

BRIEFING PAPER

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<subtitle>
A new
paradigm
for
instructional
design
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Introduction

Having been involved in the design and development of learning materials for on-line and distance learning for many years, it may seem odd to state that I don't fully understand the role of the 'instructional designer'. What I do understand is that most of our contributing academics don't fully understand, or want to understand, the peculiarities of 'e-learning' systems, or the various technologies involved. They are more interested in how they should channel their efforts into creating effective learning materials that can be delivered to students in a way that they can readily learn from.

Since the early 1990s I have seen the eyes of many an academic author glaze over when being asked to develop for the whims of the instructional designer, rather than continue the good work they have done for many years but have it tailored for effective on-line and distance learning¹. There is often a disconnect somewhere along the line between the academic and the learning technologist. The latter often seem unable to convey the relevance of their work to the academic, and the academic is either too remote from, or too uninterested in being involved in, the use of ICT to change, or augment, traditional working practices.

So I concluded many years ago that instructional design can be a very subjective 'art' and that it, coupled with the functional disconnect, can lead to less than effective results. This is certainly backed up by the experience of the investment during the 1990s when there were many well-funded projects on the go. Few have survived the test of time, often because of the subjectivity of the approach or the specific reliance on a particular current technology, but also because the materials were not adopted by technologists and academics alike and cherished for the long term.

It is therefore instructive to look at projects that have survived through this period. CAPDM spun out of the on-line MBA programme developed at Heriot-Watt University – a programme that has become a very large, sustainable distance-education business. Even its critics would agree that it is an exciting on-line (and paper) delivered programme, and subsequent programmes have been built on the same basis to offer enhancements to the founding development capability.

The MBA programme has a fundamental difference when compared to other similar programmes. It is unashamedly built on good learning **content** produced by academic authors who have been instructed to develop materials fit for the purpose of ... distance learning. They are not producing materials that simply comply with the institutional VLE or the subjective vision of the learning technologists. They put the students and the learning first.

So if 'instructional design' is never mentioned in these mature programmes, what is the driving paradigm?

¹And not forgetting effective back-up of, and support for, face-to-face learning.

There has been a lot written about content, and I am relieved to see that the role of good content is still something to be valued. Various commentators highlight the need for quality content as well as socially-generated content.

Even though 'content' can take many forms, there is something comforting about it to academic authors – they tend to understand it clearly (whatever the form). This is surely key to achieving a harmony between the academic or educationalist and the technologist and delivery environments.

Instead of baffling the audience with talk of instructional design, blogs, wikis, twitter, or whatever flavour of the month tool you have recently stumbled across, why not talk in their terms? Talk about a content publication to provide reference materials, or a publication to engage students in reflection or discussion, or a publication to assess their understanding.

Publications are clearly understood by the people whose time and expertise you are trying to get best use of. It is therefore proposed here that publications and **publication types** are the new e-paradigm², and that they are key to making the best use of every input to a development, and the effective use and delivery of distance learning.

Having argued the case for publication types this far, what exactly do we mean by 'publication types'?

The table on the next page contains a fairly comprehensive list which has been split into four functional areas and three 'structural' categories. Look at them and see if they are familiar to you and whether they cover all your learning needs. If they don't then do let us know.

It is possible to argue for a huge number of types, but it is important to be able to agree definitions, purpose and structure for these components in order that the producers of course materials (who will have to produce to a subset of these types) and the end-user of these materials (who much have a clear understanding of how to make good use of them) can work efficiently and effectively.

There are conceivably three types of structure for publications types:

- 1. Hard** (e.g. reference texts or mock exams): have a relatively fixed structure and should vary only rarely between known alternatives.
- 2. Custom** (e.g. concept gateways): defined by a specific need which may become a more generic concept.
- 3. Soft** (e.g. student handbooks): can differ significantly in interpretation, though still a relatively generic type.

²OK, we've just stuck an 'e' on the front of a very old paradigm..

Content: An old paradigm waiting to be re-invented?

Publication types

Functional Groups	Structural Categories		
	Hard defined	Custom defined	Soft defined
Management components	<ul style="list-style-type: none"> • Learning Objectives (LO) • Learning Outcomes (OC) • Competency Framework (CF) 	<ul style="list-style-type: none"> • Style guide (SG) 	<ul style="list-style-type: none"> • Programme Specifications (PS) • Course Specifications (CS) • Authors Guidelines (AG) • Student Handbook (SH) • Teaching Guide (TG)
Course components	<ul style="list-style-type: none"> • Reference Text (BK) • Workbook (WB) • Glossary (GL) • Reference List 	<ul style="list-style-type: none"> • Concept Gateways (CG) 	<ul style="list-style-type: none"> • Course Guide (UG) • Study Plan (SP) • Discussion Papers (DP) • Resource Bank (RB) • Learning Activities
Assessment components	<ul style="list-style-type: none"> • E-Quiz (EQ) • Self Assessment (SA) • Mock Exam (ME) • Past Papers & Answers (PP) 		<ul style="list-style-type: none"> • Tutor Marked Assignment (TA) • Certificate of Achievement (AC)
VLE components	<ul style="list-style-type: none"> • Learner Profiles (LP) • Digital Workbook (DW) • Portfolios (PO) 		

Table: Publication types grouped functionally and structurally

CAPDM differentiates between all of these publication types, though there is a core that are common to almost everything we do. Here is a short explanation of some of the obvious types:

- Learning Objectives (LO) are at the design heart of every course and act as a means of presenting a clear structure to students and creators alike. Within the delivery environment they can be interactively used to add value in assessment feedback.

- Reference Text (BK). Generally the reference material, or core learning materials, found in every blended course. Though familiar it can be the most complex in terms of structure, diversity and scale. It has the potential of being the most exciting publication, not simply restricted to traditional, linear text.
- Discussion Papers (DP) provide a mechanism for gathering personal reflection, for focussing group discussion and for developing personal portfolios. These are fairly easy publications for academics to write, but they can be interpreted in many ways to take best advantage of on-line delivery environments.
- Digital Workbooks (DW) are also an interpretation of the content to provide a mechanism for the recording of progress and reflections, and the creation of personal portfolios of work. As with DPs, the DW concept can be a feature of either a specific DW publication or a feature of any other publication.

Similar stories can be told about the other publication types, adding up to a rich tapestry of content which is aimed at satisfying explicit learning needs.

One of the important points to understand is that it is the interpretation of the structure of the content that dictates its exact nature. This allows the academic to write a Discussion Paper, or whatever, but to rely on its interpretation, or interpretations (plural), to deliver and present it effectively. Yes, this implies an implicit instructional design, but not one that hinders or confuses the creative authoring. It is up to the interpretation to be suitable and relevant, and certainly to do justice to the educational value of the learning materials.

In turn these learning materials can be managed, cherished, revised, etc. without too much due concern for the shape of modern technology, or the subjective values of instructional design. Viewed this way they will have a long life time, they should be fit for continual improvement, and they should be fit for the purpose of learning. Note that we have not had to resort to a technology view of design, but been able to restrict ourselves to talk about the suitability and shape of the learning content.

No self-respecting CAPDM Briefing Paper can pass without reference to semantic markup and XML. However, as this paper is about 'good' content so we should look at some of the dimensions of goodness, before closing on our theme.

1. It should be of high academic standard and fit for the purpose of learning, as distinct from being the definitive tome in a particular subject. Students may learn little from the definitive works on economics or finance, but they do learn from content that is fit for purpose – the purpose of learning.

Summary

2. It should be well structured and rich in metadata. If developed as a MS Word file or a Powerpoint presentation, then what you see is all that you get. If it is marked-up in a rich information structure then each element is clearly identified and its function and mode of operation is embedded in that mark-up, giving it a high semantic value. Rich semantics translate into (i.e. can be interpreted as) equally rich, highly functional deliveries, particularly in the on-line environments we see today.

XML is the obvious mechanism for imbuing learning assets with added, semantic value that will ensure that the possible set of interpretations of that content are as open and diverse as possible. Or, to put it another way, content in this form can support many instructional design models capable of being used for delivery – and all are open for use.

We can see from the example of the World Wide Web itself how a very simple instance of XML can transform the way content is created, transmitted and consumed. However we can use much richer XML structures to semantically represent, and structure, learning materials.

The MBA programme at Heriot-Watt was built this way in the early 1990s³, which is one reason why it is one of the most mature and sustainable examples of large scale distance learning to be found. It is also the reason that the delivery is still one of the most exciting. It is able to re-invent itself any time it needs to – through deeper interpretations of the semantics of the mark-up and innovative use of the content structures.

³Well, with SGML at that time using ISO 12083 as the underlying document structure (or DTD).

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