

CLOUDWORKS AS A ‘PEDAGOGICAL WRAPPER’ FOR LAMS SEQUENCES: SUPPORTING THE SHARING OF IDEAS ACROSS PROFESSIONAL BOUNDARIES AND FACILITATING COLLABORATIVE DESIGN, EVALUATION AND CRITICAL REFLECTION

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Abstract

Cloudworks is a specialised social networking site for sharing, debating and co-creating ideas as well as designs and resources for teaching, learning and scholarship in education. The site has been co-funded by JISC and The Open University, and has ca.2500 registered users and visitors from 165 countries (May 2010). Fundamental to the development of the site has been the belief that one of the key challenges in encouraging more innovative learning design is getting teachers to share designs and ideas. Despite the fact that there are numerous repositories of good practice, case studies, learning objects and Open Educational Resources (OER), their impact on practice has been limited (McAndrew and Santos, 2008). Yet in interviews and workshops, when asked what would they find most helpful to enable them to make better use of technologies in their design practices, teachers consistently say that they want examples of good practice and access to others to share and discuss ideas with (Beetham and Sharpe, 2007).

This paper will explore how Cloudworks might be used as a ‘pedagogical wrapper’ for LAMS sequences, supporting the sharing of ideas across professional boundaries and facilitating collaborative design, evaluation and critical reflection.

1. The vision of using Cloudworks as a pedagogic wrapper for LAMS sequences

Cloudworks (www.cloudworks.ac.uk) has been designed to make the most of web 2.0 practices to promote intra - and inter -community activity and discussion around learning and teaching. The site aims to provide both a place for people to showcase their designs and related work, and obtain inspiration and share ideas when creating new designs. We have always recognised that different people will want to use a variety of different tools for designing learning activities in different contexts and at different stages of the design process, and that therefore the site should not be tied to any specific tool, but allow people a choice of

formats for design (such as CompendiumLD maps, LAMS sequences and text-based formats). Cloudworks has been developed by the Open University as part of the Open University Learning Design initiative and has been part funded by the Open University and the Joint Information Systems Committee (JISC). Part of this funding has been allocated for collaborative work with LAMS and the LAMS Community to contribute to the overall goals of the project. To date, although there has been a great deal of very productive sharing of ‘snippets’ of practice on Cloudworks (discussing and sharing a new teaching tool, or a teaching and learning experience, or asking a tricky and interesting pedagogical question) there has been little sharing of what might be described as ‘worked designs’.

At present, LAMS sequences can be shared as files through the LAMS Community, and this allows registered users of the LAMS Community to access the “Preview” function in LAMS through an integration of LAMS with the LAMS Community. While this functionality is useful within the context of the LAMS Community itself, it does not contribute towards broader sharing of LAMS sequences in other contexts. In addition, although the discussion forums are used for both educational and technical discussions, in keeping with findings from other communities such as Sakai (Masson, 2006), there is much more technical than educational discussion. Technical postings appear almost every day, whereas educational postings are less frequent and are more likely to spur a series of quick responses before moving to another period of inactivity until the next educational topic captures the attention of community members.

We believe that Cloudworks can add value in terms of facilitating the sharing of LAMS sequences across new communities, and providing a space which supports and encourages discourse around the pedagogic aspects of design.

There are two distinct aspects to this project:

- Development of a new “embed” function necessary to allow a sequence that is uploaded to the LAMS Community to be embedded into any other web page.
- Recommendations about the sort of information, or pedagogical ‘wrapper’, teachers may find useful when using or repurposing someone else’s sequence and how the Cloud may be presented and structured to promote discussion, collaboration and reciprocal sharing of new designs.

2. The existing LAMS community

The LAMS Community (www.lamscommunity.org) is the largest online community for sharing Learning Designs (May 2010). It has over 5,700 registered members from 90+

countries, approximately 600 shared Learning Designs downloaded or previewed over 17,000 times, and more than 700 discussion forum postings. These statistics are modest compared to those of the e-learning community formed around the Moodle Virtual Learning Environment (VLE), and the number of objects and downloads are modest compared with Learning Object Repositories (LORs) such as MERLOT and ARIADNE. However, as an example of a website that integrates community and Learning Design repository elements, it illustrates new approaches to the sharing of educational resources and experiences.

The LAMS Community uses an open source software system built for supporting online communities (.LRN – based on OpenACS), and has added Learning Design repository functionality to this system. The LAMS Community inherits all the mature community features of .LRN, such as sub-communities, discussion forums for each community, delegation of sub-community management and other community-centric features. The Learning Design repository functionality allows each sub-community to have its own area for sharing Learning Designs. This approach allows sub-communities to build different kinds of collections, complemented by different kinds of discussion.

3. Embed development

The functionality would be analogous to the “embed” feature of YouTube, in that the LAMS Community would provide a snippet of code, which could be copied to any other webpage to allow for embedding of the sequence into another page. We will also support the “oEmbed” function. The functions of the embedded LAMS sequence would be as follows:

- An image of the LAMS sequence as seen in Author. A screenshot image of the LAMS sequence in Author can be uploaded to the LAMS Community to provide this view. A Preview button to allow for immediate access to the Preview mode of LAMS to allow any visitor to the webpage to see the LAMS sequence running live from the perspective of a Learner. NB: No login would be required for this view.
- An “Open in LessonLAMS” button, which would allow a person to automatically load the file into the hosted LessonLAMS website, and from there, open the sequence in a LAMS Authoring Environment. Due to the potential for changes/editing to a sequence from the Authoring Environment, access to this view will require a login. A login for LessonLAMS can be created in a matter of seconds, and for a user who is already logged into LessonLAMS, the sequence can be opened without any login required.

The outcome of this development is that a LAMS sequence can easily be embedded into any website, such as Cloudworks, to allow for discussion/debate about the nature of the sequence. Users can view the image of the sequence directly, and can use the Preview button to access a live instance of the Learner view of the sequence. Users can also access the full Authoring view of the sequence via an account on the LessonLAMS site. Taken together, this will foster greater dissemination of Learning Design ideas, and allow for Web 2.0 style discussion and debate of exemplar sequences within Cloudworks, based around live experiences of real, running sequences.

4. An overview of Cloudworks

Cloudworks was developed so that it would utilise Web 2.0 practices with the specific aim of fostering dialogic exchange between educational practitioners; the aim was to create an evolving, dynamic community for sharing learning and teaching ideas and design. It is recognised that the challenges inherent in this are not insignificant. There are numerous repositories of good practice, case studies, learning objects and Open Educational Resources (OER) however, their impact on practice has been limited (McAndrew and Santos, 2008). Conole and Culver (2009, 2010) argue that this is due to a range of issues, for example the extent to which the resources match the user's needs, how usable and intuitive the site is and whether or not the level of detail provided is appropriate. In addition a key issue is the sustainability of these kinds of repositories. In reality, end users rarely add resources and such sites usually require an investment in terms of someone entering resources and maintaining the repository (Philip *et al.*, 2007, McNaught, 2007, Downes, 2007). With the intention of proactively addressing some of these issues, development of the site has drawn considerably on the work of Engestrom (2005) and Bouman *et al.* (2007).

Firstly, the site is essentially object-centred rather than ego-centred in nature (Dron and Anderson, 2007). Engeström (2005), drawing on the work of Knorr-Cetina (2001) puts forward a compelling argument for the need to adopt an approach to social networking based on 'object orientated sociality'. He focuses on the notion of social objects, arguing that:

The term 'social networking' makes little sense if we leave out the objects that mediate the ties between people. Think about the object as the reason why people affiliate with each specific other and not just anyone...

Knorr-Cetina suggests that objects have become ever more important in today's society and that objects are increasingly replacing and mediating human relationships. Engeström (2005)

contends that the definition of a social network as 'a map of the relationships between people' is inadequate.

The fallacy is to think that social networks are just made up of people. They're not; social networks consist of people who are connected by a shared object.

This is an important distinction and he argues that this can be used as a basis for understanding why some social networks are successful whilst others fail. He provides examples of successful social networking sites built around social objects - such as Flickr (photos), Del.icio.us (bookmarks/URLs) and sites such as Eventful (eventful.com) where the objects are events. Other examples include YouTube (video clips) and Slideshare (presentations). He puts forward object-orientated sociality as a mechanism for helping us to identify new objects that might be used as the basis for developing new social networking services.

The core object in Cloudworks is a 'Cloud', which can be anything to do with learning and teaching (a description of learning and teaching practice, an outline about a particular tool or resource, a discussion point). Clouds combine a number of features common in other Web 2.0 technologies. Firstly, they are like collective blogs in that additional material can be added to the Cloud - this appears as sequential entries under the first contribution. Secondly, they are like discussion forums - there is a column under the main Cloud where users can post comments. Taken together, these attributes mean Clouds can be 'social' which aligns with Engestrom's (2005) notion of the importance of social objects as the key focus of social networks. Thirdly, they are like social bookmarking sites in that links and academic references can be collected together on Clouds. Finally they have a range of other functionalities common to other Web 2.0 sites, such as 'tagging', 'favouriting', RSS feeds, following, and activity streams. Collectively these features provide a range of routes through the site and enable users to collectively improve Clouds in a number of ways. Clouds can be grouped together into aggregations, termed Cloudscapes.

In addition to designing Cloudworks around Clouds as "social objects" the Cloudworks development team have also drawn on the work of Bouman *et al.* (2007) and have utilised their design framework based on sociality, using it to inform the development and functionality of the site.

<i>Design Domains</i>	<i>The realm of enabling practice</i>	<i>The realm of mimicking reality</i>	<i>The realm of building identity</i>	<i>The realm of actualizing self</i>
<i>Design Criteria</i>	<i>Economic criteria</i> Use, purpose, value	<i>Empirical criteria</i> Empirical reference ability	<i>Social criteria</i> Trust, connectivity, identifying with, trajectories	<i>Individual criteria</i> Love, social needs, esteem, cognitive needs, aesthetics
<i>Design Principles</i>	<i>Supportability</i> Social software needs to be designed in such a way that a (possible) social practice is supported	<i>Alignment</i> Social software needs to be designed as a real life social experience with valuation, rating, individuation, repudiation	<i>Belonging</i> Social software needs to be designed to support identity and group formation.	<i>Discovery</i> Social software needs to be designed to help people explore new territories, and in that way help develop one-self.
<i>Design Parameters</i>	<i>Practice</i> Facilities of engagement, alignment and imagination	<i>Metaphor</i> Metaphors of engagement, alignment and imagination	<i>Presentation</i> Conversational interaction, social feedback, social networks	<i>Feedback</i> Guided exploration sharing
<i>Design Dilemma</i>	Creating new practices while economizing on old ones	Finding new ways, words and worlds without losing reference ability	Balancing between factual and self depiction	Balancing between the known and unknown

Figure 1. A design framework for social software (Bouman *et al.* 2007)

5. A design framework for social software (Bouman *et al.* 2007, p. 14)

Referencing Wenger (1998), Bouman *et al.* argue that sociality cannot be designed but only designed for, and offer the framework as a checklist for guiding the design process. Core to their approach are a number of assumptions. Firstly, that the system needs to accommodate both the evolution of practices and the inclusion of newcomers. Secondly, that individual identity is important so there needs to be a mechanism to enable the development of identities. Thirdly they argue that people are more inclined to use software systems that resemble their daily routines, language and practices than to adopt whole new concepts, interfaces and methods, which suggests that metaphors and structures that mimic real life practices are likely to be more successful (Bouman *et al.*, 2007: 14). Conole and Culver provide a more detailed description of the development of Cloudworks (Conole and Culver, 2010) and the associated theoretical underpinnings (Conole and Culver, 2009).

The site hosts a thriving community of education practitioners from a variety of roles. Since the re-launch of the site in July 2009, we have seen consistent and strong growth, and as of May 2010 the site has nearly 2500 registered users and typically receives between 4,000 and 5,000 unique visitors each month from 165 different countries (including both registered and unregistered visitors). However, we recognise that realising educational discussions

around such technical artefacts is a significant challenge. Dalziel (2007, p.383) writes of LAMS community discussion:

Educational discussion of learning design issues remains patchy, whereas by comparison, technical discussion of the software is rich and sustained. While this pattern has been mirrored in the Sakai community (Masson, 2006), successful implementation of the learning design vision requires rich educational discussions of implementation and experiences with students.

This suggests the importance of critical mass and active engagement by educators.

Recently we have been developing a framework to enable us to more systematically position dialogic transactions and patterns of activity, so that we can better encourage and support specific types of interaction and activity which we anticipate may lead to community and knowledge building, and more sustained participation (Galley, 2010). Our interest is in supporting the process of development of weak ties between groups to the stronger more cohesive ties that can be seen to emerge from repeated and iterative collaborative activity that happens *within, across and between* more established Communities of Practice. The factors identified are those we believe promote creative and engaging professional discussions and collaboration which are sustained over time:

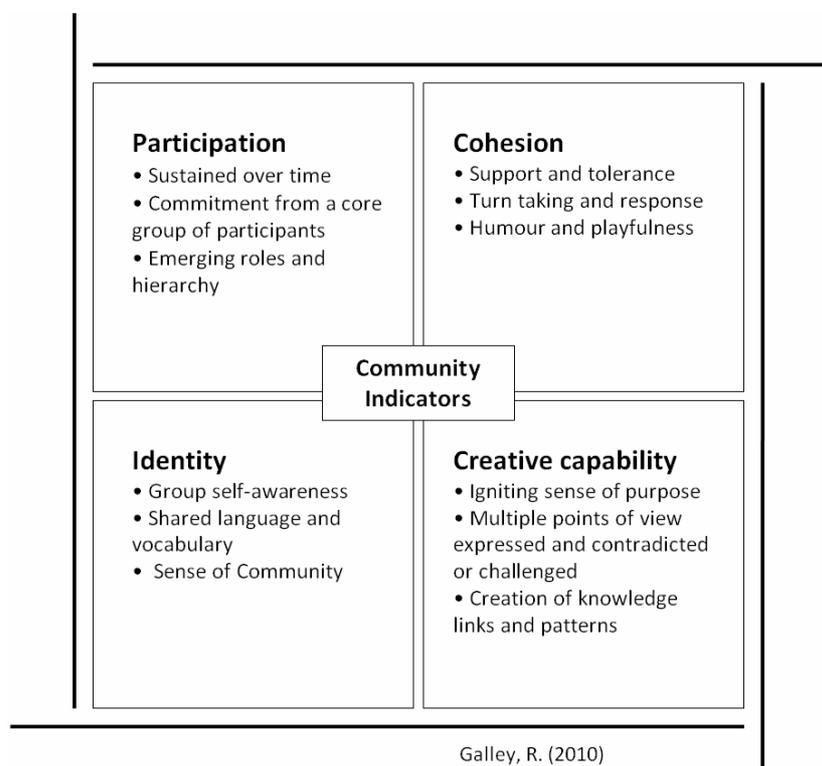


Figure 2. Community Indicators

6. Cloudworks as a pedagogical wrapper

We know that technical discussions are well supported and thrive in the LAMS Community; we would not seek to replicate this kind of discussion in Cloudworks and will promote links

to it from the site. Instead, we hope that Cloudworks will provide an open and lively community where cross-community discussions about pedagogy of design might more spontaneously and sustainably take place.

In order for this to happen we must ensure that wherever possible, the sort of information that teachers may find useful when using or repurposing someone else's sequence (the pedagogical 'wrapper') is appropriate and clearly presented, and that the Cloud is structured in order to best promote discussion, collaboration and reciprocal sharing of new designs.

What do teachers need?

It is important also not to underestimate the barriers to the successful uptake and use of technologies. Barriers are not just technical, but also pedagogical and organisational in nature. There is an inherent tension between the pressures of excelling in research versus promoting innovative approaches to learning and teaching. Teachers lack the necessary new forms of digital literacies (Jenkins, *et al.*, 2008) needed to make effective use of new technologies and some have concerns as to whether or not these new technologies are indeed any better than existing approaches.

Learning Design research in recent years has given us a richer understanding of some of the issues and the kinds of things teachers state that they want (See for example Lockyer *et al.* 2008; Beetham and Sharpe, 2007). In our own work we have carried out a series of interviews with teachers and learning design workshops, to gain a better understanding of how they go about designing, as well as eliciting from them the kinds of support they would like to help them make more effective use of technologies (See Cross (Ed), 2010). Two key overarching responses from these interviews and workshops were that teachers wanted case studies of good practice (preferably in their own subject discipline) and a means of networking and discussing ideas with others. However our work has also shown that simply providing practitioners with case studies or design sequences 'cold' does not work, they need to be presented in a facilitative context – for example as part of a guided sequence of workshop activities towards clearly defined outcomes or as part of a facilitative online discussion. We have run variants of both of these contextualisation approaches within Cloudworks and see the work with LAMS sequences as a logical next extension. Our work within this context is around the notion of Cloudworks acting as a pedagogical wrapper around LAMS sequences. As part of this we intend to provide a template for this pedagogical wrapper to guide the nature of the online interaction. The template will be designed to

promote spontaneous discussion, but also to reassure educators that the collaborative activity around the design is useful and purposeful. It will provide a clear framework for collaboration and offer links to easy to understand technical and pedagogical support.

In order to promote sustained and lively pedagogical discussions around LAMS designs, we suggest the following sections needs to be developed in the template for sharing designs:

- Details on the context of the design (f2f or online/ age of learners/ level/ subject or discipline).
- An indication of the degree of transferability (this could be provided as an embedded voting tool).
- Links to supporting resources, websites, documents etc used in the session.
- Relevant academic references either to papers/case studies on the use of the design sequence or related work.
- A reflective evaluation from the designer. What worked well and what did not work well and some suggestions as to why that might have been.
- Links to variations and repurposed designs.
- A statement about what sort of feedback or discussion the designer hopes might happen around the design.
- Links to technical support.
- A glossary of terms (educational and technical).

Participation

We know from our observations on Cloudworks that the commitment of a core group of participants is key to the development of sustained activity and collaboration over time. This core group take on social roles; offering encouragement, reassurance, feedback and advice, and also play a part in facilitating more complex discussions such as disagreements or confusion. Although the Cloudworks and LAMS teams can initially perform these roles, this is not sustainable long term, or even medium term, and is not as effective in securing engagement as when the social and support roles are carried out from within the community.

There are a number of ways of securing commitment from a core group but the most effective may be to recruit ‘mentors’ for a fixed initial period from the established Cloudworks community and then formally offer the role to new community members as they emerge.

Cohesion

The behaviours of individuals within this core group can be seen to impact on the language and culture of the transient communities that build up around objects, and particularly the ways that individuals begin to interact and relate to each other. Support and tolerance, turn taking and response, humour and playfulness are all behaviours common in vibrant and productive communities (Herring, 1994, Walzer, 1997, Rafaeli & Sudweeks, 1997). Language is a key part of this and we have observed that an authentic, discursive and referential style supports discussion and encourages new participants, whereas formalised and ‘stand-alone’ statements tend to quickly shut down discussion.

In addition to the recruitment of ‘mentors’, it will be important that any templates, support documents and other resources designed as part of this collaboration mimic the informal and discursive style we would like to foster on the Clouds themselves.

Identity

A sense of community or group identity is multi-faceted and builds over time as a result of repeated and iterative interaction and activity. Email alerts, RSS feeds and Cloudstreams can all help to prompt repeated activity.

It should be noted that group self-awareness and identity is often manifested in shared language and vocabulary (Baym, 2003) both the technical and educational fields tend towards the use of non-standard vocabulary and terminology. It is important that the community that builds up around shared Learning Designs is inclusive and welcomes participants from different educational roles, fields and sectors and there is a risk that as the community develops language will become exclusive. Templates and resources should encourage participants to use standard language or provide clarity around the terms that they use. A link to a glossary of educational and technical terms may be appropriate.

Creative capability

It is important that activity that builds up around Learning Design objects is purposeful and productive if we are to see genuine and widespread sharing and improvement of designs. Participants must be clear about the purpose of the activity and their role in it. The Cloud template will be important in ensuring that Cloud owners make the purpose of their Cloud explicit and explain what they hope to get from participants (ideas, feedback, shared experience, examples of how they have repurposed a Design etc). The template will also be

crucial in facilitating the construction of knowledge links and patterns within and between Clouds.

7. Conclusions and recommendations

The paper has described work to date on the development of a pedagogical wrapper around runnable LAMS sequences. It has considered how this wrapper acts as a connection between the existing LAMS and Cloudworks communities and a demonstration of how the combination of design sequences with a dialogic space for discussion in the form of a pedagogical wrapper may lead to greater promotion and use of designs and sharing of good practice.

The aim of this work is to foster greater dissemination of Learning Design ideas by allowing for Web 2.0 style discussion and debate of exemplar LAMS sequences within Cloudworks, based around live experiences of real, running sequences. Whilst we remain aware of the significant challenges, we recognise the potential of such an approach:

...if we could share descriptions of educational processes together with advice on the reasons for their design, then not only could a novice educator benefit from the work of experts, but all educators could collectively adapt and improve each others' work, leading to improved quality overall...Harnessing the collective expertise of the world's educators to achieve greater efficiency and improved quality would transform education as we know it.

Dalziel, J. (2007, p. 376)

Key to the success of this piece of work will be the development of an easy to use and flexible embed function, and a clear framework for discussion around the pedagogical and pragmatic aspects of designs. If we are successful then we would expect to see vibrant discussions around the designs with participants from a range of sectors and with a range of technical experience and knowledge. We would see examples of Designs that have been collaboratively improved, used and reflectively evaluated.

Note

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