Informal Design Methods and Tools to Develop Instructional Design Competencies

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Abstract: This paper examines utilising the role of informal learning design activities in mainstream education as a tool for improving competence in instructional design. Specifically, we shall be looking at ideas for how we might develop and share informal designs as a support mechanism in helping educators externalise and share their design models and ideas in order to turn them into semi-formal abstractions that might then be developed to feed into the creation of formal Learning Design narratives. The ideas in this paper have been informed by three separate case studies of the experiences of those who have tried these types of approaches in practice, due to be published in 2007 (Casey et al 2007).

Keywords: Informal learning design, IMS Learning Design, Instructional Design, Competences, e-learning

1   Introduction

As a starting point, we do not regard mainstream teachers as fully formed instructional designers, we think it is better to regard them as novice learners in this field and explore how we might help them by the use of informal learning methods. We provide the background for this approach in section 3. The IMS Learning Design Best Practice Guide and much of the current work in the area has, by necessity, tended to assume that the teachers can produce a formal narrative of their design that can then be converted into the various abstract representations that the language and tools provide. Our experience suggest that in the mainstream, the journey from individualised and isolated design activities (that characterises the majority of current practice) to a semi-formal expression that can be shared and elaborated is the first crucial step that we need to concentrate our activities upon. The need to direct support to this 'preparatory' stage of design was recognised during the discussions of the European Commission funded UNFOLD project that brought teachers and Learning Design developers together (Griffiths & Blat, 2005).

Figure 1, below, illustrates the relationship between current practice and possible sources of information that can be utilised to produce semi-formal expressions of instructional design that can act as a 'halfway house' to a fully formalised narrative.

Thus, the informal design methods and tools we are concerned with in this paper are predominantly in the top left quadrant of the Use Classification Scheme diagram devised by Botturi et al (2006) for visual design languages, see figure 2 below. Namely, we are concerned with reflective communication and creative generation of designs for use by individuals and groups

A consideration of the purpose of use of informal designs also leads to a related theme – to enable the process of change in an academic community. An important point that we argue here is that in respect to instructional design activity in academia (i.e. creation, articulation and sharing) there is currently no effective design community. For us it is vitally important to provide a means of communication to describe this design activity As Botturi et al (2006, pp 1217) puts it:

"The combination of design language and notation system is a central concept in the definition of a design team or community, as a shared language is the medium for the creation of shared culture. From a practical point of view, a language is fundamental for a community to share their practices and to engage in reflective thinking"

Once the academics start to communicate ideas about design only then does it become possible to change practice.

But much of the discourse to date has been aimed at the existing ID community and has tended to project their organisational and conceptual models onto the mainstream. As in many other areas of e-learning these types of assumption are way-off from the reality, Greller (2005) brings us down with a bump when he informs us that there are hardly any ID professionals in the mainstream and that therefore the 'understandability' of languages is crucial. This is why we are taking the approach we are in this paper.

We advocate taking a systems perspective in section 2 and make the link to a wider set of change issues facing our educational systems. Leading on from this we briefly describe current design practice in the mainstream and the need to for change. In section 4 we briefly contrast the current state of play as regards to existing work on IMS Learning Design and tooling in relation to informal design approaches. Finally, in section 5, we summarise some relevant directions for future work concerning informal design methods and tools.

2   Taking a Systems Perspective

As Carol Twigg [4] in the USA has observed e-learning has tended to remain as a 'bolt-on' to existing institutional structures and processes and is therefore unable to realise its full potential. Many researchers and practitioners are coming to the conclusion that the real challenge in successfully implementing e-learning is changing the structures and cultures of our institutions so that they can effectively implement e-learning and flexible learning (Collis & Moonen, 2004) (van der Klink& Jochems, 2004). This entails taking a systematic approach to the problem of incorporating technology usefully into our educational institutions, such an approach is relatively new in mainstream education but by necessity has long been the norm in specialised open learning and vocational training providers. In an influential book entitled *Integrated E-Learning: implications for pedagogy, technology and organisation,* (Jochems, van Merriënboer, and Koper, 2004) the editors make the case for regarding the introduction of e-learning as not merely an addition to the existing system of instruction but as something that requires a fundamental redesign of the educational system. They envisage that this redesign has to address the pedagogical, organisational and technological aspects in order to solve the educational problem of providing high quality education, to a greater number of students from more diverse backgrounds, in more flexible ways with limited resources. To help in this task of redesigning the educational system (at, say, an institutional level) the authors advocate the deliberate use of use of e-learning tools as a catalyst for changes to the system:

"in order to bridge the gap between the different disciplines, tools and concepts should be available that can serve as mediators on the conceptual level in analysis and design, as well as actual implementation. So-called learning technologies play a critical role in this bridging function. They can be considered as a means of formalising pedagogical and organisational thinking in such a way that it can be implemented in a technical solution"
(Jochems, van Merriënboer, and Koper, 2004, pp7)

It is exactly this wider role for informal design methods and tools that we envisage in this paper – as a means of supporting change in pedagogic design practice in the mainstream.

3 The Need to Change Design Practice

The particular staff learning need we are interested in here is instructional design for e-learning. The heart of the problem is that teaching staff generally do not share and reuse learning resources and learning activities, instead they concentrate on preparing 'their' content to deliver to 'their' students (Koper 2003). The teaching activity that is carried out is deeply embedded in an institutional context and therefore difficult to share and abstract. In this pedagogic environment lecturers feel most at ease developing content and delivering it to their students. Conceptualising learning activities for their students is not a particularly common activity (Koper, 2003), and sharing these conceptions with colleagues is even rarer. As Allison Littlejohn (2003) observes:

"Designing for reuse means designing with multiple users in mind and this is a new experience for most teachers in all sectors of education."

A seminar of the JISC X4L programme in January 2004 building on earlier discussions in the e-learning community suggested that what was needed were a number of initiatives and support tools to help teachers bridge the gap between traditional embedded pedagogy and the more abstract representations required by Learning Design (Beetham 2004). One of the conclusions of the X4L seminar was:

"That many teachers do not possess a vocabulary for articulating and sharing their pedagogic strategies and designs with others, particularly beyond their cognate discipline areas"

This is not surprising the existing academic workforce simply do not have these types of instructional design skills. To clarify; academics don't need or acquire these skills because they teach in a face-to-face mode; their teaching is literally 'embedded' in the bricks and mortar of the institution (Koper, 2003); to use a medical analogy they are the overworked 'general practitioners' of teaching – combining a host of other duties and responsibilities. In contrast the profession of instructional design for distance learning is relatively narrow, but deeper, and to continue the medical analogy they are more like consultant specialists. For the mainstream workforce to change design practice they will need suitable support to move from their current practices. As we have described in section 2 an important first step is to be able to articulate existing designs in order to be able to share and reflect on them.

4 Existing work on IMS Learning Design in Relation to Informal Approaches

Currently there is a lot of research work going on that intends to produce tools to support teachers to articulate their designs and activities in ways that can then be further developed into formal IMS Learning Designs. All this work is valuable but we need to also recognize the rougher and more tentative conceptions of pedagogy that practitioners really use, we might call these 'primitives' and 'artefacts' – terms introduced by John Casey into the UNFOLD project discussions (Griffiths and Blat, 2005). These in turn can

become the building blocks of more elaborated and structured representations that are still 'fuzzy', that lie midway between actual embedded practice and the formalized narrative required to initiate a Learning Design. The IMS Learning Design Best Practice Guide describes the starting point of creating a design as an analysis phase that results in a structured narrative. As Griffiths and Blat (2005) points out no structure or methodology is recommended in the IMS Best Practice Guide to support this activity.

This leads us to suggest the useful notion of a 'learning design continuum' as shown in Figure 3 below.

In this paper we are particularly interested in the ability of informal methods and tools to support the process of individuals and groups being able to move their design practice to a midway position on this continuum – to produce a semi-formal narrative.

Some tools are highly specialised and powerful instantiations of existing ID models such as the MOT+LD (de la Teja et al, 2005). This is aimed at existing instructional designer specialists who are able to work within the 'doctrine' and vocabulary of the accompanying ID model. Although an admirable piece of work, the tool interface and vocabulary and concepts are still far too complex and abstract for mainstream teachers – which to be fair it is surely not aimed at. Naturally, many developers think the solution is to get the interface right - the ASK-LDT tool from the University of Piraeus and of course the LAMS tool from Australia are both good moves in this direction, but the price they pay is a decrease in power and expressiveness - in order to be easy to use the complexity has to be reduced.

5   Conclusions: Areas for Further Work

We think the stage before creating a formal learning design narrative is important to address and requires a combination of some staff development and training and some simple conceptual and methodological tools, intuitive design aids and ideally some 'Just in Time Learning' aids – all of which should be as lo-tech as possible – to provide an 'Instructional Design Environment' for individual and groups. The existing tools are moving in the right direction but there is much more to do to address where teachers are in reality - not where the developer community think they ought to be.

This is the area we think is currently neglected – understanding current design practice and context and exploring ways to move it from its current embedded, individual, isolated and non-transferable practice to a state where it may be abstracted and   understood, in the first instance by the author as an aid to self-reflection (Botturi et al, 2006) and then shared by others. In this we think simple approaches that are informed by mainstream reality will be most effective. At the moment, for us, the Learning Design specification and its attendant communities are useful insofar as they clearly identify the far end of a learning design continuum. Having said that, we think this is valuable as it provides a fixed point of reference to relate discussions to at our end of the continuum. The diagram below in figure 4 would illustrate our overall detailed view of the continuum.
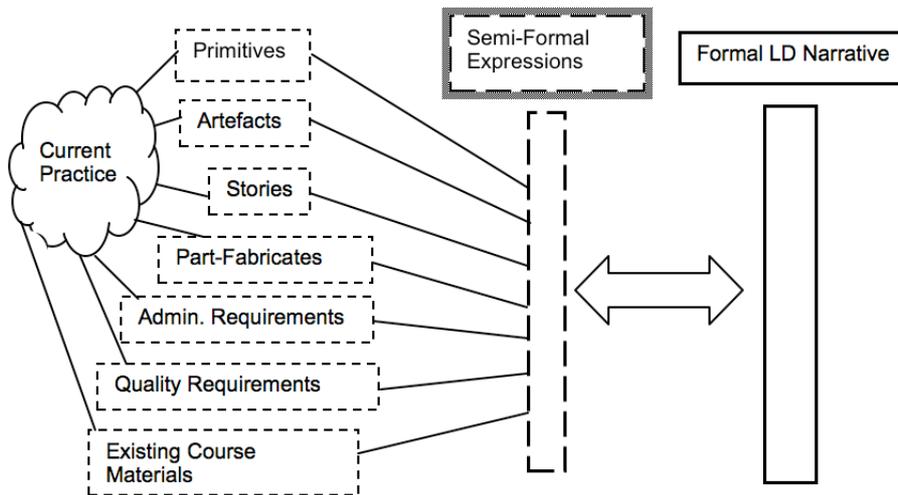
Figures

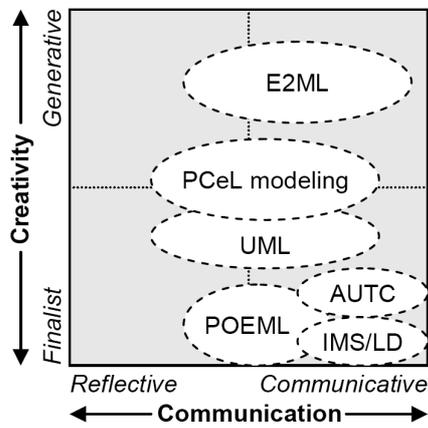Fig. 1 Moving from current 'embedded' design practice towards more formal expressions

Fig. 2 Usage Classification of Visual ID Languages, (Botturi, 2006)

Primitives/Artefacts…………………Semi-Structured……………………Formal

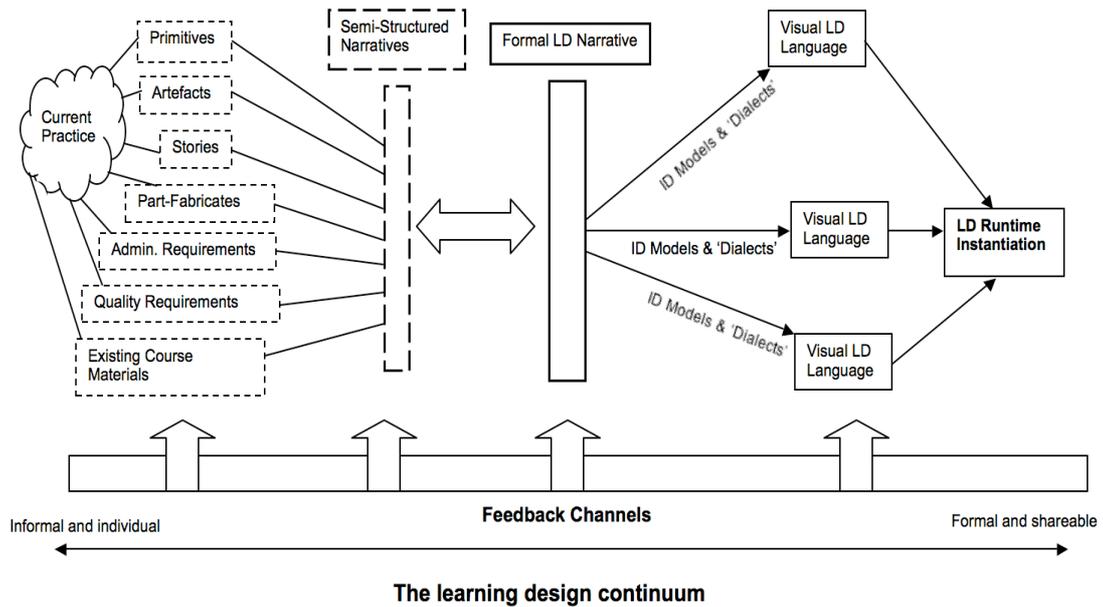Figure 3. A Proposed Learning Design Continuum

Figure 4 The learning design continuum

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