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### Representing learning designs – making design explicit and shareable

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## Representing learning designs – making design explicit and shareable

### Abstract

Most teachers' design practice is implicit and practice based, focusing primarily on discipline content. In recent years, a number of visual design representations have emerged that help guide teachers' design practice, enabling them to create explicit designs, which can then be shared and discussed with others. These design representations help guide the design process and help teachers to think beyond content to the learning activities the learners will be engaged with and the ultimate learner experience. The paper will describe the representations and draw on empirical evidence of their use in a range of contexts, including the Joint Information Systems Committee (JISC)-funded OULDI project, the European Union (EU)-funded Design Practice project and the Hewlett-funded OLnet project. It will also report on their use in a number of workshops being under-taken at Leicester University, UK and Wollongong University, Australia.

### Keywords

learning design, online role-play, learning design representation, visualisation, Cloudworks

### Disciplines

Curriculum and Instruction | Higher Education and Teaching

# REPRESENTING LEARNING DESIGNS – MAKING DESIGN EXPLICIT AND SHAREABLE

Gráinne Conole and Sandra Wills

## ABSTRACT

Most teachers' design practice is implicit and practice based, focusing primarily on discipline content. In recent years a number of visual design representations have emerged that help guide teachers' design practice, enabling them to create explicit designs, which can then be shared and discussed with others. These design representations help guide the design process and help teachers to think beyond content to the learning activities the learners will be engaged with and the ultimate learner experience. The paper will describe the representations and draw on empirical evidence of their use in a range of contexts, including the JISC-funded OULDI project, the EU-funded design practice project and the Hewlett-funded OLnet project. It will also report on their use in a number of workshops being undertaken at Leicester University, UK and Wollongong University, Australia.

## KEYWORDS

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## INTRODUCTION

Designing for learning is arguably the key challenge facing education today. There is now a wealth of technologies that can be used to promote different pedagogical approaches and enable learners to interact with resources in engaging ways, as well as enabling them to communicate and collaborate with their peers and teachers. Nonetheless there is a gap between this potential and the actual use of technologies. Teachers are confused by the plethora of tools and lack the necessary digital literacy skills to make informed design decisions to create authentic and engaging learning interventions.

Through work started at the UK Open University (OU),<sup>1</sup> a new learning design methodology has been developed, which guides teachers in their design practice. This paper will describe some of this work along with some examples of evaluation of the effectiveness of this approach with teachers. One focus of the paper will be the description and evaluation of a range of learning design representations that have been created in projects worldwide over the past ten years at the learning activity level. A second focus will be description and evaluation of learning design at the course level. Linking these two related approaches is a specialised teaching and learning social networking site developed at the Open University, Cloudworks<sup>2</sup>, which provides a space for teachers to share and discuss their learning and teaching ideas and designs.

## LEARNING DESIGN

A key principle of learning design is to help make the design process more explicit and shareable. Learning design as an area of research and development includes both gathering empirical evidence to understand the design process, as well as the development of a range of learning design resources, tools and activities. Conole (forthcoming) defines learning design as follows:

A methodology for enabling teachers/designers to make more informed decisions in how they go about designing learning activities and interventions, which is pedagogically informed and makes effective use of appropriate resources and technologies. This includes the design of resources and individual learning activities right up to curriculum-level design.

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<sup>1</sup> <http://www.open.ac.uk/blogs/OULDI/>

<sup>2</sup> <http://cloudworks.ac.uk>

Learning design has developed as a means of helping teachers make informed choices in terms of creating pedagogically effective learning interventions that make effective use of new technologies. Learning design representations enable teachers to document, model and share teaching practice. This is in line with the following recommendation from Keppell et al. (2011, bold added):

Academic teachers should be encouraged to model and share **learning designs** within their own university, partner institutions and symposiums and conferences in higher education (Recommendation 8).

It also encompasses both the process of designing learning experiences, as well as the product, i.e. the outcome or artefact of the design process. A learning design can represent different levels of granularity – from a whole course down to an individual learning activity. In addition, it can be a formal representation, which is computer-runnable or simply a semi-formal way of describing the learning intervention. Beetham and Sharpe prefer the term ‘designing for learning’, which they define as:

The process by which teachers – and others involved in the support of learning – arrive at a plan or structure or design for a learning situation (Beetham and Sharpe 2007).

They believe that learning can never be wholly designed, only designed for (i.e. planned in advance) with an awareness of the contingent nature of learning as it actually takes place. Beetham defines a learning activity as:

A specific interaction of learner(s) with other(s) using specific tools and resources, orientated towards specific outcomes (Beetham 2007).

Beetham defines design for learning as:

A set of practices carried out by learning professionals... defined as designing, planning and orchestrating learning activities which involve the use of technology, as part of a learning session or programme (Beetham 2008).

Cross and Conole provide an overview of the field (Cross and Conole 2008). The focus of that research was both to better understand and represent design processes, along with developing tools and methods to help practitioners create better designs. A number of benefits of adopting a more formal and rigorous approach to design were identified (Conole, 2009).

## **Open University**

The Open University was an early researcher of learning design with its SCORE project (Beetham, Taylor & Twining, 2001) and a decade later decided to try to embed learning design approaches in OU course design. The OU Learning Design Initiative started in 2007, supported through strategic funding from the OU and later through funding from the European Union (EU) and the Joint Information Systems Committee (JISC). The intention was to derive a more practice-focussed approach to learning design, identified from empirical evidence of actual practice.

This included gathering 43 case studies of the ways in which the then new Learning Management System (LMS), Moodle, was being used at the Open University UK and a series of interviews with teachers to articulate their actual teaching practice. The key focus of the teacher interviews was to better understand existing practice. The interviews focussed on five main questions: i) process: how do teachers go about designing a course? ii) support: how do they generate ideas? iii) representation: how do they represent their designs? iv) barriers: what barriers do they encounter? and v) evaluation: how do they evaluate the effectiveness of the design?

OULDI aimed to bridge the gap between the potential and actual use of technologies outlined in the introduction, through the development of a set of tools, methods and approaches to learning design, which enables teachers to make better use of technologies that are pedagogically informed. The OULDI identified six reasons why adopting a learning design approach might be beneficial:

1. It can act as a means of eliciting designs from academics in a format that can be tested and reviewed with developers, i.e. a common vocabulary and understanding of learning activities.

2. It provides a means by which designs can be reused, as opposed to just sharing content.
3. It can guide individuals through the process of creating learning interventions.
4. It creates an audit trail of academic design decisions.
5. It can highlight policy implications for staff development, resource allocation, quality, etc.
6. It aids learners in complex activities by guiding them through the activity sequence.

But what is the most effective way of describing or representing a learning design? Traditionally, teachers tend to focus on the content when they are designing. Some examples are shown as shaded cells in Table 1 (adapted from Falconer & Littlejohn, 2009).

Table 1: Some frameworks used by teachers to plan and document teaching

Representation	Description	Target users
Module plan or master folder	Text based overview of the module, usually available as a Word document or in paper form	Tutors Programme leaders External examiners
Case study	Narrative overview of a teaching & learning situation – ranging from entire module to single classroom activity	Tutors Course developers
Briefing document	Narrative overview of a teaching & learning situation, focusing on class management issues	Tutors Programme leaders External examiners
Pattern overview	Structured, text-based structured way of analysing a pedagogic problem & conveying best practice solution	Tutors Course developers Technical developers
Contents table	List of contents of a module or a single class	Tutors Students
Concept map	Mapping of concepts and/or learning activities	Tutors Students
Learning design sequence	Sequence of learning activities, sometimes shown diagrammatically	Tutors Students Technical developers
Storyboard	Mapping of concepts and/or learning activities	Tutors Audio visual/instructional developers
Lesson plan	Matrix mapping learning activities against a timescale - lesson plans are commonly used in Further Education	Tutors

However, visualisation can be a powerful way of helping teachers to think beyond content to the actual learning activities they want to create. The second half of Table 1 lists some visual approaches to representing learning designs. Visualisation appears to have three benefits: firstly it can help guide the teacher's design thinking, secondly it helps make the design explicit and shareable with others, and thirdly it provides a way of representing and articulating the design process.

## DESIGNER/TEACHER PERCEPTIONS OF LEARNING DESIGN REPRESENTATIONS

In the OULDI project, a range of approaches to design was evident from the interviews, including gathering of resources, brainstorming, listing concepts and skills, creating week-by-week plans, etc. On the whole these were primarily paper- and text-based. There was little evidence of use of alternative, more visual representations or visual software tools. Interviewees wanted help with understanding how to integrate ICT-based activities into courses. Face-to-face workshops and meetings were favoured over online support as they were felt to be the most effective way of thinking about, and absorbing new ideas and ways of working. Case studies interestingly were considered to be too demanding in terms of time and effort, interviewees wanted just-in-time support to specific queries. The most effective form of support was considered to be the sharing of experience with peers. When asked what would help them use technology more extensively in their teaching they stated that they wanted examples, preferably

from their own subject disciplines and they wanted others to talk to about design practices and ideas for learning and teaching.

There are seven key characteristics about teachers and their design practices (Conole 2012). The first is that teachers are bewildered by the plethora of tools available and lack the skills necessary to make informed learning design decisions. Therefore a key facet of all learning design tools is that they attempt to provide practitioners with some form of guidance and support around their design practice. The aim is to help them shift from an implicit, belief-based approach to design to one that is more explicit and design-based (Conole 2009). Evidence of the evaluation of the use of these tools shows that they do help shift practitioners from a focus on content to activities and the learner experience (Conole forthcoming).

The second is that many of the tools use the power of visualisation as a means of representing the designs. These can then be shared and discussed with other. Visualisation is useful both in terms of guiding the design process and thinking about different aspects of the design, as well as provided an explicit representation of the design.

The third is that there is a tension between design representations that are rigorous, precise and perhaps machine-runnable and those that are more creative, 'fluffy' and nearer to real practice. Derntl et al. (Derntl, Parish et al. 2010) argue that designing for learning needs both 'beauty' and 'precision'; and they show how different design languages can be used to present these. They state that:

We are in no way suggesting that beauty and precision are in opposition to one another, nor even that they are mutually exclusive concerns. We make the distinction merely to further stress the competing demands on instructional designers for maintaining a grand view of the learning experience while also addressing the myriad details of an effective end product.

The fourth is that there is an issue about what level of in-context support and guidance is provided to the designer and how such support can be created on the fly from up-to-date and authoritative sources. The CompendiumLD<sup>3</sup> tool includes a walled garden Google search, which searches across a number of predefined well-known and validated sources against a set of keywords (Brasher, Conole et al. 2008). However, in the future much more sophisticated personalised help needs to be developed.

The fifth is the fact that learning designs are both a product and a process. In the first instance the designer engages with various learning design Mediating Artefacts to guide their design process, through a creative, iterative and messy process. Then their final design is a product, which represents a particular moment in time in the design process.

The sixth is that, there are two dimensions of learning design: i) the creation of structured sequences of learning activities, and ii) a way to represent and share practice.

Finally, it is clear that the inherent affordances of different learning design tools will have an impact on how the practitioner goes about the design process. For example, some learning design tools, like LAMS,<sup>4</sup> focus on tools as conceptual elements. As a result the design process is likely to be tools focused. In contrast, the social networking site, Cloudworks, focuses on sharing and discussion and so emphasises the practitioner, dialogic aspects of design.

### **Cloudworks**

Cloudworks was developed as part of the OULDI project as a space to enable teachers to share and discuss their learning and teaching ideas and design. When asked what would provoke them to make more extensive use of technologies they said that they wanted: i) access to examples of good practice, preferably in their subject discipline and ii) a mechanism for discussing these with others online.

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<sup>3</sup> <http://compendiumld.open.ac.uk/>

<sup>4</sup> <http://www.lamsinternational.com/>

Conole and Culver (2009) describe the initial design and development of the site and in a follow on paper a more detailed evaluation of how the site is being used (Conole and Culver 2010). The site was designed using a Design Based Research (DBR) methodology (Barab 2006), where a problem is identified and a solution created. Then an iterative cycle of development and evaluation occurs.

Cloudworks combines social and participatory functionality to enable multiple forms of communication, collaboration and cross-boundary interactions amongst different communities of users. Figure 1 shows a screenshot of the homepage. The core object in the site is a Cloud, which can be anything to do with learning and teaching; such as a description of a learning intervention, a description of a tool or resource, a question, or a discussion point. Clouds can be grouped into Cloudscapes; a Cloud can belong to more than one Cloudscape. Clouds are a combination of social and participatory functionality. Firstly, they act like a multi-user blog; anyone can start a Cloud and others can subsequently add content to it. Secondly, they have a space for discussion. Thirdly, users can enrich the Cloud by adding embedded content, tags, links and references. Finally, they have additional Web 2.0 functionality, such as: an activity stream for the Cloud, the ability to tag, RSS feeds and Twitter-like follow and be followed options.

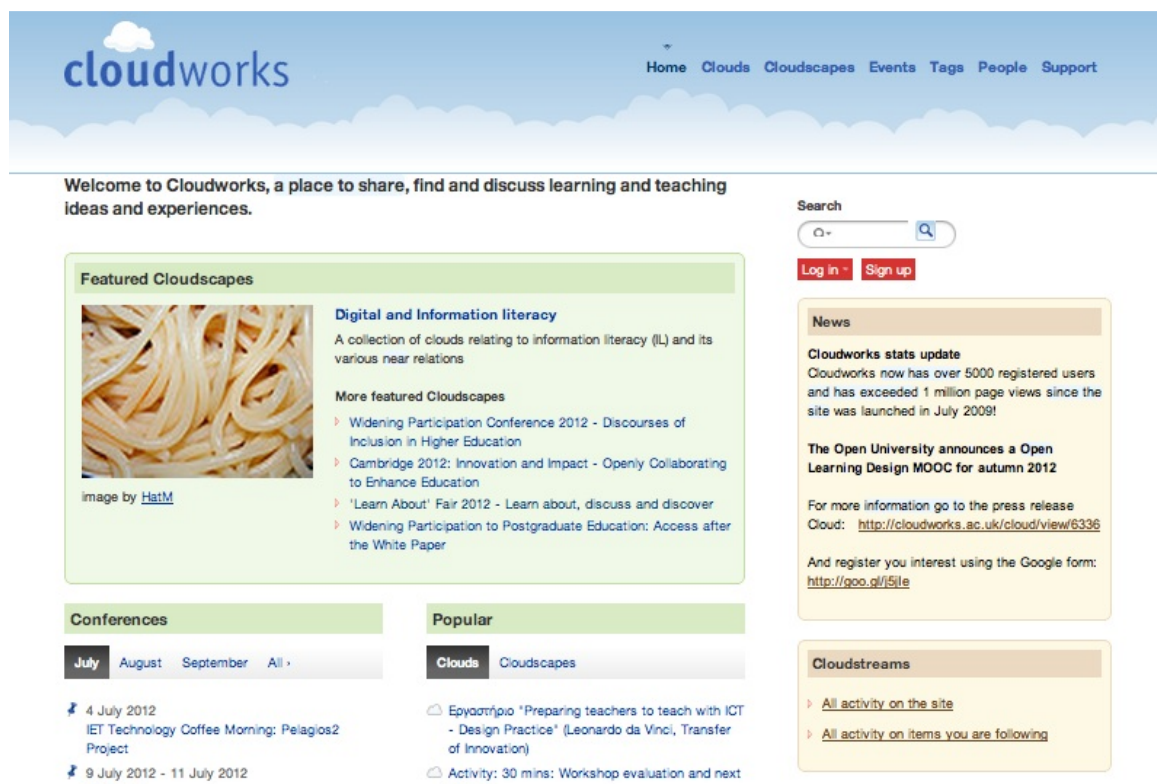


Figure 1: The Cloudworks homepage

The home page includes: a list of featured Cloudscapes, a list of forthcoming events, popular Clouds and Cloudscapes and currently active Clouds (Figure 1). Navigation is possible via a number of routes; by browsing Clouds, Cloudscapes, people and tags, via a search option, or via activity streams for Cloudscapes, individual users or the whole site. Users can also use the favouriting feature as a sort of social bookmark. Clouds and Cloudscapes that are favourited then appear as a list on the user's profile. Favouriting enhances the creator's reputation, which appears on their profile.

There are eight main ways in which the site is being used:

- **Events.** Use of Cloudworks for conferences, workshops and seminars was one of the first patterns of user behaviour to emerge on the site. The site provides a new type of mediational space to support interactions and communications pre-, during and post-events. The discussion spaces associated with Clouds provide a forum for users to discuss issues and to collectively liveblog. The

ability to add links, references and embedded content fosters collective intelligence and crowdsourcing. Because events have become such a dominant pattern of behaviour on the site, a dynamic list of events is now provided on the homepage.<sup>5</sup> Users can also indicate that they are attending a particular event and this then appears on their profile page.

- **Debates.** A number of Cloudscapes have now been established acting as discussion spaces. Recently, we have also been exploring how the site can be used to facilitate timed discussions, see for example the ‘Spotlight on OER’ Cloudscape.<sup>6</sup>
- **Open reviews.** Cloudworks provides a good environment for supporting ‘open reviews’; i.e. as a space to openly aggregate and discuss research literature reviews. Research questions can be set up as Clouds and used as a basis for discussion and aggregation of resources. Drafts of the evolving review can also be posted for comment.
- **Resource aggregation.** Cloudscapes have also been established that act as aggregators around particular topics or resources. For example there is a Cloudscape, which lists and discusses mind-mapping tools.<sup>7</sup>
- **Courses.** The site is also being used, to some extent, to support student activities, usually in conjunction with the use of an institutional Learning Management System (LMS). The way in which Cloudworks is being used by students on the OU’s Masters in Online and Distance Education (MAODE) course is described elsewhere (Conole, forthcoming).
- **Reading circles.** Clouds can be set up as spaces to discuss research papers and aggregate relevant links and references.
- **Learning Design.** Part of the original aspiration around the development of the site was to act as a channel for fostering more debate around design practices. A number of Cloudscapes have now been established that are focusing on learning and teaching issues around a particular course. In addition it is possible to embed designs produced in LAMS, as well as designs saved in GoogleDocs. A learning design Massive Open Online Course (MOOC) on learning design is currently being developed<sup>8</sup>.
- **Expert elicitation and consultation.** Finally, the site works well as a space to elicit expert views around a topic or as a space to validate and discuss research outputs.

Cloudworks offers a new type of social networking site, which is distinct from, but complementary to other social networking sites. The design of the site around the notion of social objects means that it differs from ego-centric sites like Facebook. The combined Web 2.0 functionality means that the community can collectively improve Clouds, through discussion and addition of content and resources. There is now a vibrant community of those interested in learning and teaching participating in the site. Users come from over 170 countries and span the educational spectrum; from formal educational contexts through to informal and non-formal ones. Teachers, learners, researchers and policy makers are interacting and communicating. There is evidence that some users are now beginning to appropriate niche ecologies of the site for their own interests. One example, just established, is described in the next section.

### Testing representations of the learning design for online role-play

Project EnROLE was an Australian project 2006-2009 lead by University of Wollongong (UOW), which set out to encourage adoption of online role-play in part by building a repository of role-play learning design descriptions.<sup>9</sup> Over 70 descriptions are in the EnROLE repository. The EnROLE team deliberately chose a two-page/two-picture template for describing each role-play learning design. The decision was in part a reaction to the denser structured flowchart approach taken in a previous Learning Designs Project hosted by UOW.<sup>10</sup> Project EnROLE did not have time to formally test

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<sup>5</sup> [http://cloudworks.ac.uk/events/events\\_list](http://cloudworks.ac.uk/events/events_list)

<sup>6</sup> <http://cloudworks.ac.uk/cloudscape/view/2105>

<sup>7</sup> <http://cloudworks.ac.uk/cloud/view/2201>

<sup>8</sup> <http://cloudworks.ac.uk/cloudscape/view/2419>

<sup>9</sup> <http://enrole.uow.edu.au>

<sup>10</sup> <http://www.learningdesigns.uow.edu.au/>

whether their two-page/two-picture approach to learning design description was more useful than other approaches to learning design representation.

Since then LAMS has emerged as a visual sequential description method, along with other tools such as CompendiumLD, mentioned earlier, the Patterns approach and more recent work on Simulation Triads and Design Decision Frameworks (Wills, Leigh & Ip, 2011). See Figure 2 for examples.

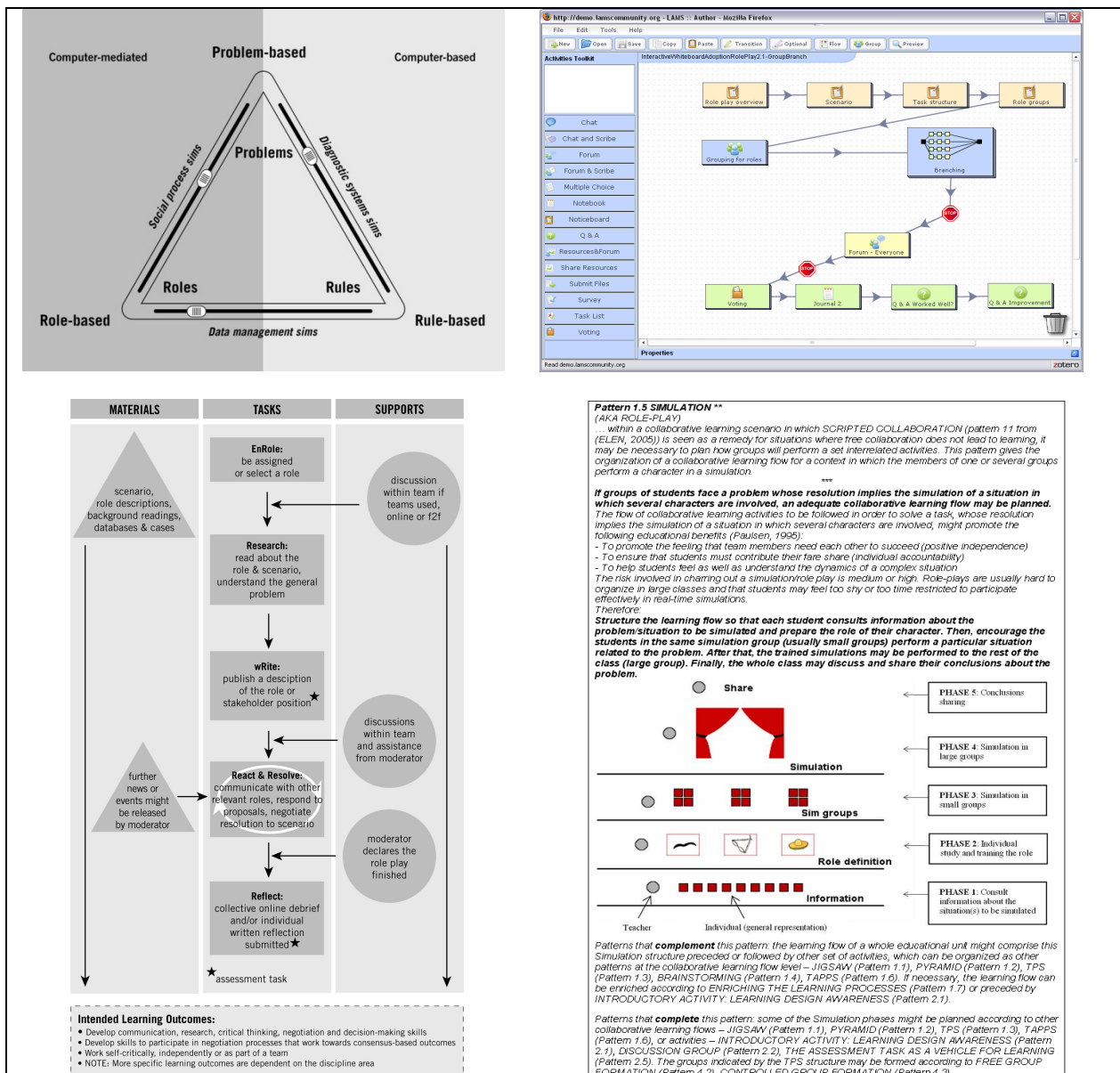


Figure 2: Sample learning design representations for role-play (clockwise from top left: Simulation Triad; LAMS Sequence; Learning Design Visual Sequence; Pattern)

A project funded as a Hewlett OLnet Fellowship in 2011 set out to address the unfinished research agenda from Project EnROLE by providing a concrete context for discussion in the learning design community about learning design descriptions. It confined the discussion to online role-play as the example learning design because descriptions for online role-play are readily available via Project EnROLE, because role-play is a learning design that has as its pedagogical basis a constructivist

learning environment rather than a content-transmission model of teaching and because online role-play has often been pointed to as an example of "good" learning design.<sup>11</sup>

The discussion is implemented via the Cloudworks site. Several descriptions of online role-plays from the EnROLE repository are amalgamated in a cloudscape.<sup>12</sup> Each role-play example is described using two or more different learning design methods from the following list of learning design representations:

1. Visual Sequences such as:
  - a. The Learning Design Visual Sequence
  - b. The LAMS (Learning Activity Management System) representation or
  - c. The CompendiumLD task swimlane representation
2. Pedagogical Patterns
3. Two-page/two-pictures template
4. Simulation Triad
5. Design Decisions Framework
6. IMS Learning Design

The community has been invited to add other learning design representations for each role-play and describe which method helped them best understand the role-play for their context and what were the strengths and weaknesses of each learning design description. The Cloudscape therefore provides a forum for discussion about the appropriateness of different learning design descriptions for different audiences.

### **The Grand Designs Workshops, Australia**

The Cloudscape discussion can operate entirely online, however from past experience a face-to-face workshop is a better strategy for generating initial discussion. A series of face-to-face workshops have been designed for rollout in Australia, borrowing the title from well-known British architecture television programme.<sup>13</sup>

At the first workshop at UOW, four role-plays were selected for discussion with university teachers and learning designers in a face to face workshop of 14 participants: First Fleet, Mekong eSim, Middle Eastern Politics, Versailles Treaty. Participants were provided with an overview of the 6 types of methods for generically describing the learning design of role-play. In break out groups they then discussed one of the four role-plays.

The First Fleet group examined information about the role-play using five different learning design methods. The strengths and weaknesses of each method for various purposes were debated. In general the group preferred sequences such as LAMS and the Learning Design Visual Sequence for highlighting the *process* involved in running the role-play and the Design Decisions framework for highlighting the macro level details of *design*. The Simulation Triad was viewed as an interesting diagnostic but incomplete.

On the other hand, the Mekong eSim group who were provided with four description methods found the Simulation Triad helpful at a conceptual level, the Two Page/Two Pictures format the most helpful for understanding and the Design Decision Framework least helpful for understanding but most helpful for building.

The Versailles Treaty group, who had five description methods for this role-play, decided that the Simulation Triad provided context but would not be helpful to inexperienced teachers. Similarly, the Two Page/Two Picture would not be helpful to inexperienced teachers due to lack of detail. The Design

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<sup>11</sup> <http://enrole.uow.edu.au/resources.html>

<sup>12</sup> <http://cloudworks.ac.uk/cloudscape/view/2344>

<sup>13</sup> <http://www.channel4.com/programmes/grand-designs/>

Decisions Framework was not helpful to inexperienced teachers because it did not present an overview and the format for presentation of information was not clear. However the IMS Learning Design description was viewed as very prescriptive and therefore most helpful to novice role-play designers.

The Middle Eastern Politics group were unable to provide feedback to the questions as discussion was centred solely on not being able to relate this example to their own discipline area. This was surprising given that so many role-plays in Australian higher education can be tracked back to design of this archetypal simulation which has been running for over 20 years, most transferring the design to a new discipline area (Wills, 2012). However, this concern was also raised in the interviews that were conducted as part of the OULDI project described earlier in this paper. It is also true that it in general takes time to understand how a learning design might transfer to another discipline area and this face-to-face workshop was a short activity unlike the workshop described in the next section.

The role-play clouds in Cloudworks were used to record the group feedback and others not at the workshop are welcome to add to the discussion just begun. More of these blended workshops are planned for Australia, hopefully with even more learning design representations added. The discussion around the effectiveness of each type of representation will accumulate and deepen providing us with insights for improving learning design representation. The results reported above are only from a small group however it is already obvious, and to some degree expected, that different learning design representations serve different purposes and different audiences and no one representation is yet adequate on its own. Understanding arises from comparing and contrasting the different methods.

None of the role-plays selected for the workshop used Pedagogical Patterns as the learning design representation. These will be added later. Therefore, the remainder of the workshop centred on explaining and demonstrating collaborative learning patterns, assessment patterns and atomic patterns provided by GSIC, University of Valladolid, Spain<sup>14</sup>. In total, the workshop used four repositories of learning designs.

Workshop evaluation indicated that university teachers had not been exposed to this type of thinking about designing course and activities before but could readily see that as collections of designs grow it was helpful for broadening their range of approaches to teaching. It was viewed as an interesting way to share teaching ideas. On the other hand, although it was not an aim of the workshop, most thought that it would be difficult for them to describe their own teaching this way.

## **USING LEARNING DESIGNS TO GUIDE TEACHERS DEVELOPING ONLINE COURSES**

The Grand Designs workshops expose teachers to learning designs at the activity level. Although the designs for activities are positioned within an imaginary scenario of selecting combinations of designs to build a whole course, course design was not the main focus of the workshop. An example is described below which focuses on course level design and is facilitated in online and blended format whereas Grand Designs runs initially as face to face followed by online participation.

### **Carpe Diem Workshops, UK**

The University of Leicester (UOL) has previously developed a learning design workshop format, called Carpe Diem.<sup>15</sup> Funding from the JISC has enabled the OULDI work to be combined with learning design research at UOL. The result has been the development of the 7Cs of Learning Design Framework, which is described elsewhere (Armellini 2012; Conole 2012). UOL began by doing an audit of the OULDI tools and the Carpe Diem material to create a new learning design offering. The aim of the initiative was twofold:

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<sup>14</sup> [http://www.gsic.uva.es/wikis/yannis/index.php/Wollongong\\_documents](http://www.gsic.uva.es/wikis/yannis/index.php/Wollongong_documents)

<sup>15</sup> See <http://www2.le.ac.uk/departments/beyond-distance-research-alliance/carpe-diem-folder/>

- Apply OULDI and Carpe Diem resources to Leicester and determine the transferability of the existing methodologies to different contexts, in both face-to-face and online settings
- Develop a set of new learning design resources by combining OULDI and Carpe Diem resources.

These were then organised according to a learning design conceptual map, the 7Cs of learning design framework. Figure 3 shows the framework, which consists of the following elements:

1. Conceptualise – which initiates the design process and consists of imagine, design and prepare.
2. Capture – which covers the ways in which search engines, OER repositories and social bookmarking can be used to find and collate relevant resources and activities.
3. Create – which covers both the creation of content and activities.
4. Communicate – which covers how to moderate asynchronous and synchronous forums
5. Collaborate – which considers how tools like wikis, voicethread, blogs, etc. can be used to foster collaboration and how to work in virtual teams.
6. Consider – which covers the ways in which tools such as blogs, e-portfolios and Multiple Choice Questions (MCQs) can be used to promote reflection and distinct forms of assessment.
7. Consolidate - where the participants take stock of what they have learnt and create an action plan for taking things forward.

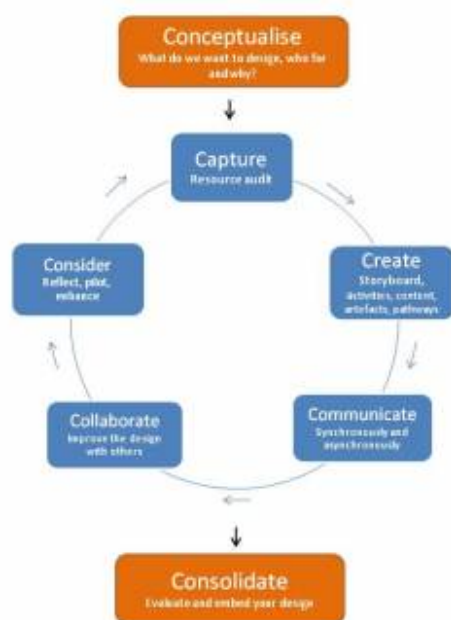


Figure 3: The 7Cs of learning design framework

Aspects of the framework were then used as the basis for the development and format of a new learning design workshop offering. This was trialled and evaluated in a two-week online session with participants from the South African Institute of Distance Education (SAIDE) and the design team for a new masters in learning innovation at Leicester University. The online workshop consisted of a series of 1.5-hour synchronous video conferencing sessions and a series of asynchronous activities in between these. Participants explored a number of learning design representations, including the course features view, the course map and the pedagogy profile and organised their course design using the 7Cs framework. Resources and outputs from the SAIDE workshop are available on Cloudworks. All the resources created as part of the Leicester pilot are available via Cloudworks<sup>16</sup>, Slideshare<sup>17</sup> and Leicester's OER repository.<sup>18</sup>

<sup>16</sup> <http://cloudworks.ac.uk/cloudscape/view/2379>

<sup>17</sup> <http://tinyurl.com/7cs-bdra-11april>

<sup>18</sup> <http://tinyurl.com/uol-7Cs-oers>

Nie et al. (Nie, Witthaus et al. 2012) report on the findings of the evaluation. Data was gathered through interviews and an online survey with participants. The data was analysed using thematic analysis (Boyatzia 1998; Joffe and Yardley 2004) to identify key themes. Overall the initiative was highly valued and well received by the participants. The existing tools and methods were easily transferable to different contexts. The aspects that the participants liked about the workshop included: opportunities to discover and experiment with new tools and approaches, simplicity, creativity and visual nature of the tools, that it enabling critical thinking and reflection; that it challenging their initial design ideas, that it was interactive and collaborative, that it provided opportunities to work in groups. They also valued the way in which the workshop was facilitated, organised and structured and they liked the balance of synchronous and asynchronous activities.

The following quotes give a flavour of some of the responses from the participants:

I think we made a big breakthrough. We have achieved the insight about the need to structure it as a course, an online course, and not just simply as a set of learning activities plus integrated resources.

I think the visual nature of the tools and the quick and easy way that one could use it without too much elaborative training. They help stimulate us to look at the course in a different way, in a natural and creative way even if we didn't see all the little links right upfront.

I wanted to have my thinking challenged with regard to course design and development and I definitely left reflecting and questioning our unit's current approach and have some good tools and approaches to pilot with course design teams.

I think it's a way of freeing your mind and putting all the ideas of all the people in the course team down somewhere, not having to be so prescriptive. It was just a much freer and [more] creative experience than getting the learning outcomes and writing them as active verbs, and getting in at a granular level. It was quite sort of a liberating thing to just have everybody move components around and say, 'Do you know I really like all these features. I'd like to do some problem-based learning. I'd like to do peer-review'.

Therefore the visual learning designs and the activities included in the workshops, helped participants in thinking beyond content to the creation of activities, and enabled them to adopt more creative approaches to the design practice. Each of the design views articulated different aspects of the design process and the final storyboard activity enabled them to put everything together into a temporal design sequence linking learning outcomes, assessment and activities together.

Nie et al (2012) conclude their evaluation report with the following:

Overall the workshops were well received and the tools and resources were highly valued and appreciated by all participants from Leicester and SAIDE. The workshops provided the participants with dedicated time and space to reflect on, discuss and share their learning designs. Engaging with a variety of different tools enabled the participants to challenge and deeply reflect on their design and critically think about ways in which the tools and approaches could be incorporated effectively in their current practice.

## CONCLUSION

Although the two different workshop formats described above had different purposes for using learning design, it is clear that the end result was a group of challenged and engaged teachers thinking differently about design of their learning activities and design of their courses.

We would argue that we are at an interesting watershed in terms of learning design research. We have made significant steps forward in the field over the last ten years or so and now have a much richer

understanding of design practices and mechanisms for promoting them. The learning design tools developed along the way have enabled us to explore these in real-world contexts; some focus on visualisation, others on dialogue and sharing, and others on guidance/support. All three of these different types of scaffolds are important and support the practitioner in different ways. What is needed next is to try and combine these elements, not necessarily into one monolithic tool, but through the creation of some form of dynamic learning design ecosystem. As a first step towards this, key researchers in the field have been meeting as part of an EU-funded group, the LDGrid.<sup>19</sup> A key output of the group is to produce a concise, comprehensive and accessible set of resources for practitioners and learners to help them adopt more learning design based thinking and practices. The group has held a number of workshops and has an evolving set of learning design resources. The work described in this paper is now being taken forward in the development of a Learning Design MOOC (Massive Open Online Course),<sup>20</sup> which will be delivered in Autumn 2012. The MOOC will provide a comprehensive overview of learning design research and will give participants an opportunity to try out many of the resources described in this paper. Over 600 people have already registered an interest in the MOOC.

## REFERENCES

- Armellini, A. (2012). Carpe Diem: the 7Cs of design and delivery, blog posts, <http://beyonddistance.wordpress.com/2012/02/07/carpe-diem-the-7cs-of-design-and-delivery/>, Beyond Distance Research Alliance blog, 7<sup>th</sup> February 2012.
- Barab, S. (2006). Design-based research. *The Cambridge Handbook of The Learning Sciences*. R. K. Sawyer. New York, Cambridge University Press: 153-169.
- Beetham, H. (2007). An approach to learning activity design. In H. Beetham and R. Sharpe (Eds.) *Rethinking pedagogy for a digital age: designing and delivering e-learning* (pp. 26-40). London: Routledge.
- Beetham, H. (2008). Review of the Design for Learning programme phase 2, JISC Design for Learning programme report, available from <http://www.jisc.ac.uk/whatwedo/programmes/elearningpedagogy/designlearn.aspx>
- Beetham, H. and R. Sharpe (2007). *Rethinking Pedagogy for a Digital age: Designing and Delivering E-Learning*, Routledge, London, UK
- Beetham, H., Taylor, J. & Twining, P. (2001) SoURCE Evaluation Report Retrieved May 16 2010 from <http://kn.open.ac.uk/public/getfile.cfm?documentfileid=2224>
- Boyatzia, R. E. (1998). *Transforming qualitative information: thematic analysis and code development*. London, Sage.
- Brasher, A., Conole, G., Cross, S., Clark, P., Brasher, A. and Weller, M. (2008), *CompendiumLD – a tool for effective, efficient and creative learning design*, Proceedings of LAMS conference, Spain.
- Conole, G. (2009). Capturing and representing practice. In A. Tait, M. Vidal, U. Bernath and A. Szucs (Eds.) *Distance and E-learning in Transition: Learning Innovation, Technology and Social Challenges*. London: John Wiley and Sons.
- Conole, G. (2012). The 7 principles of learning design. [e4innovation.com](http://e4innovation.com).
- Conole, G. (2012). The 7Cs of design and delivery. [e4innovation.com](http://e4innovation.com).

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<sup>19</sup> <http://www.ld-grid.org/>

<sup>20</sup> <http://cloudworks.ac.uk/cloudscape/view/2417>

- Conole, G. (Forthcoming). Designing for learning in an open world. Springer, New York.
- Conole, G. and J. Culver (2009). Cloudworks: Social networking for learning design. Australasian Journal of Educational Technology 25(5), <http://www.ascilite.org.au/ajet/ajet25/conole.html>).
- Conole, G. and J. Culver (2010). The design of Cloudworks: applying social networking practice to foster the exchange of learning and teaching ideas and designs. Computers and Education 54(3): 679-692.
- Cross, S. and G. Conole (2008). Learn about learning design, Learn about guides series. The Open University, UK.
- Derntl, M., P. Parish, et al. (2010). Beauty and precision in instructional design. Journal on e-learning 9(2): 185-202.
- Falconer, I. & Littlejohn, A. (2009). Representing models of Practice. In L. Lockyer, S. Bennett, S. Agostinho & B. Harper (Eds.) Handbook of Research on Learning Design and Learning Objects: Issues, Applications and Technologies. PA: IGI Global, pp. 20-40.
- Joffe, H. and L. Yardley (2004). Content and thematic analysis. In D.F.Marks & L.Yardley (Eds.) Research methods for clinical and health psychology. London, Sage.
- Nie, M., G. Witthaus, et al. (2012). Learning Design Initiative at the University of Leicester: OULDI Carpe Diem 7Cs pilot workshops. Leicester, University of Leicester.
- Wills, S. (2012) Rethinking reusability: implications from a longitudinal study of online role-play in Australian higher education. In Education 2011-2021 Summit: global challenges and perspectives of blended and distance learning, IGI Global, Hershey, USA.
- Wills, S., Leigh, E. & Ip, A. (2011) The power of role-based e-learning, Connected with e-Learning series, Routledge, London, UK.

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