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Fostering Open Educational Practices in Cross-Cultural Contexts

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Abstract: The open content movement is breaking down traditional barriers to learning and resource sharing by promoting free access to Open Educational Resources (OERs) such as digital educational content and technological tools for teaching and learning. OERs have the potential to enable learners to champion their own learning by providing free access to educational content and tools that enable them to create, use and share knowledge. However, the design and uptake of OERs is often hampered by limited understanding of issues relating to the context in which learners access and use OERs. This paper discusses some of the approaches taken to foster open educational practices in learner use of OERs offered by The Open University's open content initiative, OpenLearn. Drawing on these experiences, we then consider future ideas about supporting open educational practices in cross-cultural contexts, and, in collaboration with Tshwane University of Technology, examine potential impact of OERs in Africa.

Keywords: Open Source, Open Learning Initiatives, OpenLearn, Open Educational Resources, Open Educational Practices, open digital content, technology design, learning objects, use contexts.

1. Introduction

Open source software has been available for some time [5], however, the concept of 'open learning' is a recent phenomenon that requires further investigation in order to understand the nature of learning that takes place. In this regard, there is no commonly agreed definition for the notion of 'open learning'. We therefore, use the term 'open learning' to refer to the process of using open educational resources or free digital content and technological tools that are openly accessible via the Internet to support learning in various settings.

Open educational resources provide a way for learners to champion their own learning by providing free access to content and technological tools that enable learners to create, share, use and reuse knowledge. Prior to the introduction of Open Learning Initiatives [6], educational content and software coming from academic institutions and industrial sectors was largely bound by access and use restrictions linked to publication and intellectual property rights. Whilst the open source philosophy has resolved some of these issues, the free nature of open educational resources attracts various types of learners who in turn have different educational needs that require different levels of support. Variations in learner needs and use contexts introduce many challenges to designing and managing open

educational resources [16]. In order to effectively support and nurture the various types of learner interactions and resource requirements that are possible when interacting with OERs, research is required to understand how and why learners use open educational resources [11].

1.1 Openness in perspective

The philosophy of openness is evident in both academia and commercial organisations where open educational resources are being exploited to enhance knowledge creation, acquisition and resource sharing. This growing trend towards openness in the creation, acquisition and sharing of open educational resources has been facilitated through the use of open standards and open source software [5], which makes it possible to develop digital resources that are free and openly accessible worldwide via the internet. Educational institutions that have embraced the idea of openness include the United Kingdom's Open University, which is providing free and open access to its digital educational content (i.e. course materials) and technological resources via the internet using the OpenLearn e-learning environment (see OpenLearn initiative) [7]. The OpenLearn initiative was launched in 2006 to provide free access, use and adaptation of Open University (OU) course materials. OpenLearn users worldwide can connect with other learners and educators through the LearningSpace and LabSpace which presents OU educational materials and social learning tools such as a discussion forum, video conferencing and knowledge mapping software. Another higher education institution committed to offering free and open access to its course materials is the Massachusetts Institute of Technology (MIT) in the United States which introduced the MIT OpenCourseWare initiative (OCW) [13]. OCW provides free and open access to the entire catalog of MIT courses openly available online. This includes course content presented on the web under the sub-headings of: syllabus, calendar, reading, assignments, study materials, discussion group, supported by downloadable files, primarily presented in pdf. An associated project MIT world [14] provides free and open access to video streams of lectures given by MIT academic staff. In the Sub-Saharan Africa, several institutes of higher education are using SAKAI [17] – an open source based community and service oriented application suite that facilitates course management, collaborative learning and resource sharing. In this context, Sakai is widely used to support collaborative activities and the distribution of course materials via the web.

In the commercial sector, the concept of openness is being exploited to facilitate information exchange and to enhance the operational efficiency of participating organisations. One such initiative is 'The Open Group' [8] consortium of members who share a common interest in Information Technology (IT). The Open Group provides its members with a platform for accessing integrated information and services based on open standards and global interoperability. Members and third parties are offered various types of services including; assuring product conformance to standards through certification, help with adopting industry standards, confronting barriers to enterprise integration, assisting with technology transfer, help with developing best practices, providing advice on initial organisation set-up, collaborations and facilitating the sharing of best practices, etc. The Open Group web platform offers free downloadable content, whilst some of the resources presented in the group's online bookstore are only offered free to members and subject to The Open Group terms, otherwise they are available for sale.

1.2 Limitations

Motivations for opening up access to an organisation's digital resources vary. Such openness can allow the organisation to gain useful insights on resource usage mechanisms so as to improve product design. In the case of opening up educational resources, both

design and uptake is hampered by limited understanding of issues relating to how and why learners access, use and re-use open educational resources in new contexts. In this respect, research and technology development efforts in the area of open learning is redirecting attention towards understanding practices of users of open educational resources so as to promote global use and uptake of these resources in learning.

In this paper, we discuss some of our approaches to fostering open educational practices as learners and educators interact with OERs presented in the OpenLearn system. We begin by introducing the OpenLearn project and OpenLearn system, which is the context in which studies were carried out. Following this, we describe some of the technological tools used to support and nurture open learning activities within OpenLearn. Thereafter, we outline the research methodology used to investigate learner interactions with OpenLearn OER. This is followed by an analysis of educator and learner use of OpenLearn digital content and technological resources, and initial findings and reflections. Finally, we draw on experiences from the study to explicate future ideas about supporting open educational practices in cross-cultural contexts and present our conclusions.

2. Study Context - The OpenLearn Project

OpenLearn was established as an open learning initiative jointly funded by the Open University and The William and Flora Hewlett Foundation. The aims of the initiative as laid out in the proposal were [7] "to advance open content delivery methods and technologies by:
1. Deploying leading-edge learning management tools for learner support;
2. Encouraging the creation of non-formal collaborative learning communities; and
3. Enhancing international research-based knowledge about modern pedagogies for higher education."

The William and Flora Hewlett Foundation acts as a charitable funder of educational actions and seeks to increase human capabilities across the world. This is an ambitious and altruistic aim in which the use of free open educational resources is seen as one way that helps to cross barriers.

2.1 The OpenLearn System

The OpenLearn system offers (a) an environment for content to be accessed by learners, (b) a set of tools for interaction with others using the OpenLearn system, and (c) a place for educators to make changes to existing content or upload new content. The tools that are offered in OpenLearn give scope to building experiences around the content and include features offered by Moodle [15] – an open source and internet based learning management system. Standard features of the Moodle virtual learning environment that are incorporated within OpenLearn include online discussion forums and learning journals. These are supplemented by custom developed tools for nurturing and supporting social presence, instant messaging, video conferencing, and building knowledge maps. These tools can either help the learner work by themselves or help the educator build customised ways to access learning materials. Moodle was selected for OpenLearn as it offered an open source platform that could be developed to meet requirements of disparate users of OpenLearn tools and educational resources. In parallel Moodle was also adopted by the Open University as the main learning environment for its own students. A further advantage is that other users can freely install the same environment to mirror or augment the OpenLearn content.

The content provided in OpenLearn has a permissive Creative Commons licence [3]. OpenLearn is an example of an emerging approach to relaxing the controls that universities have traditionally applied to their content. This represents a bigger step for the Open

University as a distance education provider than for those whose main educational model is built on face to face teaching. Releasing control to content does not in itself ensure that it will be used and be valuable to the user, or suitable for their context. The openness of the system invites experimentation with low barriers; there is no need to come to any formal arrangement before trying to use OpenLearn content and the licence allows changes and adjustments. However, there is value both to OpenLearn as a provider and to the experimenter in developing a collaborative relationship so that we can fulfil our third aim of gathering research-based knowledge about the pedagogies and opportunities that open content gives education.

The OpenLearn site offers two spaces to users, namely: the LearningSpace and the LabSpace. The LearningSpace is targeted towards all types of learners, whatever their educational need and experiences, in particular this implies that it should be easy to use by beginners or casual users. OpenLearn LearningSpace offers learning content organised by topics or subjects. The LabSpace on the other hand is targeted towards educators or more adventurous learners who are willing to enhance their learning experiences using new technological tools offered e.g. Compendium and FlashMeetings.
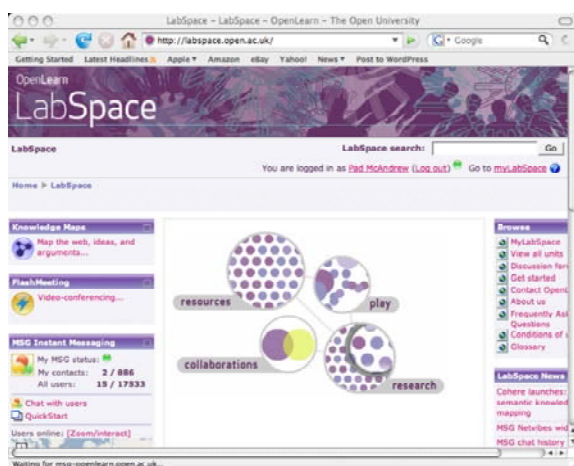
(a)   (b)

Figure 1: The OpenLearn LabSpace (a) home page and (b) FlashMeeting tool

2.2   OpenLearn Technological Tools

An alternative view of OpenLearn is as a source of tools and an environment for sharing. The collaborative spaces that can be built in the LabSpace provide immediate access to forums and other tools from Moodle augmented by two tools that could be key to sharing educational structures and experiences: the Compendium knowledge mapping tool and the FlashMeeting video conferencing tool.

Compendium allows any user (i.e. educator or learner) to connect together any Internet accessible resources into pathways or maps. These can then be shared with other users of OpenLearn. An example of a possible use would be to relink the commemoration unit described below so that those elements that referred to UK examples were replaced with alternatives, while the overall structure aimed at developing good study practice was retained. The free availability of the Compendium tool would enable this either as a preparation task for the teacher, or as a constructive task for the learner.

The FlashMeeting tool (Figure 1(b)) allows very low cost synchronous communication using web-cams, computer audio and text chat. The strength of the application for education and research is that all communication is recorded and automatically repackaged for convenient playback. Communication can be global and FlashMeetings have been used

for remote lectures, interviews, meetings and tutorials as well as less formal communication. The resulting recordings can then be shared publicly or within a closed group.

Both the LearningSpace and LabSpace offer access to digital content as an environment for learning, however, the LabSpace is distinguished from the LearningSpace in several ways including:

1. The LabSpace has extra content that is less polished – such as from a course that needs updating, or in a raw unprocessed format that is more suitable for print than the internet, or provided by someone outside the OpenLearn team.
2. The LabSpace is used to launch and try out new tools. For example it was the first place to offer video conferencing, only once login processes and accessibility were improved are such tools made available in the LearningSpace. Experimental spaces are offered to collaborators who want to build their own collections of resources and create their own communities.
3. The LabSpace invites feedback around the environment and research issues related to the project.
4. The LabSpace lowers the checks on quality of content and invites the enthusiastic user to get involved by trying out ways to change content or to find alternative ways to work with OpenLearn.

These aspects are reflected in the current design of the opening of the LabSpace as resources, collaborations, research and play.

2.3   Using OpenLearn OER

The Open University predominantly provides education for UK based adult learners at higher education level. It operates an open access policy which means that students do not have to have prior qualifications or pass an entrance test. Nonetheless the typical student will be English speaking and have good general life skills. This expectation is sometimes reflected in the background assumed of learners. The apparent dependence on cultural assumptions varies across the units on the site.

In the first year of OpenLearn more than 3500 learning hours of material were produced across over 300 different units of learning. Each unit represents an independent chunk of learning and typically will be derived from looking at an existing Open University course and extracting part of that course which can be studied in isolation, has clear learning outcomes and that we are proud to share with the world. The units reflect a broad cover of university level topics such as Arts and History, Mathematics and Statistis, and Health and Lifestyle. In addition there are a further 6800 learning hours of material developed by The OpenLearn initiative in the LabSpace.

The content has been taken from Open University course material and so adopts a style that invites the learner to be active as they use the material. Typically there will be issues which the learner is asked to consider, challenges for the learner to complete and in some cases exercises that can be carried out. It is notable that even when the content is not adjusted to take advantage of online presentation through a computer this tends to be seen as interactive by the user. The Moodle environment supports extension with different media and facilities, for example insertion of a variety of quizzes and the content can also contain video, audio, flash and other active media.

3. Analysis of Learner and Educator activities with OpenLearn content

In order to get an insight into learner and educator activities with OpenLearn OERs, we considered two examples from the OpenLearn introductory units on arts and humanities.

In the first case, the course is a general introduction to the Arts and Humanities, while the second is on War Memorials and Commemoration as a way to develop good study techniques. The 50 most popular words for each are shown below (images generated using tagcrowd.com). In the first case, Figure 2(a), there is only one word (UK) with obvious cultural connections, while in the second, Figure 2(b), there at least six additional words with cultural reference (e.g. Buckinghamshire, church, cross, poppies, Loughborough, Mike). A reading age analysis for the texts shows the first case to be equivalent to grade 8.3 (Flesch-Kincaid Reading test) [4] while the commemoration text has a level of 9.3.
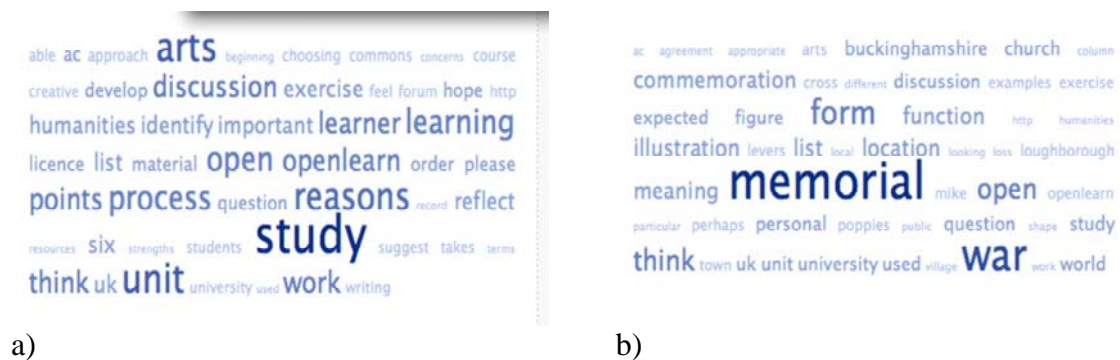

a)   b)

Figure 2: Common words in each unit (a) Introduction to Arts b) Commemoration

3.1   Findings

This simple analysis of two units indicates that there are likely to be different issues raised in the reuse of content in new contexts. Initial expectations may be that the first course could be relatively easy to transfer, while the other would raise new difficulties. In practice this may not be the case. The commemoration course invites the learner to look for similarity in their own environment and, providing there is sufficient connection between the unit content and the leaner context, the transfer may work through the action of the learners themselves. These issues can only be judged by carrying out experiments in reuse in new contexts.

3.2   Reflections on using OpenLearn OER in cross-cultural contexts

From our analysis of access to the OpenLearn environment we can see that approximately half of our users are accessing the system from outside the UK. We also have case studies (available at http://www.open.ac.uk/openlearn/get-started/case-studies.php) that show a range of use from outside the UK. These include adoption of the tools by diaspora communities, reworking of material by Brazilian universities, translation of science material into Catalan by a Spanish school teacher, reorganisation of study skills material to suit Russian university teachers (teaching in English), and other examples. These represent success indicators but it is much more difficult to determine where the site fails to support groups and whether cultural factors are inhibiting take up.

In order to address these issues, we have embarked on a collaborative research project involving The Open University (OU), UK, and Tshwane University of Technology (TUT) in South Africa. Both the OU and TUT share a common research agenda to address challenges in accessing and using digital content and technologies for learning so as to effectively support learning across contexts and cultures. The proposed research will use the OU's 'OpenLearn' system [7] as a platform for investigating the links between cultural practices and OER usage behaviour in teaching and learning. This work has been facilitated by a British Council researcher exchange grant. Learners and educators will be recruited in

both the UK and South Africa to participate as users of technological tools and free educational materials available on the OpenLearn system. The study focus will be on analysing user practices of individual users and group users in these two cultural settings. Acquired insight will enable us to improve the way that we design technological tools incorporated in OpenLearn, and to enhance our mechanisms for accessing and distributing OERs. Key benefits of this collaboration to an African audience include, the opportunity to:

- use and re-use free high quality educational materials offered by the OU in the UK,
- experiment with cutting edge technological innovations for supporting learning,
- share experiences and build new links by networking with other users of the OpenLearn system worldwide
- furthermore, the fact that OpenLearn educational materials can be adapted for use in various settings and purposes, implies that OpenLearn educational resources can serves as an additional resource for learning whilst providing much needed relevant low cost materials for higher education.

The OpenLearn systems is based on open source standards, which also opens up opportunities for integrating OpenLearn technological tools with other technological innovations that are currently widely used in South Africa such as iPods, mobile phones, Personal Digital Assistants (PDA), MP3 players, and other portable media players. In this regard, the study will explore the possibility of introducing podcasting as a means for delivering audio content from OpenLearn to mobile learners. Podcasting will enable learners and educators to share audio content by downloading from the OpenLearn site at the users' convenience using, for example, a mobile device such as MP3 player.

Finally, the availability of the content and tools from OpenLearn will form the basis for an investigation of the role of culture in technology usage behaviour so as to abstract effective models for representing learner experiences of using an open learning system in multicultural settings. Two approaches will be considered. The first can be seen as content-centric and will take as a starting point, materials on OpenLearn that have generic relevance to groups in South Africa. The second as tools-centric and will look at the virtual space that can be provided to support learners with content seen as a separate resource. In each model the OpenLearn environment will be used as the default learning environment within a view that other resources are available and will be appropriated as needed by learners and educators.

The analysis framework for the consideration of culture will draw on Activity Theory [10] and an initial action will be to prepare an activity analysis for both the original OpenLearn context and that expected to apply in South Africa. Activity Theory (AT) is a descriptive framework for understanding human practices as social and cultural processes that constantly develop and redevelop as a result of influences from the context or setting in which activities are carried out. In this regard, AT will enable us to understand social and cultural perspectives of different communities that we seek to engage and to appreciate that these communities may have different and contradictory rules or barriers to the uptake and motivations for using OpenLearn resources [1; 16]. Furthermore, AT will be useful for understanding how tools mediate the use and reproductions of OERs available in OpenLearn. Perhaps more importantly, AT recognises the developmental needs in human practices and operational settings such that new forms of practical activity and artefacts can emerge or get constructed by participants [1]. This form of analysis has been found useful in considering the reuse of OpenLearn content in Brazil, and in identifying difficulties in production processes.

4. Conclusions

The OpenLearn initiative has produced freely available material that are being used globally. The use of Creative Commons licence means that changes can be made and the provision of a range of tools means that communities can be supported. The link between The Open University and Tshwane University of Technology in South Africa gives an opportunity to investigate how to consider the cultural aspects in trying to take this content and environment into a new context. Initial work will extend the preliminary analysis by applying an Activity Theory framework to describe the new context. We will then select an approach that seems to align with the context and gather evaluation information from use by learners and educators in South Africa. By working collaboratively as researchers across the two cultures in an exchange programme facilitated by the British Council, we hope to open up greater opportunities for further research cooperation between Europe and Africa in order to address emerging questions around access and use of open educational resources in global contexts.

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