Mapping a landscape of Learning Design: identifying key trends in current practice at the Open University

Simon Cross, Gráinne Conole, Paul Clark, Andrew Brasher, Martin Weller
Institute of Educational Technology
The Open University (UK)

The object of this paper is to present some early analysis of interview and focus group data about how existing teacher educators at The Open University (UK) approach, understand, and deploy learning design and the additional support and tools they would find helpful. This represents a component of a broader institutional project that seeks to develop a learning design tool for the support and promotion of learning design and to better define the current landscape of learning design across the university by charting existing experience and methodology.

This study is interested in design as both an individual and collective process; thereby reflecting the need to move forward the definition of the learning design challenges faced by both individuals and organisations. Such work holds interest for all developers and users of learning design tools, whatever the design interface used.

Twelve semi-structured interviews and four focus groups/workshops were conducted with University staff. The views expressed in the interviews reveal 'learning design' as a term with multiple, complex and sometimes competing roles and meanings. This paper will examine evidence for these conceptions and operations through a discussion of some issues emerging from the interviews.

Introduction

Recent years have seen a real interest in the challenge of how to support effective learning design. A useful overview of current Learning Design activities and associated tools and resources is provided by Lockyer et al. (2008), Beetham and Sharpe (forthcoming), and McAndrew, Goodyear and Dalziel (2006). Yet, despite the growing number of learning design tools such as LAMS, the Pheobe Pedagogic Planner (phoebe-project.conted.oc.uk), the London Pedagogy Planner (wle.org.uk/d4l) and DialogPLUS (dialogplus.soton.ac.uk), repositories of case studies and exemplars, and standards and specifications (IMS, 2005), evidence of widespread uptake and adoption remains scattered and inconclusive. Indeed, as Falconer and Littlejohn (2007) note, to date few representations have succeeded in capturing the essence of a good piece of teaching and there remains a need to find representational forms which show design as dynamic processes, rather than static products.

For tools, repositories and the structures that support them to become more effective, it is therefore crucial that we better understand the existing, intricate landscape of design practice in which the development of learning activities takes place. Coupled with this is the increasing interest in visual representation, which is a central component to both LAMS and the OU's CompendiumLD software.

The object of this paper is to present some early analysis of interview and focus group data about how existing teacher educators at The Open University (UK) approach, understand, and deploy learning design. The Open University in the UK has over 200,000 students and uses a well established education model based on a two-stage design cycle of team-based production followed by a delivery 'presentation' whereby students work through the prepared pedagogical content and activities. This model uses distributed associated lecturers to provide support, deliver tutorial sessions, and feedback on assignments.

Prior consultation at the Open University has demonstrated that design practices are embedded in existing practice and prior experience, that the cultural change necessitated from the adoption of learning design could be a greater challenge than implementing the technology of the tool, and that there was a constellation of perceived benefits to adoption (Nixon, 2007). Following this, the current OU learning design project, which was first introduced to the LAMS conference last year (Conole and Weller, 2007), is seeking to develop a learning design methodology by which we mean the processes

and practice derived from empirical evidence which can be used to facilitate and support the design of learning activities. The work focuses on two research questions: how can we gather and represent practice, and how can we provide scaffold or support for staff in creating learning activities. The project seeks to develop a toolbox and present work is progressing along several strands (Conole, Cross, Brasher, Weller, Nixon and Clark, 2008):

- Development of a learning design tool, currently named CompendiumLD, which will enable the creation and editing of graphic-based visualisations of learning activities,
- Review of existing captures of learning activities from OU courses; identification and collation of learning design resources, tools, methods and approaches,
- In-depth course team evaluation,
- Consolidating understanding of the landscape of design through interviews with teachers about their approaches to design

It is this latter strand on which this paper reports.

Methodology

Twelve semi-structured interviews were conducted with University staff. The sample represented a cross-section of course production roles from academic posts such as course chair with responsibility for leading the development of the course, through to academic related roles such as course managers. Interviews lasted between sixty and eighty minutes and were recorded for future transcription. The questions asked focused on five main design themes: support, representation, process, barriers, and evaluation, and on two distinct levels of the design process: individual and collective design. The interviews took place between October 2007 and January 2008 and the questions are shown in the Table below.

Table 1: Interview questions

A: Questions about design of individual course components (prompts removed)	
Support	How do you generate ideas for creating learning activities?
Representation	How do you represent your designs/thought processes?
Process	How do you go about developing/designing the parts of the course you are involved with? What factors do you consider when designing a section of the course/an activity?
Barriers	What have you had most problems with when trying to design learning activities?
Evaluation	How and when do you evaluate the activity?
B: Questions about design of the overall course	
Support and Representation	How do you, as a team, generate ideas and share ideas and designs?
Process	Briefly describe the steps involved in how a course is designed What things drive the design process? As a course team, how do you sequence and balance different activities? How does the course team manage the design process, i.e. the development of the course content, structure and activities?
Barriers	What are the main problems in terms of design at the course level?
Evaluation	How do you evaluate your course design?

In addition to the interviews, three focus group/workshops designed around the Open University's prototype learning design tool (Compendium LD) or the presentation of institutional case studies were delivered in January and February 2008. At each, the opportunity to record discussion relating to the processes of learning design was taken. Over twenty staff took part in these events.

Emerging themes

The views expressed in the interviews reveal 'Learning Design' as a term with multiple, complex and sometimes competing roles and meanings. It was understood as an aspiration , a methodology, a role in a process, an object or artefact, a support to resource decisions, a means to promote new pedagogic approaches and technical tools, and an interpretation suitable for reuse of a learning event. The following section will examine and discuss some emerging themes from the responses to two of the five question themes. Following this, discussion will broaden to include issues raised in answers to the other questions.

Design support

The first interview theme focused on how the designer generated ideas for learning activities with the view of identifying potential supports. One source of influence was the application of experiences prior to commencing design. For those interviewed revealed they had been influenced by personal encounters such as colleagues and friends, conferences, workshops, previous collaboration with other courses and institutions, first hand experience through the demonstration of another course, and teaching ideas from the market.

A second source of influence was the survey and capture of information, ideas and objects driven by need to design. For the former, For the latter, the driver/s for design often directed the nature of support sought. Such drivers included structural influences, such as market demand, budget and time, the culture of an institutions learning design tradition, the production cycle and new legislation; teaching and learning influences such as the need to meet professional qualifications or alter course components due to student feedback or introduction of new technologies; and the desire to realise a personal or shared aspiration such as the interest in exploring new technologies or pedagogies.

Interview responses suggested many factors for support with broad agreement to our prepared prompts which included asking about prior experience, mapping to the overall design, external requirements, external sources of help, use of case studies, websites and presentations. One recurrent theme was a perceived need for greater pedagogic knowledge and 'chalk face' experience of delivering the design. Indeed, one respondent commented that designers without the specific expertise 'are not necessarily the best people to be designing the activities.' The full paper submission will expand upon this point by posing a question relating to design(er)'s 'distance' from the learning event. This may begin to explore the contradiction in the fact that design is sometimes understood as distinct from the implementation and enactment of the learning activity for which it claims a voice. Answers to such a question may reveal new barriers and challenges.

The role of case studies in terms of support and reuse was a particular interest for this study because these are often cited as a key mechanism by which educators can share practice (Beetham and Sharpe, forthcoming). Several comments revealed an apparent contraction for whilst some expressed a desire for more case studies and exemplars, the same people acknowledged that often they did not make much use of case studies currently available. Barriers to use included: doubt that there were studies relevant to them; a favouring of local circuits for dissemination within the local subject group; a perception that studies were too 'cutting edge' and progressive and therefore not relevant to a standard, more limited delivery schedule or budget; trust in the validity of the 'success' claims of those reporting; time required to sufficiently understand the context of the study; and a sense that it was difficult to abstract from the contextual complexities of a particular case to a reusable generalisation.

This suggests two questions that will be expanded in the later full paper submission. First, is it the form in which experience is communicated that is proving a barrier? For example, one respondent suggested that 'actually having the opportunity to talk to somebody might cut through a lot of digging around on websites to find whether there is anything there you want and then understanding it.' Two more believed that a learning design 'broker' is increasingly necessary and one course team had attempted to formalise the otherwise serendipitous nature of communication by organising inclusive meetings of a great range of potential contributors and stakeholders. Whilst offering clear operational benefits, such action can also be understood as reflecting the aspiration of learning design to look beyond the knowledge held by the team or individual and emphases the human rather than technical aspect involved in information 'search'.

Second, is the way in which case studies are being written meeting the demands of new designers? Most case studies both re-present an existing learning design artefact and present a new artefact designed for the consumption of others (and therefore written for the express purpose of dissemination and sharing). For example, the *Information and Communication technologies and Their Role in Flexible Learning* project sought to identify, select and develop 'reusable resources and mak[e] them accessible from a central website' (Agostinho, 2002). This is aptly demonstrated in the example of a social sciences activity by Borthwick et al. (2007).

In this negotiation between the specific and the generalised, studies will differ in the degree to which reinterpretation, ordering, structuring and codification takes place. This perhaps raises an additional question about what of the original, complex and 'messy' design process is lost and obscured by re-presentation and what of the new design process is constrained or hindered by the form and language of the case study presentations made. For example, one respondent complained that their final design had often since been criticised for not containing the newly introduced wiki, although in the design process a full evaluation of this had been made and there was conscious decision not to use it. In this case, interpretation of the final design artefact is severely hampered by the unavailability of a method to communicate aspects of the process of design. Indeed, in this example the process of analysis that led to the rejection of a wiki as an appropriate pedagogic tool would itself be a valuable case study and underlines the importance of capturing dynamism in design. Such absence of dynamism has overlaps with work by Falconer & Littlejohn (2007).

Representation

A second theme of relevance focuses on Learning Design representations, i.e. the form and method designers used to represent and record their learning designs. For this theme, the interview responses demonstrated a range of practice including the expected conceptual visualisation and text based lists and forms to the less documented use of tables and charts. There was also variation in the extent to which software was used in representation and the degree to which different representations were chosen for different purposes. One recurring theme was the way in which learning designs were considered as artefacts; objects created and passed through the design and delivery process ad between people.

Of particular interest in our development of Compendium LD, and indeed other graphical interfaces such as LAMS, are the perceived benefits that visual representations of a learning design can offer. Those interviewed for this study identified a range of benefits, many overlapping with those observd elsewhere (e.g. Inglis & Bradley, 2005). Communication and sharing ideas was deemed to offer benefits both for designers (including facilitating greater collaboration on activities rather than cooperation between activities and reducing the 'insular' nature of writing) and their managers (monitoring of progress, providing a common artefact to exchange and discuss – such as over the phone). This latter point supports the 'talking point' observation noted by Agostinho (2006). The diagrammatic format was seen to: give greater clarity to linkages and relationships between task, resources and outcomes and the impact making changes may have; support re-sequencing or re-design; make the design much more explicit; promote a student centred perspective; support brainstorming and ideas capture; anticipate different student approaches; and allow the working through of detail. Visualisation was seen to support the review of the design facilitating analysis and reflection to, for example, balance tasks, ensure continuity and support quality assurance processes such as critical readers and developmental testing. Furthermore, the design as an artefact, and here artefact is used as a general rather than technical term, was regarded as useful as a common reference document to steer and help resolve decisions about use of course production time, budget and staffing resources and to formally records ideas; a support in writing supplementary documents; a guide to navigate course material for newcomers (including students). Further evidence will be presented in the full paper submission.

Discussion of Process, Barriers and the role of evaluation

A third interview theme asked about the barriers to learning design. This is important because despite enthusiasm uptake has been slow and understanding the barriers for tools, such as LAMS and CompendiumLD, and facilitating the supporting design methodology. The full paper submission will discuss in greater detail key themes identified from the interviews including: the perception that a certain level of skill is required to communicate learning design; constantly shifting set of technologies;

the disjuncture between online pedagogy and technology. Empirical evidence that may support contentions made elsewhere about the barriers to sharing, for example those by Davis and Fill (2007) will also be discussed.

The full paper submission will also pose questions about how evaluation feedback gathered from/after the learning activity itself can be added or shown in the learning design representations that both precede and follow. It will be argued that this evaluation data could be seen as one bridge between the enacted learning design and the reporting and re-presentation of this design later for reuse. The interviews revealed substantial variation in the quantity and focus of evaluation, and in the language and framework in which they were expressed. It will be argued that this key omission could be a barrier to the uptake and effective sharing of learning designs and in enabling objective evaluation of the designs themselves. A greater role for evaluation may also enable better representation of where and when the teacher diverged from the design and altered the learning 'event' in response to the context, such as learners needs. Anticipating and facilitating such divergence may be a further requirement of a good learning design. Similarly, the evaluative role indicates a role for a learning design to support reflections by the designer.

This discussion concludes with a brief review of interview comments about process. Whilst complex in nature, three themes were of particular interest: the sequence in which the design took shape, the need for an effective learning design tools to be resilient to changes in technology, pedagogy, resources etc., and the importance of relaying the impact to a design when components are moved, replaced or deleted.

Conclusion

The issues raised in this paper touch upon two themes of this conference; the barriers and questions of practice in sharing and reuse and presenting the views of teacher educators experiences of using Learning Design. Indeed, the twin questions of how to gather and represent practice and how to enhance the quality and efficiency of learning design support present many challenges, both individually and in combination.

This paper has explored the key themes of support and representation which could be considered to have particular relevancy to graphics-based learning design tools such as LAMS. Questions associated with a design's distance from and relationship to a learning event and the process of re-presentation were raised. Additional discussion in the latter section took a broader view that touched upon other issues raised in the interviews. : barriers to learning design, questions about the role of evaluation, and anticipation for the iterative and changing process of design and re-design. This may raise additional questions for those exploring the role of Learning Design for strategic change in education.

References

Agostinho, S., (2006). The use of visual learning design representation to document and communicate teaching ideas. *Proceedings of the 23rd annual ascilite conference: who's learning? Whose technology.*

Agostinho, S., Oliver, R., Harper, B., Hedbery, H., & Wills, S., (2002). A tool to evaluate the potential for an ICT-based learning design to foster high-quality learning. In Williamson, A., Gunn, C., Young, A., & Clear, T., (Eds.), *Proceedings of Australasian Society for Computers in Learning in Tertiary Education* (pp.29-39), Aukland: UNITEC.

Beetham, H., and Sharpe, R. (Eds.) (forthcoming). *Rethinking pedagogy for a digital age*, Oxford: RoutledgeFalmer.

Borthwich, F., Bennett, S., Lefoe, G., & Huber, E., (2007). Applying authentic learning to social science: A learning design for an inter-disciplinary sociology subject. *Journal of Learning Design,* 2 (1), 14-24.

Conole, G., Cross, S., Brasher, A., Weller, M., Nixon, S., and Clark, P., (2008). A learning design methodology to foster and support creativity in design. Paper accepted for Networked Learning Conference, May 2008.

Conole, G. & Weller, M., (2007). The Open University Learning Design Project. In Cameron, L., Voerman, A., & Dalziel, J. (Eds.). *Proceedings of the 2007 European LAMS Conference: Designing the future of learning,* 65-72. Greenwich: LAMS Foundation.

Davis, H.C. & Fill, K. (2007). Embedded blended learning in a university's teaching culture: Experiences and reflections. *British Journal of Educational Technology*, 38 (5), 817-828.

Falconer, I. & Littlejohn, A. (2007). Designing for blended learning, sharing and reuse. *Journal of Further and Higher Education,* 31 (1). 41-52.

IMS, (2005). IMS Global Learning Consortium: Learning Design Specification. Retrieved 6/4/2005 http://www.imsglobal.org/learningdesign/

Inglis, A. & Bradley, A. (2005). Using conceptual mapping as a tool in the process of engineering education program design. *Journal of Learning Design.* 1(1), 195-219.

Lockyer, L., Bennett, S., Agostinho, S. and Harper, B. (Eds.) (2008). Handbook of Research on Learning patterns and institutional change, in Goodyear, P., and Retails, S., Design Patterns.

Nixon, S. (2007). LD project final report, final report of the LD VLE programme work. Open University, Milton Keynes.

McAndrew, P., Goodyear, P., & Dalziel, J., (2006). Patterns, designs and activities; unifying description of learning design structures. *International Journal of Learning Technology,* 2 (2/3), 216-242.