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Mini-course: Discussing International Perspectives on Open Learning in Brazil: Educational Politics and Pedagogical Principles

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1. Abstract

This paper aims to present some of the new tendencies in Open Learning in the context of international online higher education. These tendencies work as a basis for a discussion of the role of e-learning in online higher education in Brazil. The use of open source technologies and the constant search for quality and innovative pedagogies in the teaching and learning process constitute a new trend in international distance education. The main concern nowadays seems to be with 'quality' and 'widening participation', which result in initiatives such as 'Open Educational Resources'.

In Brazil, the creation of the Brazilian Open University (UAB) would appear to be consistent with these tendencies. The challenge now is to be able to set up a system that attends to national needs while being open to international tendencies. This paper aims to explore some of these issues, and also to present the most recent freeware technologies used for the purpose of enhancing open learning initiatives.

Keywords: Open Learning, Open Content, Distance Education, Online Learning, Open Educational resources, Brazilian Open University

2. What is Open Learning?

'Open Learning' is a term used to describe "courses flexibly designed to meet individual requirements" (Bell & Tight, 1993). It is often applied in contexts which pose barriers to the access of the learners to traditional face-to-face education, such as geographical distances, time constraints, financial demands or physical impairments. Open Learning is usually associated with distance education, as the use of technology to provide and enhance the learning experience is one of its main features. It also indicates a more "learner-centred" philosophy (Bell & Tight, 1993), along with open or more

flexible admission, and reflects the trend towards democratisation in education.

The Open University – UK, for example, provides 'open learning' in different ways: by offering the learner the choice of studying over a negotiable period of time, by providing the opportunity for 'mix and match' courses, by offering courses using a different range of technologies that allow the students to study from home or at work, by establishing a comprehensive system of learning support, including regional centres, face-to-face tutorials, and technologies such as the internet, the World Wide Web, and television broadcasts, and even by offering 'Open Degrees'[1].

Nowadays the term Open Learning is getting even more specialised – it also refers to the initiatives of 'open source' learning environments and knowledge sharing environments and communities; and 'open content' or 'open courseware' initiatives, such as the ones of the Open University-UK and MIT, respectively.

3. Open Educational Resources – "opening up" more learning opportunities

According to the secretary general of the International Council for Open and Distance Education, Reider Roll, Open Educational Resources is "a strategy to increase access to electronic educational material" (Stover, in Distance Education Report, June 15th 2005). It aims to provide opportunities for wider participation by allowing individuals access to high-quality educational resources via the web, which can be accessed wherever there is an internet connection. The provision of technology and educational materials to a widely distributed population (free of charge) is undoubtedly an immense challenge and demands a substantial financial investment from the institutions that embark on this mission.

Two major Open Educational Resources initiatives are the MIT OpenCourseWare (University of Massachusetts, USA) and the Open Content Initiative (OCI – The Open University- UK), known as 'OpenLearn'. There are other initiatives, on a smaller scale, in China, France, Japan and Vietnam. The MIT Opencourseware (http://ocw.mit.edu/index.html) aims to provide free, searchable, access to MIT's course materials for educators, students, and self-learners around the world. It is founded jointly by the William and Flora Hewlett Foundation, Andrew W. Mellon Foundation and MIT. It is one of the pioneer Open Educational Resources initiatives.

The Open University-UK has extensive experience of providing distance education worldwide, and has a large number of high-quality learning materials available in a variety of formats. The Open Content Initiative (http://oci.open.ac.uk) proposes to make some of these freely accessible in an international web-based open content environment – "The OpenLearn"

Website, to be launched in October 2006. This initiative provides an opportunity to advance open-content delivery methods and technologies by means of "deploying leading-edge learning management tools for learner support; encouraging the creation of non-formal collaborative learning communities; and enhancing international research-based knowledge about modern pedagogies for higher education" (Open Content Initiative, 2006).

The Open University's Open Content Initiative (OpenLearn) is funded by the William and Flora Hewlett Foundation, and involves an initial investment of £5.65 million. It aims not only to make the learning resources available online for everyone anywhere in the world, but also to make this information "meaningful" by providing different technologies that allow learners to interact and to create learning communities. The innovation entailed in OpenLearn lies in the fact that users will be able to access Open University materials in the LabSpace, a type of peer-reviewed website designed to work as a place for people to retrieve, discuss and re-design the content of the OpenLearn website. After the new content has been peer-reviewed it is made available in the LearningSpace, the website which users access in order to obtain information and to learn by means of using the learning tools available. The sharing of information in such a collaborative way constitutes a rich resource for universities, schools, enterprises and individuals all over the world. The content can be reversioned, translated and re-used in different ways, as long as the initial source is cited[2].

In section 5 of this paper we present some considerations on how Information and Communication Technologies (ICTs) have been used for educational purposes, engaging learners in different ways. Some of the technological tools we present will be available in the OpenLearn website. These technologies can support Open Educational Resources initiatives by providing the learners with the necessary tools for the creation of learning communities and individual learning spaces.

4   The Brazilian Context: The creation of the Brazilian Open University and the opportunity to explore Open Learning

Brazil is now going through a vital period in the development of distance education. The creation of the Brazilian Open University (UAB) is a very exciting moment as it aims to provide free higher education throughout the country. The project, created by Secretariat for Distance Education within the Ministry of Education, articulates federal universities to provide courses at undergraduate level, supported by regional centres throughout the country that serve as a basis for face-to-face meetings or access to technology such as computers and televisions. The UAB had its inaugural lecture on June 30th this year, and is creating 90,000 vacancies for free study from 2007.

The Brazilian Open University System was created in 2005 with the support of the 'Fórum das Estatais pela Educação', an initiative that brings together

state-owned enterprises in Brazil such as the Bank of Brazil and Petrobras (Brazilian Oil Company), aiming to exploit the potential of public-education policies promoted by the Federal Government. The aim of the forum is to provide a space for discussion of possible joint-actions and partnerships that can be taken by the state enterprises in order to support the educational projects created by the Brazilian Ministry of Education (www.mec.gov.br).

The UAB System aims to provide access to higher education for people located all over the country, from the capitals to the most distant places in the rural areas. However, it is not entirely an Open Learning system due to the selection process required by the candidates to attend its courses and the previous certification required (basic education concluded). But it is a model that still offers the possibility for the Federal Institutions involved in the project to set up their own Open Learning system by means of making Open Educational Resources available, following the international trend.

5. New Technologies for Open Learning

'New technology' is frequently associated with resources of communications and information technology (ICT), specifically the World Wide Web (Internet – cyberspace) which changes continuously and quickly. The number of ICT users — institutions, organizations, communities and individuals — has been growing rapidly. The quantity of new tools, software, applications and devices has also been increasing dramatically. Dodge and Kitchin (2000:19) emphasize that cyberspace is creating new public spaces, transforming socio-spatial relations through flexible and multiple interactions. Lévy (2001, 2001a) reminds us that cyberspace is not merely the material infrastructure of digital communications, but also comprises the human beings who navigate and nourish that infrastructure.

Many authors caution against the notion of 'simple substitution' of physical relationships for virtual ones, and of 'real' for 'virtual' communities (Burbules, 2000; Davis, 1997; Lévy, 2001, 2001a) They have undertaken critical studies of networked communities, highlighting the impacts and benefits of ICTs for diverse communities and populations over time. ICT seems to them to be a useful way of constructing network of knowledge in human societies.

Burbules(2000) examines the potential for educational communities to form on the Internet, and situates online communities within the broader collection of 'actual communities' that may or may not rely on proximity, homogeneity and familiarity. Other theorists (Porter, 1997; Smith & Kollock, 1998; Miah, 2000) argue that new technologies represent a genuine paradigm shift in human communications and learning, a transition from the modern to the postmodern.

Holmes (1998: 8) emphasizes that social activity can now no longer be reduced to simple relations in space and time – social activity is now "*eclipsed by the surfaces of electronically mediated identities*". Individuals are now able

to participate in multiple worlds whose borders and norms radically exceed those previously available.

Jones (1998) states that many current perspectives on ICT-mediated communications are rooted in a "transportation model" of communication in collective knowledge-building, in which the movement of information is central. ICT-mediated by online communication is the reality that "*people like people*", and actively seek to maximize human interaction - "*put technology in service of conversation rather than communication, in service of connection between people rather than connection between machines, and in service of understanding rather than movement*". New technology facilitates access to information, reconstructing content and knowledge from any place and at any time. What it is important is to know what we want.

All these aspects are very important for distance education and open learning. New technologies and Knowledge Media are approaches utilised in order to access, acquire, build and share knowledge. Einsenstadt and Vicent (1998) highlight that both are "*the future of education and has something to contribute to every facet of the emerging knowledge society. The web is an important vehicle for the forthcoming changes and serves not only as a catalyst, but also as a unifying force which brings together disparate strands of research and development.*"

Sense-making tools are essential in order to develop critical thinking and collaborative learning, and to understand the process of constructing meaning. Making sense of multi-perspective problems and disparate information sources is of course just the first step in order to act and shape the future.

> "*The age of mind refers to the shift in focus from the production and availability of information and its associated technology, to concerns about how people utilise that information, the barriers and challenges they face in accessing and interacting which information, what they do with information and how it enables them to get on with their lives. For learning organizations, this means addressing the question of how information technology and the richness of electronic information environment can be integrated in the learning process meaningfully.* (Jefferson, Kirschner and BuckingShum, 2003:viii)

Collaborative interaction is a key determinant of collective working and contemporary learning. Nowadays it is essential for the prosperity of individuals and organizations that they respond with agility to the constant changes in the areas of technology and knowledge. The collective building of knowledge and decision making depend on two important aspects: selecting useful information, and considering all relevant interpretations of that information. Both these issues require collaboration. (Okada, 2005)

Due to the widespread uses of open learning technologies, people have greater access to stakeholders and information than ever before. Online community systems provide centralized online areas in which participants can easily share all types of information; knowledge can be shared, reconstructed and stored. Willinsky (2006:35) argues that open access can benefit academic researchers, authors, teachers and students by increasing the democratic circulation of knowledge. The dissemination of knowledge through new technologies can promote greater understanding of the world. "Open access takes advantage of automated processes, open source software and existing technical infrastructure in the university. And its spirit of openness is not strictly an academic notion. Open access journals, e-print archives and instructional repositories are part of a larger movement to create an open and public space online that would carry forward the continuing life legacy of print culture". For that, there are diverse kinds of new technologies to support Open Learning. Most of them are open source and freeware.

1. **Virtual Learning Environment Tools**
TelEduc (http://teleduc.nied.unicamp.br/teleduc/) is a VLE (Virtual Learning Environment) Open Source that runs in Apache Linux or Windows, using databases like MySQL and HTML code, PHP and PERL. This e-learning software was originally developed for use in teacher-training in Brazil, where, due to the sheer size of the country, it was recognized that long-distance training systems were a necessity. Due to its flexible and easy resources, it has been used as a learning environment by many Institutions (universities and schools) in both online and regular courses. It has also been used to promote network collaborative learning in online communities.

Moodle(http://moodle.org/)**,** an acronym for *Modular Object-Oriented Dynamic Learning Environment*, is an open source e-learning platform. Moodle has a very large user base with 12,165 registered sites in 155 countries with 4,021,531 users in 376,565 courses (May 30, 2006). It is also called a Learning Management System (LMS), Course Management System (CMS), Virtual Learning Environments (VLE), Education via computer-mediated communication (CMC) or Online Education (e-learning) system. Its main purpose is to help educators create online learning communities or quality online courses. Downloads are free, and this software can be installed on any computer including web-hosts. It can scale from a single-teacher site to a 50,000-student university.

2. **Communities of Practice Systems**
CommunityZero (http://www.ramius.net/welcome.cfm) is a Java-based software that enables organizations to connect groups online. Through online community structures participants can interact and organize all information registered. This environment for online communities is an entirely web-based application. There is no software for end users to download or install, and no technical knowledge is required by end-users to create or participate in online communities. Through the web-based application, they can publish content, participated in discussion, share calendars, post notes, create lists, conduct

polls, utilize private chat rooms, exhibit images, exchange files, send instant messages, and more. They can also use an administration toolset to manage permissions, configure tools and visuals, broadcast communications, moderate and archive the content.

Drupal (drupal.org) is software that allows an individual or a community of users to publish, manage and organize a great variety of content on a website.

This open-source software is maintained and developed by a community of thousands of users and PHP developers. It is free to download and use. Users can organize community web portals and e-business application through several resources, such as discussion forums, resource directories, knowledge databases and content management systems. They can also create e-learning environments through collaborative authoring tools such as blog, forum, newsletters, picture galleries, file upload and download.

3. Collaborative Online Writing Tools

Wiki (http://en.wikipedia.org/wiki/Wiki) is a type of website that allows participants to add, remove and edit available content, sometimes without the need for registration. This web-based application is an easy resource and effective tool for collaborative writing. The term wiki can also refer to the collaborative software itself. This engine facilitates the operation and co-authoring of online encyclopedias such as Wikipedia. The first wiki, WikiWikiWeb, was created in 1994 and installed on the web in 1995 by Ward Cunningham. "Wiki-wiki" means "hurry quick" in Hawaiian. It also refers to a type of native fish of the islands.

Wikipedia (http://en.wikipedia.org/wiki/Wikipedia) is an international Web-based free-content encyclopedia project. This online encyclopedia based on wiki is written collaboratively by volunteers. Any visitor with access to the website can change the content. The project was created in January 2001, and now has more than 4,600,000 articles in many different languages, including more than 1,200,000 in English. There were more than 200 language editions of Wikipedia. Wikipedia's co-founder, Jimmy Wales, has called Wikipedia "an effort to create and distribute a multilingual free encyclopedia of the highest possible quality to every single person on the planet in their own language." However, there has been controversy over Wikipedia's reliability and accuracy, with the site receiving criticism for its susceptibility to vandalism, uneven quality and inconsistency. Nevertheless, its free distribution, constant and plentiful updates, diverse coverage, and versions in numerous languages have made it one of the most used reference resources on the Internet.

4. Interactive Communication Tools

BuddySpace (http://kmi.open.ac.uk/projects/buddyspace/) is an instant messenger used to enhance presence management for collaboration, messaging and gaming. This social software aims to provide possibilities for

users to manage and visualize the presence of their colleagues and friends in collaborative working and other contexts. The presence of users and their interactions are represented by maps, graphical images, and logical layouts. BuddySpace allows optional maps for geographical and office-plan visualizations in addition to standard 'buddy lists'. It is built on open source Jabber and implemented in Java, which makes it interoperable with ICQ, MSN, Yahoo and others.

MSG - Minimalist Messaging Via Web and Grid Services (http://msg.open.ac.uk/userguide/) is a web application that allows access to basic Instant Messaging functionality within a standard web browser. Its purpose is similar to that of BuddySpace, but with a simpler design. This makes it ideal for use in environments where software can not be installed, or on networks where Internet access is restricted by firewalls and proxy servers, or where performing the installation is cumbersome for the users.

Skype (www.skype.com)is a peer-to-peer freeware voice service. It allows everyone else on Skype to know that you are available and interested in talking or chatting. This includes people who are on your contact list, along with people you do not know but who can find you by searching the Skype directory. Skype also has a configuration mode that can disable or enable your privacy settings, meaning that if you wish you can choose only to be contacted by authorized people.

5. Web Conference
FlashMeeting (www.flashmeeting.com) is a video-conferencing software environment. This new media system offers instant meeting – any time, any place, any platform. The applet is implemented in Adobe Flash, a widely available and highly compatible type of browser plug-in. It is incredibly lightweight, efficient, and pleasing to the eye. Based on Flash MX Server technology, through FlashMeeting it is possible organize, record, edit and share virtual meetings. Meeting recordings can be annotated with comments and tags. Every part of the meeting is a URL so any event, comment, text chat or speaker in the meeting can be directly referred to. The requirements in order to use this application are a webcam, microphone, and access to the website applet www.flashmeeting.com.

6. Knowledge Mapping Data base Software
Nestor Web Cartographer (http://www.gate.cnrs.fr/~zeiliger/nestor.htm) was developed in France by Romain Zeiliger in 1996. Its main purpose is to map web information. It is a graphic web browser: an editor of html pages and a cartographer with synchronous and asynchronous resources to support collaborative learning. This software dynamically builds a flexible and navigable overview map of hyperspace when users interact with it. Nestor automatically registers all the URLs accessed in a map, showing the process of navigation. The map can be re-arranged and new objects can be created: documents, links, annotations, sub-maps, tours, search keywords and conceptual areas.

Cmap Tools (http://cmap.ihmc.us) was developed by IHMC – Institute for Human Machine Cognition, Florida in 1993. Its main purpose is to map our thoughts, ideas and opinions through a set of hierarchical concepts. Its interface is very simple. Double-clicking anywhere on the map screen adds a new concept. It is also possible to include images, URLs and other different kind of files: video, text, web pages, figures, tables, graphics and sound. The concepts can be easily connected through arrows. And the software offers a large range of styles to improve map design: fonts, objects, lines and background. Concepts maps can be created individually or collectively. Moreover, it is possible to create online discussions inside the same map. Users are therefore able to discuss the map content and design.

Compendium (http://www.compendiuminstitute.org) was initially developed by Verizon in 1993 and then the Open University – UK. The purpose of this software is to manage business information, model problems, and map argumentation discussions. It can be used as an individual or group tool to develop new ideas, goals, logical concepts and collaborative scenarios. Different files can be included in the map: video, text, web pages, figures, tables, graphics, sound. A key feature of Compendium is its ability to categorize information. It offers a set of different types of "nodes": question, idea, pro, con, reference, note, decision, list and maps views. This node classification makes it possible to improve the organizational structure of the map, and to understand the argumentation discussion more easily. Moreover, a set of "tags" can be defined and used to establish new classifications and new search processes. This is useful to emphasize diverse elements in different maps.

6. Conclusion

This paper has highlighted the increasing importance of Open Learning in the context of the international drive to promote wider participation in education. It has also pointed out the Open Educational Resources initiatives that are in place in order to promote this widening participation and the main technologies used to engage the learners.

Open Educational Resources constitute one of the paths towards widening participation in education, as they make content available on an 'any time, any place' basis. They are accessible to everyone who is interested in learning using the internet as a source for information and a basis for collaboration between individuals who share similar interests.

The creation of the Brazilian Open University (UAB) is an important breakthrough with regard to the distance education system in Brazil, and addresses the issue of widening participation by promoting access to higher education for learners living in different parts of the country, in both rural and urban areas. Being so, it seems Brazil would also benefit from considering some of the principles of Open Educational Resources as an additional way of widening participation in education. By examining the

initiatives that already exist, the UAB system (and other private universities that offer online distance education) could make use of the open learning websites to acquire, add, reversion and translate content, as well as to create learning communities using the technologies available.

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1 'Open Degrees' are not named degrees. They indicate that the learner has studied a wide variety of subjects at a degree level, but due to this variety they do not specialise in a particular area.

2 For more information on legal rights with regard to materials, see "Creative Commons Licensing" (http://creativecommons.org/).

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