

# USING EDUCATIONAL TECHNOLOGY TO REACH A WIDER AUDIENCE FOR HEALTHCARE TECHNOLOGY MANAGEMENT

Pieter de Ruijter\*, Giselle Ferreira † Rob Parsons\*\*

\*HEART, The Netherlands, Quadenoord 2, 6871 NG Renkum, The Netherlands

†Open University, UK – Open University, Walton Hall, Milton Keynes, MK7 6AA

\*\*Health Partners International, UK – Causeway House, 46 Malling St, Lewes, East Sussex BN7 2RH

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## Abstract

We discuss a collaboration between Health Partners International, HEART and the Open University to develop a short open access course for the purpose of improving policy making and practice in healthcare technology in developing countries.

## 1 Introduction

The 'How to Manage' Series for Healthcare Technology Management for developing countries was published some two years ago, and made freely available with DFID funding. Some paper copies were printed, and the manuals are also available on CD and online. No follow up to the production and initial dissemination was provided for and we have little information as to how wide their distribution has been.

We also believed that the manuals would be much more likely to find users who would be able to put their principles into practice if there was some vehicle that enabled this to happen, rather than administrators and technicians being confronted with several hundred pages of dense text.

HPI and HEART have therefore formed a partnership with the Open University to experiment using their Openlearn (<http://www.open.ac.uk/openlearn/home.php>) platform to present a short online and free course that enables users to familiarise themselves with the contents and methodology of the manuals, so that they can be brought more effectively into use.

This presentation discusses the relationship between the manuals and the course, the technology behind the course, the pedagogy implicit in its construction, and the activities that students of the course will undertake. We also discuss how other people's experience may be brought into play, and

whether what we are doing here might serve as a model for future presentation of healthcare technology.

## 2 About OpenLearn

OpenLearn is the UK Open University's (UK OU) Open Content Initiative, and it constitutes a major contribution to the Open Educational Resources (OERs) Movement (Smith & Casserly, 2006 [6]). Amongst its several aims, the project is re-purposing several thousand study-hours of existing UK OU learning materials to make them available over the Web under a Creative Commons license. OpenLearn was launched in April 2006 and the official launch of its Web sites took place in October 2006 with 900 study hours identified, re-purposed and published over this short time span. At the time of writing (February 2008) the project team is working relentlessly to deliver the aim of re-purposing 5% of The Open University's curriculum by the end of April, which marks the end of the second stage of the institution's Open Content Initiative.

Figure 1

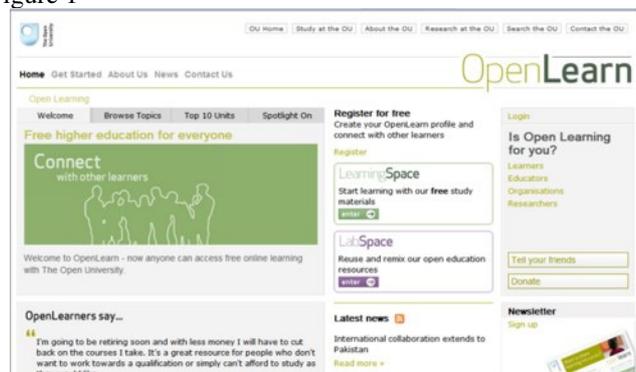


Figure 1 shows the OpenLearn portal to the pair of twin Web sites. The sites use a Moodle-based platform following the university's adoption of this OSS as its institutional VLE. Indeed, to a large extent OpenLearn has provided a context

for trialling new tools and processes that are being developed to support course production across the institution. In addition to providing a contribution to the development of the institutional VLE, OpenLearn is systematically testing the use of Structured Authoring (with an XML schema developed in-house) and the use of Documentum eRoom for content and publication management. Another area in which OpenLearn is making a significant contribution is that of Intellectual Property and Copyrights. OU materials normally include a considerable proportion of third-party materials, often in a variety of media (including audio-visual), and the work carried out by the Rights team on OpenLearn is shedding new light on IP/CP Rights management within the project and beyond.

In addition to constituting open resources repositories, the sites include a variety of social networking facilities available on Moodle (e.g. forums, wikis and blogs) as well as those provided by Open Source tools that have been developed at OU's Knowledge Media Institute, including FlashMeeting (a Web 2.0 video-conferencing tool) and Compendium (a knowledge-mapping software package).

Although most of the functionality available on OpenLearn is offered on both sites, these have been designed with different audiences in mind. The LearningSpace has been created essentially for learners and constitutes, to a certain extent, a portal to the university's main course provision in its use of excerpts from current OU courses re-purposed into units of between 3-30 study-hours. OU materials are designed for self-study within the Supported Open Learning model (c.f. Johnson 2003, pp. 36-45 [4]), and the de-contextualisation/re-contextualisation double move required in re-purposing for OpenLearn use raises a variety of interesting pedagogical, ethical and practical questions (Ferreira & Heap 2006 [2]; Connolly, Ferreira & Wilson 2007 [1]; Ferreira 2007 [3]). As a rule, however, re-purposing for the LearningSpace has adopted the 'integrity model of transformation' (Lane 2006 [5]), a heuristic model developed in the project to support large scale re-purposing, which has meant, essentially, minimal changes to the pedagogical structure of materials.

On the other hand, the LabSpace has been created essentially for use by other educators, who can not only re-use OU materials, but also contribute their own. The LabSpace provides an experimental space for uploading and downloading content, discussion and sharing of tools. The site includes downloadable versions of materials in the LearningSpace (XML using the OU production schema and Moodle back-up, amongst other formats). In addition to mirroring the LearningSpace, the LabSpace offers a further 8100 hours of 'legacy' university materials, i.e. materials taken from OU courses that are no longer in presentation, including, in some cases, complete courses.

Figure 2

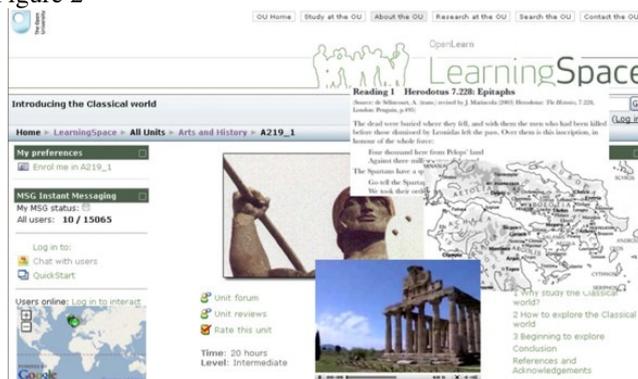


Figure 2 presents an example of a LearningSpace unit. This unit is taken from an Arts course in the area of the classics, and it includes, in addition to teaching text written by the university experts, essential textual and visual sources as well as audio-visual.

### 3. About the HTM course

#### The adaptation of the Healthcare Technology Guides to an Open University course

The titles in the 'How to Manage' Series for Healthcare Technology are designed to contribute to improved healthcare technology management in the health sectors of developing countries, although they may also be relevant to emerging economies.

- Guide 1: How to Organize a System of Healthcare Technology Management
- Guide 2: How to Plan and Budget for your Healthcare Technology
- Guide 3: How to Procure and Commission your Healthcare Technology
- Guide 4: How to Operate your Healthcare Technology Effectively and Safely
- Guide 5: How to Organize the Maintenance of your Healthcare Technology
- Guide 6: How to Manage the Finances of your Healthcare Technology Management Teams

#### The printed volumes

The original documents give a complete overview of Healthcare Technology Management. This has resulted e.g. for the second volume "How to Plan and Budget for your Healthcare Technology" in a guide of 283 pages.

The text of the original guides uses

- Boxes
- Tips
- Figures
- "did you know" background facts
- Country experiences
- Cross references to other Guides

to list , clarify, illustrate and give real-life examples.

Due to the relative complexity of the subject matter it is likely that there will be various specialists handling the different aspects of the Healthcare Technology process. While such specialists will be studying one or two guides in detail they will be satisfied with an overview of the remaining guides. This overview is given in the introduction chapter one of each guide. Besides the introduction of the series there are a number of cross-references between the guides to draw attention to related aspects in the different guides.

This approach makes the guides very complete but some readers may be discouraged by the size of the volumes.

### **The challenge: To transform the printed guides into an interactive learning experience**

The Open University Openlearn course aims to entice readers into the subject material by presenting the material less overwhelmingly and by making use of a number of links that enable the user to quickly navigate through the original material. Presentation via the web makes it also possible to provide a number of external links to enhance the experience and expose the reader to different experiences in the field of Healthcare Technology.

Web presentation of the course makes it possible to present the material in a different way but the actual text of the original document has remained available as the most complete reference material for students who like to study a certain volume in detail. Besides the complete original text as reference in PDF format the course offers additional references in PDF format and additional Internet links to enhance the learning experience.

We also hope that presentation of these courses on the Internet will enhance the exposure of Healthcare Technology by showing up in Internet search engines.

The selection of Internet references that have been used does not pretend to be complete and this audience of Healthcare Technology specialists is invited to contribute links of appropriate web pages that will enhance the learning experience of these courses. We would appreciate if you would leave us with a wide selection of Internet links at the end of this gathering or mail us the links at [rparsons@healthpartners-int.co.uk](mailto:rparsons@healthpartners-int.co.uk)

### **Presentation of the sample Open University training course**

We chose to develop guide number two “How to Plan and Budget for your Healthcare Technology” as a sample of what the whole course might look like.

We tried various different ways of presenting the material, and found that the biggest problem was to provide something

that was short enough to feel manageable to the reader but still did justice to the volume and variety of detailed material available in the guide. In the end we settled on using some of the signposts available in the guide itself, together with some of the more active material that the guide contains.

So the Internet presentation of the course has used mostly the original chapter text to present the different chapters. The often extensive boxes have been removed from the text but remain available as links. In this way the 238 page document has been condensed to around 35 pages of text with the links to more detail if required.

By presenting the material in this way the students have the possibilities to read through the main text in about 4 hours. When making use of PDF and Internet links while thoroughly studying the material, time spend on the course can easily increase to 12 hours. The course is not certificated in any way, although this is a possibility for the future. Students are therefore completely self directed as to how they approach the course.

In order to encourage the students to test their own understanding of the material a number of exercises have been included. The exercises will challenge them to bring the material to life in a practical way and will encourage reading the most detailed reference material available.

We feel that by structuring the course like this the material becomes available to managers and co-workers who would like to grasp the overview in a few hours and to the professional specialist that will require a thorough understanding to implement work in this particular specialisation.

At the conference presentation I will show a sample of the course and show a number of links in order to give you a feeling of what a potential student would experience.

### **The accessibility of the training material**

Cost-wise the training material is free of charge available from the Open University's Openlearn website.

In a number of Developing countries technically the access to the Internet may still pose a problem for the individual but the present trend in Internet connectivity is very encouraging. With the almost completed glass-fibre ring-line around e.g. Africa almost completed and a number of inland high volume connections finished by the beginning of 2009 Internet access will soon be commonplace. Already now many NGO, bilateral and UN organisations as well as Government Ministries have permanent Internet access.

The mobile phone revolution that has swept through Africa will soon be suitable for data transmission making Internet widely available throughout the continent. Monrovia in Liberia that is presently recovering after years of turmoil has

no electrical mains supply, no water distribution network, no functional sewer system. It has however a competitive mobile telephone network with GPRS that is capable of data transmission.

## Acknowledgements

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## Sites

OpenLearn <http://www.open.ac.uk/openlearn>

LearningSpace <http://openlearn.open.ac.uk>

LabSpace <http://labspace.open.ac.uk>