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OPEN EDUCATIONAL RESOURCES (OER) IN SUB SAHARAN AFRICA: EXAMINING NETWORK-DRIVEN MODELS WITHIN THE CONTEXT OF AFRICAN DEVELOPMENT

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Summary

Initiatives of Open Educational Resources can be classified into content-centred, learner-centred and network-driven projects, or a combination of any of these. OER projects initiated in the West are content centred, learner centred and sometimes network driven in orientation. However, OER projects initiated in Sub Saharan Africa are all network-driven, and use a collaborative model of content creation. Subsequently three hypotheses will be introduced which aim to explain why a network-driven approach is predominant in Sub Saharan Africa: 1) due to its potential for costs-savings, 2) to gain a critical mass of expertise and 3) due to the stakeholder environment informed by the international development agenda. After some groundwork has been laid by placing OER projects within a wider post-colonial context, a fourth hypothesis will be introduced, arguing that a network driven approach may be an effective way to counter the process of information imperialism because network-driven OER projects: a) are designed to adapt OER to local needs b) foster a culture of authoring and publishing and c) can bring Africans together and strengthen networks among Africans. In the conclusion, avenues for further research will be suggested, drawing upon development discourse.

Introduction

OER were referred to at UNESCO's 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries as *"digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research"* (dgCommunities, n.d.). One of the main advantages of OERs , as summarized by The Hewlett Foundation, is " that the world's knowledge is a public good and that technology

in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use and re-use it." (Smith and Casserly, 2006:2). Many advocates of this mainly Western-led movement share the belief that OER have great potential for education in developing countries and to fight the digital divide (Mulder, 2008: 14). Despite more than a decade of advocacy, little is yet really known though about what extend OER projects actually have something to contribute to African development within an education context and what kind of models might be effective.

In order to examine this question, this paper will introduce a classification of three different approaches used by OER projects: A content-centred, learner centred or network-driven approach. It will be argued that OER projects initiated in the West are content centred, learner centred and sometimes network driven in orientation. However, OER projects initiated in Sub Saharan Africa are all network-driven, and use a collaborative model of content creation. Subsequently three hypotheses will be introduced which aim to explain why a network-driven approach is predominant in Sub Saharan. And then, after some groundwork has been laid by placing OER projects within a wider post-colonial context, a fourth hypothesis supported by three arguments will be posed, aiming to explain why a network driven approach might actually be beneficial for development in Sub Saharan Africa within the context of education. These hypotheses are only ideas though and haven't been tested or researched yet in a meaningful way. Hence, in the conclusion, some avenues for further research will be given to design a theoretical framework with enough explanatory power to investigate the hypotheses introduced in this paper.

Content centred and learner centred, versus network driven OER projects

OER projects can be classified into a) content-centred, b) learner centred and/or c) network-driven projects.

a) Content-centred projects are typically initiated by traditional universities. Most of the materials produced by such projects consist of syllabi, lecture notes, assignments, examinations, reading lists and samples of student's work. Examples are MIT Open Courseware[1] and the OpenCourseWare Consortium[2].

b) Learner-centred projects are specifically aimed at the learning experience of its users. Good examples of this are for instance OpenLearn of the UK Open University[3], OpenER

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[1] http://ocw.mit.edu/OcwWeb/
[2] http://www.ocwconsortium.org/
[3] http://openlearn.open.ac.uk/

of the Open Universiteit Nederland[4] and MORIL (Multilingual Open Resources for Independent Learning) of the European Association of Distance Teaching Universities[5].

c) Network-driven projects use collaborative models of content creation and aim to create a community of users taking active part in the creation and/or adaptation of content, whether by enabling teachers and learners to remix and compose new objects from old ones, improving content created by others or just by sharing information on their educational practices. Such projects have a strong social networking component, are driven by web 2.0 technologies and often use a constructivist pedagogical approach. One of the pioneers of this approach has been US based Rice University, with their Rice Connexions project.[6]

Content-centred and learner centred OER-projects are in general capital intensive, managed by one institution and most materials are protected by a license which doesn't allow for derivative works. Moreover, apart from aiming to serve the global public good or enhancing opportunities for lifelong learning, many projects also serve for promotion of the institution and for institutional branding (d'Antoni, 2009: 4). On the other hand, network-driven OER projects are assumed to be less capital intensive (Keats, 2003), with often more than one institution involved and most materials are protected by a licence which allows for derivative works. In addition, the main aims of such projects are not only to create OER, but also to establish social networks between peers in order to enhance collaboration.

A comparison between Western and Sub Saharan African OER projects

As the OER movement is gaining ground, it is interesting to observe that Western OER projects with OER projects from Sub Saharan Africa[7]. Although many of these projects share many similar characteristics and similar problems, there is one major difference which can be observed, which can be summarized in the following general rule of thumb: OER projects initiated in the West are content centred, learner centred and sometimes network driven in orientation. However, OER projects initiated in Sub Saharan Africa are all network-driven, and use a collaborative model of content creation.

All Sub Saharan African projects known by the author of this paper turned out to use some sort of network driven model of collaborative content creation, although in some cases a

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[4] http://www.opener.ou.nl/
[5] http://www.eadtu.nl/default.asp?hId=4&mmId=39
[6] http://cnx.org/
[7] See for list of analysed OER projects:
http://oerwiki.iiep-unesco.org/index.php?title=OER_useful_resources/Development_and_publishing_initiatives
and 'appendix: OER projects operating within a Sub Saharan African context' for additional list of examined Sub Saharan African projects

network driven approach is combined with a learner- centred approach as for example with the Teacher Education in Sub Saharan Africa-project (TESSA)[8] and the OER project of the African Virtual University[9]. This focus on a network-driven model in Sub Saharan Africa is even ingrained in a key policy declaration in 2008 by the African Council for Distance Education, which is referred to as the Cape Town Open Education Declaration (d'Antoni, 2009: 4):

Open education is not limited to just open educational resources. It also draws upon open technologies that facilitate collaborative, flexible learning and the open sharing of teaching practices that empower educators to benefit from the best ideas of their colleagues. It may also grow to include new approaches to assessment, accreditation and collaborative learning.

Why Sub Saharan African projects use a network driven approach

There many ways of looking at the question of why most sub Saharan African projects use a network driven approach. One way is by focusing on some practical issues African OER projects face for their successful implementation. This leads to my first two hypotheses. My first hypothesis, which has also been put forward by Derek Keats, is that network-driven OER using a collaborative model of content creation can reduce costs and as such are often the only option for small institutions with limited resources. The rationale behind this proposition is that economic benefits of collaborative model of open content development stem from two inter-related processes, collaboration and reuse. When people with a common interest in different institutions collaborate in the creation of content, it stands to reason that as more people collaborate the costs per institution are reduced (Keats, 2003). My second hypothesis is that inter-institutional collaborations made possible by the internet can create a certain critical mass of expertise needed to develop OER, as in Sub Saharan Africa many experts often operate in an isolated way.

However, there are also wider and structural socio-economic factors which might influence the nature of Sub Saharan African OER projects. Looking at the question from this angle leads to my third and eventually fourth hypothesis. My third hypothesis derives from an analysis of the stakeholder environment in which many African OER projects (see appendix for list of analysed projects) operate: most leading OER projects in Sub Saharan Africa are funded by Western donors within the dominating framework of 'partnerships for development'

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[8] http://www.tessafrica.net/
[9] www.avu.org

(Fowler, 2002: 508-14). As such, these projects are dictated by their stakeholder environment to be collaborative in nature. This is especially so when such projects are managed from the West, as for instance the TESSA project, the African Virtual University or the ICT4D consortium[10]. Western institutions can often only obtain funding for their projects in developing countries by establishing such 'equal' partnerships and by including as many credible partners as possible.

Three hypotheses have now been put forward attempting to explain why Sub Saharan OER project are characterised by network driven approach. These hypotheses don't answer the question though whether such an approach might be beneficial for fostering African development within the context of education. Hence, my fourth hypothesis supported by three arguments will attempt to answer this question. In order to arrive at this hypothesis though, it is important to first to elaborate a bit further on a process which is referred to by the author as the process of 'information imperialism'

Information imperialism

Colonialism and neo-colonialism severely affected and still affect the dissemination of knowledge in and on Africa. Colonizers shaped this knowledge according to their interest and imposed their own way of thinking on Africa. This led to an inequality in knowledge dissemination between the West and Africa. I would like to refer to this process (which did not only affect Africa) as 'information imperialism'. The term 'Information imperialism' differs from Manuel Castells' more contemporary notion of 'informational capitalism' (Castells, 2000: 68-168) in that it this kind of informational exploitation refers explicitly to its roots in Africa's colonized past. Although the term 'information imperialism' has been used before by for example Mendina and Britz (2004: 15-21), no clear definition has been given. In this essay information imperialism is defined as a process by which (former) colonizers or neo-colonizers create, diffuse, use and manipulate knowledge according to their economic, political and cultural preferences and interests and impose, although perhaps unintended, this self-serving selection of knowledge upon the rest of the world.

In Africa, information imperialism led to what Thiong calls "the subjection of the colonized to Europe's memory" (Mkandawire, 2005: 159). Hegel's imperious statement that Africa doesn't have a history (Hegel, 1830) is unfortunately in a sense correct, as its history has been mainly confiscated by the former colonial powers. They have played and still play a major

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[10] http://ict4dconsortium.rhul.ac.uk/

role in appropriating and constructing Africa's memory. Colonizers often used native Africans to obtain local information valuable to them and coded this information into their respective European languages. African Intellectuals were discouraged to write down and store their memory in their own language and according to their own selection. Thus, the storage of knowledge about Africa in European languages and according to an European selection became often the only source of documented knowledge about Africa. This led to the strange situation that when African intellectuals study the history of Africa, they often consult documentation shaped by an European outsider's view, making them in a sense too outsiders of their own historical memory (Mkandawire, 2005: 159). However, information imperialism still affects and shapes Africa's memory and is not only confined to colonialism.

Why a network-driven approach might be beneficial for African development within the context of education

Now we know more about the process of information imperialism, the fourth hypothesis can be brought forward: this is that using a network driven, collaborative model of content creation is a good strategy to counter the process of information imperialism. This hypothesis can be supported by three arguments: Firstly OERs from network-driven projects are easier to adapt and create materials according to African needs. This is so not only because they have built in mechanisms which enable anyone to adapt and localize content, but also because they are more likely than content –centred and learner centred projects to be supported by a licence which allows for derivative works. Secondly, the approach used by network-driven projects seems to be more suited than other approaches to stimulate a culture of authoring and publishing among academics, because the technologies design for most of the platforms using a network-driven approach are specifically designed to lower barriers for people to publish their ideas. And thirdly, the collaborative nature of network-driven OER projects can counter the process of information imperialism by facilitating Africa's pan-African dreams of post-independence. According to this mantra, Africa's overdependence on the West can only be overcome by uniting in the struggle for social, political and economic independence (Arnold, 2005: 10-13). A quote of Derek Keats (2003) is illustrating in this respect:

When we use textbooks in Africa that were developed in the U.S. or Europe, we obtain content that may not be locally relevant. Our purchases go to support the publishing industry in that part of the world, and contribute to our dependency on that industry. More importantly,

this dependency means that African academics do not develop a strong tradition of authoring and publishing learning content, although of course there are some exceptions.

Conclusion: towards a theoretical approach for understanding the existence and possible benefits of network-driven OER projects in Sub Saharan Africa

Three hypotheses have be put forward to explain why so many Sub-Saharan African OER projects use a network-driven approach, because they 1) reduce costs, 2) are necessary to create a critical mass of expertise and 3) because of the stakeholder environment in which they are embedded, which focuses on 'equal partnerships' for development. In addition, a fourth hypothesis has been introduced which claims that such an approach is also beneficial to counter the process of information imperialism. None of these hypotheses have been adequately been researched though, nor is there any ready-made theory available which might research these claims in a systematic way. There are though some bodies of theories within economics and development studies which can be drawn upon to design a theoretical framework which can be used to examine the hypotheses put forward in this paper. The first three hypotheses can for instance be put into context by drawing upon insights of the economic school of New Institutional Economics (NIE). NIE offers a framework to explain how institutions will collaborate with other institutions when this can reduce transaction costs, such as costs of for information, market transaction costs, management transaction cost and political transaction costs (Lepenies, 2008). However, NIE is based utilitarian rationalistic principles, which downplay cultural and social factors (which are of special importance for the third and fourth hypotheses. Hence, the proposed framework should be complemented by theories which focus on the contextual, rather than the universal and which are informed by a post-modern understanding of the construction and power of knowledge and the post-colonial implications of this understanding.

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Appendix: OER projects operating within a Sub Saharan African context

- African Virtual University OER project, Kenya, www.avu.org
- ICT4D consortium OER project, Finland, United Kingdom, http://ict4dconsortium.rhul.ac.uk/
- Teacher Education in Sub Saharan Africa, United Kingdom, http://www.tessafrica.net/
- OER project of University of Malawi, in the Colleges of Agriculture and Nursing
- Health OER Project which OER Africa is implementing in partnership with the University of Michigan, USA
- Upcoming OER initiative of the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) http://www.ruforum.org
- OER Africa's work with the Open University of Tanzania and National Open University of Nigeria, currently being organized through the Technical Committee on Collaboration of the African Council on Distance Education.
- The Free/Libre and Open Source Software for Education in Africa (FLOSS4Edu), Commonwealth of Learning, Canada http://www.wikieducator.org/FLOSS4Edu#Educational_Content

- Virtual University for Small States of the Commonwealth, Commonwealth of Learning, Canada http://wikieducator.org/VUSSC
- Free-Open Courseware, University of the Western Cape, South Africa http://freecourseware.uwc.ac.za

DGcommunities, Development Gateway, United States

http://topics.developmentgateway.org/What-is-this-site.41.0.html