The Open University Learning Design Project

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At the Open University a cross-institutional Learning Design project has been established. The aim of the project is to develop a tool that represents good practice and scaffolds the design process. This paper sets out the initial work in the project, which has focused on an adaptation of the Compendium tool and the gathering of internal case studies. Initial workshops with the tool have been positive and the project is now entering its second phase.

Introduction

The UK Open University (OU) has a range of experience with Learning Design projects. The SLeD (http://sled.open.ac.uk) software is one of the few LD players available, and has built on the Open University Netherlands (OUNL) Coppercore engine. Staff at the OU have also been involved in the development of the DialogPlus planner (Conole and Fill 2005), and group allocation in LAMS (Little *et al* 2007). The OU adopted the Moodle VLE in 2006, and has been working to integrate LD into the Moodle environment. Internally there has been work done on developing course models which can aid the design and production process.

There was thus a good range of expertise, both academic and technical in the OU relating to learning design (e.g. Conole 2007, McAndrew and Weller 2005). However, neither the formal Learning Design specification, nor a more loosely defined learning design process was embedded in OU practice. In this paper we will look at the OU Learning Design project which seeks to build on this expertise and use a learning design approach to help the process of institutional change as the OU moves over to a more e-learning centric mode of delivery.

The OU Learning Design project

The OU is currently undertaking a Learning Design project, the aim of which is twofold: a) to capture and represent practice through user consultation and case studies and b) support the course design process through the development of an online tool and associated workshops. This will be achieved through the creation of a learning design tool which both offers a repository of practice and helps scaffold the design process.

An initial requirements gathering exercise was conducted as part of a broader programme of work to introduce the Moodle VLE. During 2006, a series of user consultation exercises were undertaken to gather requirements for a learning design tool specification. These revealed a number of broader requirements from academics, which come under the general umbrella of a learning design project, which included:

- A range of case studies illustrating how others use technologies.
- Information about the technologies available both within the new VLE and more generally, and how these could be used effectively in courses.
- A means of providing guidance through the process of creating learning activities.
- A range of further resources and named contacts within the University.

This led to the establishment of a project to gather case studies within the university. The focus was on examples which include some form of innovative use of technologies. In parallel a tool which would help aid the design process was being explored, and so it was practical to merge the two projects. The intention is that the tool will act both as a repository of existing learning activities and as a design support tool for creating new learning activities.

Institutional case studies

Forty-four case studies have been captured through in-depth interviews with academics (table one). The focus is on the pedagogies used to achieve specific learning outcomes and the use of tools (blogs, wikis, e-assessment, etc.) to support learning activities. This may be either across a course or within a single learning activity. Interviews were semi-structured around a number of core themes: contextual data (level, subject, etc.), details about the learning activity being described and the sub-tasks involved, pedagogical approaches adopted, and barriers and enablers to the creation of the activity (both technical and organisational). Each interview lasted approximately. one hour and was recorded, transcribed, and content checked for accuracy with the interviewee.

Type	Number
Multimedia simulation/ modelling/ case study	9
Wiki group project	3
Wiki based dialogue	1
Online icebreaker	2
Online residential	2
Online tutorials (for global presentation)	1
Interactive assessment	4
Asynchronous discussion based collaborative learning	7
ePortfolio (Journal)	3
Group project	3
Resource based learning	4
Problem based learning	1
Synchronous audio based collaborative learning	1
'near – synchronous' collaborative group project	1
Podcasting (by students)	1
Reflective practice for tutors	1
Total	44

Table 1: Case studies by type

Detailed analysis of the case studies is currently under way, but already some themes have begun to emerge (Wilson, 2007). One of these is the differences between disciplines, where the manner in which a tool is used and why it is adopted often vary according to the subject area. Whether these are consistent differences remains to be seen, but it will have potential

implications for the reuse of designs if these disciplinary specific uses are seen to be a strong factor. The case studies have also been useful in revealing some of the impacts of e-learning, for example in traditional OU courses the effort has been on production, but e-learning has seen a shift to some of this resource being deployed in presentation. While this has long been suspected (Weller 2004), the case studies have provided strong evidence for this shift.

Using Compendium to visually represent learning activities

A number of tools were examined as the starting point for the OU VLE tool, including LAMS, Phoebe (http://phoebe-project.conted.ox.ac.uk/cgi-bin/trac.cgi) and The Pedagogic Planner (http://www.wle.org.uk/d4l/). For the initial phase of the project the mind mapping tool Compendium (http://www.compendiuminstitute.org/) was adopted. We selected Compendium for a number of reasons. Firstly, because it was produced at the Open University, we felt there was more opportunity for further tool development specifically in terms of learning design requirements. Secondly, Compendium supports the creation of a range of visual mapping techniques, including mind maps, concept maps, web maps and argumentation maps (Okada and Buckingham Shum, forthcoming), which we felt offered the potential for a range of flexible approaches to the design process. Thirdly, initial feedback on the use of the tool in a learning design context was positive. The choice has largely been pragmatic, but it should be stressed that at this stage Compendium has been a useful starting point for addressing some of the initial requirements, whether it will be the tool that meets the needs of the project as it develops is still under evaluation.

Compendium comes with a predefined set of icons (question, answer, map, list, pros, cons, reference, notes, decision, and argumentation). The creation of a map is simple, users drag icons across and can start to build up relationships between these through connecting arrows. Other types of electronic files can also be easily incorporated into the map such as diagrams, Word files or PowerPoint presentations as well as linking to external websites. Icons can also be meta-tagged using either a pre-defined set of key words or through user generated terms. Maps can be exported in a variety of ways from simple diagrammatic jpeg files through to inter-linked websites.

After an initial trial with one academic (Thorpe *et al.*, 2007) which provided positive feedback on the use of the tool, it was decided to extend Compendium to make it more learning design oriented. This entailed creating a dedicated set of learning design icons, to complement the generic set available within the tool. Compendium allows users to create and incorporate their own 'stencils' of icon sets. A simplified list of icons was selected to represent the key aspects of the design process, namely: task, role, tool, resource, output, group, assignment, and activity. All of the icons are of the same type except for the activity icon which is a variant of the generic map icon. As with the core Compendium icon set users are able to rename each of the icons to something more appropriate to their context. Figure one provides a screenshot of Compendium, showing the generic set of icons on the far left-hand side, along with the learning design stencil 'LD2' we created.

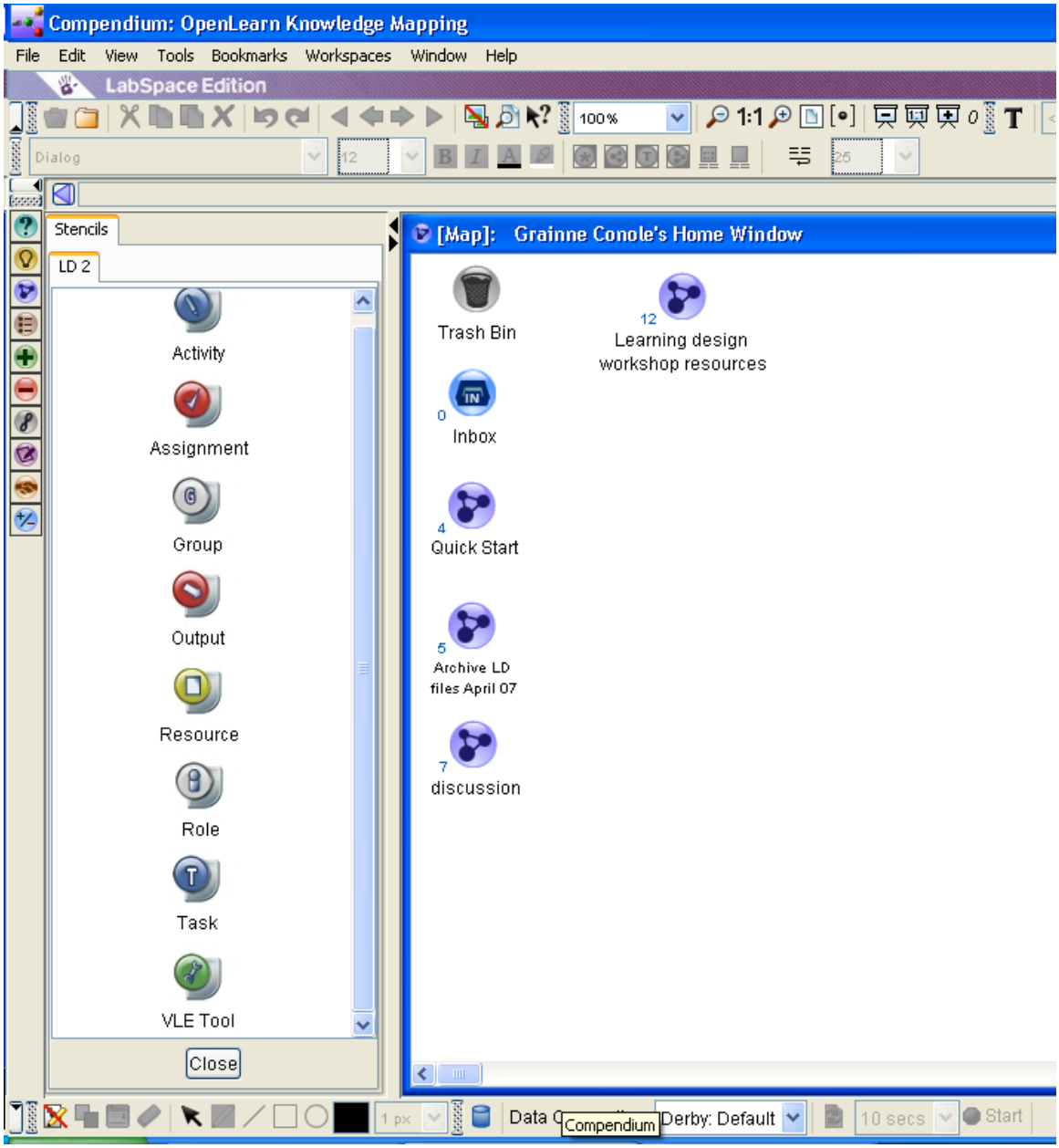

Figure 1: Screenshot of Compendium with the LD2 learning design stencil set of icons

In choosing a visual representation we adopted a similar column or 'swim lane' approach to that used in UML (unified modelling language) modelling, but with a central focus on tasks. We chose to distinguish between the different roles and the things associated with each task (tools, resources, *etc.*) by using different iconic representations. Thus there would be a lane for student tasks, tutor tasks, resources, and tools. However, the tool does not prescribe this mode of working and currently users are free to construct their maps in any representation they choose.

Figure two represents a case study on the use of a wiki to undertake a collaborative requirements gathering exercise in computing. Two roles are shown (tutor and student), along with the respective tasks. Associated tools, resources and outputs associated with each task are shown alongside, with arrows indicating connections. Minocha *et al.* (2007) provide a description of the development of this particular learning activity and how it is being evaluated.

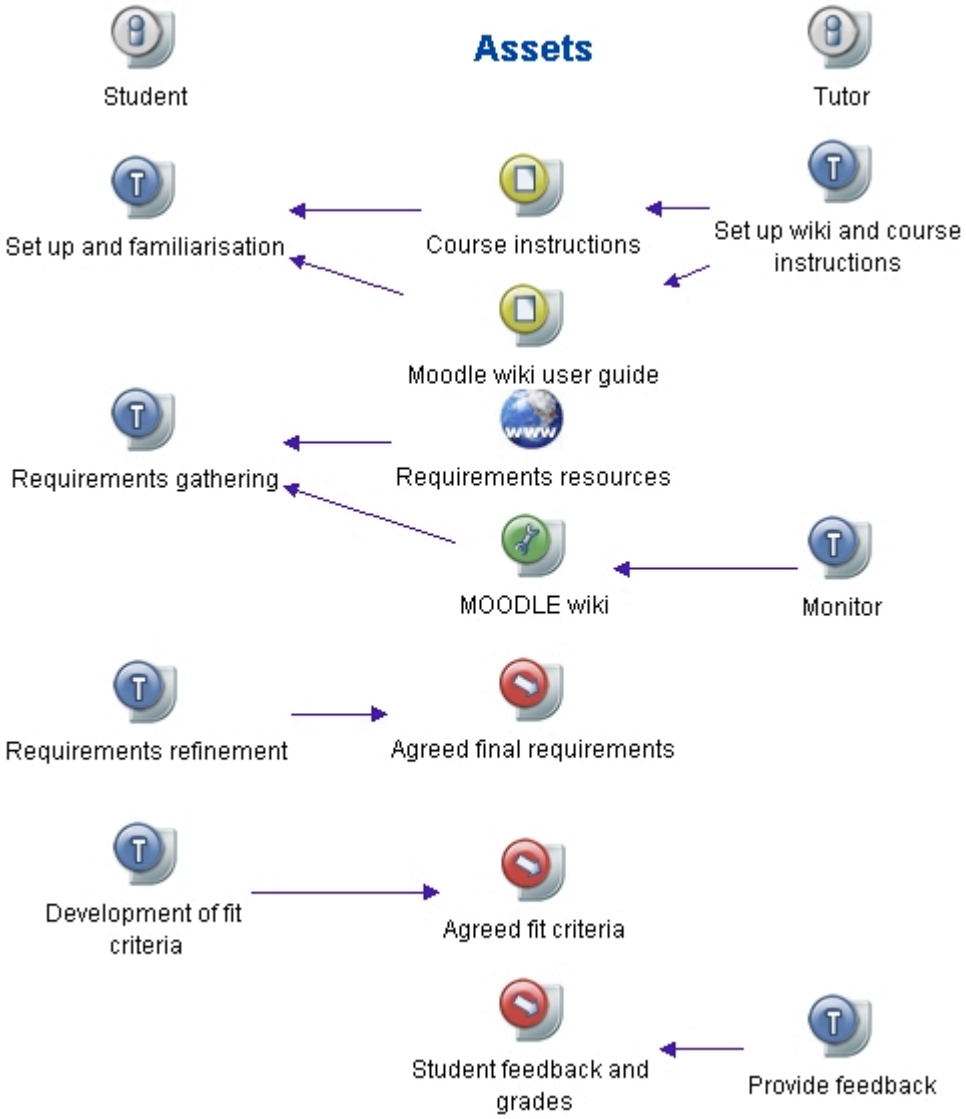

Figure 2: Visual representation of a collaborative activity using a wiki

Initial feedback and next steps

A workshop using Compendium as a learning design tool was run for each of the eight faculties at the OU. Initial feedback on using the tool was as follows:

- The tool was easy to use and groups quickly created learning activities.
- Using the tool in a group helped users reach consensus on an activity.
- The process helped surface hitherto hidden complexity in some existing tasks
- The icon set was adequate and helped users to treat Compendium as a learning design tool
- The process facilitated an appreciation of the different roles required, for example associate lecturer and helpdesk support
- The process encouraged a separation of content from activity design.

The following areas for improvement were also suggested:

- The ability to group elements (this can be achieved as a sub-map, but not at the same level of representation).
- The addition of a limited set of metadata, particularly for study time, which can then be aggregated across activities.
- An extended icon set, particularly for collaborative and individual tasks
- A preview option, which will export to the OU VLE

The existing tools for aiding the design process tend to take either an open, or a directed approach. For example, the Pedagogic Planner offers a structured approach, which follows Laurillard's (2002) conversational framework. In contrast the Phoebe planner offers a more open model, providing a range of advice. The intention for the OU LD tool is to provide both routes in to the design process. Therefore the main focus of development is twofold: to develop a guided approach and to instantiate the knowledge base to allow more flexible advice. In order to meet the first of these a series of learning design templates have been created, focusing on a core set of different approaches to the design process, including step-by-step guidance and learning outcome focused design. The next stage is to make these more proactive and 'wizard' like to guide the user.

The second area of development is to draw together a comprehensive set of resources related to the learning design process. These we have collated in Compendium and exported to create a web-based version. The resources include other learning design tools, brief descriptions of tools, the OU case studies, pedagogic models and activities grouped by discipline. Work is currently under way to further instantiate each of these areas.

One other area of work is in the area of affordances. The term was initially proposed by Gibson (1979: 143) to describe what interaction the environment offers an organism, but has been adopted by designers and educators. It's use is now post-Gibsonian, for example Conole and Dyke (2004) suggest a taxonomy of ten affordances for computers in education, for example, they argue that 'asynchronous technologies (in particular) offer the potential for encouraging reflection and critique, with users engaging in discussions over a longer time frame than is possible in face-to-face discussions.' The concept of affordances potentially offers one means of bridging the gap between tools and pedagogy. The OU Learning Design team is now using the internal and a number of external case studies to create a set of affordances for different technologies. These can then be used either by someone who wants to find the best way to use a tool, or the best tool to achieve a particular student behaviour.

Conclusion

The project is timely as the OU is involved in two major initiatives on the use of technologies; the VLE programme described earlier and the OpenLearn project (http://openlearn.open.ac.uk) which is making OU content freely available. There are also a number of internal projects and externally funded research activities which come under the broad umbrella of learning design. The project thus acts as a means of focusing this effort. Previous research shows that representing learning design practice and providing appropriate support for learning designers is both difficult and contested. By using institutionally based case studies, and a tool focused on OU practice we hope to overcome some of the contextualisation issues. By developing a tool that allows both the open and guided approach to the design process we now hope to explore the main issues: How will users interact with the case studies and the learning design tool? Will

practitioners find the tool useful? How will the tool be used in different contexts? What associated support mechanisms might be useful – such as individual expertise or interactive workshops?

Our initial evaluations of work to date is encouraging, Compendium seems to provide an easy to use visual tool to help represent different learning designs. The next stage of development will be to add a level of interaction and user input to the tool.

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