www.learningdesigns.uow.edu.au/guides/index.htm
HREF 2: http://www.edtec.unsw.edu.au/inter/dload/flex_ed/vista/collab_template.htm

HREF 3: http://www.edtec.unsw.edu.au/inter/dload/flex_ed/vista/pbl_template.htm
HREF 4: http://www.edtec.unsw.edu.au/inter/dload/flex_ed/vista/generic_plus.htm

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