

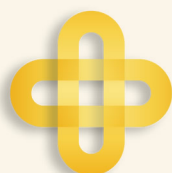
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# 2010-2011 African Health OER Network

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## Phase 2 Evaluation: Consolidation and Sustainability

March 2011



**Acknowledgements:** The generosity and helpfulness of project coordinators in setting up evaluation schedules for this evaluation is acknowledged with gratitude. The evaluator is also deeply indebted to the academics and students who consented to be interviewed, who found the time to make the interviews possible, and who were prepared to express their views as openly and frankly as they did.

The richness of the data generated, together with the complexity of the institutions, implies that it is very difficult in this report to do justice to all the developments, especially to the work of the dedicated and resourceful individuals driving OER development.

Grateful thanks are also extended to the project staff who made the necessary travel and administration arrangements for evaluation visits.

Several of the reports made available as part of SAIDE's Information Services were used in the compilation of this report.



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# 1 PROJECT BACKGROUND AND EVALUATION BRIEF

## 1.1 BACKGROUND AND CONTEXT OF THIS EVALUATION

### First phase of Health OER

After the approval of the Health OER Design Phase Proposal by the Hewlett Foundation in November 2008, the Health OER project commenced in earnest in January 2009. The aim of the one-year project of OER Africa (an initiative of the South African Institute for Distance Education and the University of Michigan) was to produce a sustainable and scalable OER programme to support health education, particularly in South Africa and Ghana.<sup>1</sup> The Design Phase involved collaboration across the Health Science colleges and faculties at the following:

- University of Michigan (U-M)
- Kwame Nkrumah University of Science and Technology (KNUST)
- University of Ghana (UG)
- University of Cape Town (UCT)
- University of the Western Cape (UWC).

The Design Phase formative evaluation<sup>2</sup> concluded that expectations and contractual targets had been met or exceeded by an impressive margin, with project coordinators and participants in each institution having engaged OER in creative ways that were most appropriate to their own contexts.

### Second phase of Health OER

A second cycle of Hewlett Foundation funding for 2010-2011 enabled a further two-year phase focused on the consolidation, growth and sustainability of the African Health OER network.<sup>3</sup> Phase 2 of the project is guided by four aims:

1. Ensure that the OER infrastructure model, which was successfully deployed during the design phase, maintains momentum with the current participants and begins growing the Network while simultaneously seeking to expand the community of support;
2. Aggregate a critical mass of African-produced health open educational resources, published through both institutional and regional (e.g. oerafrica.org) repositories;
3. Continue to enhance (e.g. through functionality and localization) an innovative, low-cost and scalable process (dScribe) for converting educational materials into OER;
4. Build on pilot and formative analyses undertaken in 2009 to establish the basis for an evidence chain that connects from faculty productivity and career satisfaction measures through efficacy in learning contexts to the application of acquired knowledge in health care settings.

<sup>1</sup> Health OER Design Phase: Proposal to the Hewlett Foundation Education Program: October 2008

<sup>2</sup> Health OER Inter-institutional Project: Formative Evaluation of Health OER Design Phase, December 2009  
<http://www.oerafrica.org/ResourceDownload.aspx?id=37528&userid=-1> [Accessed 25 November 2010]

<sup>3</sup> 2009.10.09 African Health OER Network Proposal,  
[https://open.umich.edu/wiki/Health\\_OER\\_Collaborations](https://open.umich.edu/wiki/Health_OER_Collaborations), see [2010-2011 African Health OER Network](#)  
 [Accessed 27 July 2010]

The 2010-2011 African Health OER Network Proposal makes provision for two evaluations:

“Program evaluations done mid-project (by December 2010) and at completion (by December 2011)”.<sup>4</sup>

The aim of the present mid-project evaluation is thus to review experiences within participating institutions and the project itself with the purpose of contributing to greater understanding of project consolidation and sustainability together with extrapolations for extending participation. A draft design of this evaluation was circulated amongst project management and the participating institutions in August 2010.<sup>5</sup> After minor amendments, the draft was finalized.

## 1.2 DATA COLLECTION

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On the basis of the Evaluation Brief, a document study and a series of interviews were carried out between September and November 2010. This report reflects the status of the project as it was at the end of December, 2010.

The study of documents was centred on the wealth of project documentation available on [www.oerafrica.org](http://www.oerafrica.org), [https://open.umich.edu/wiki/Health\\_OER\\_Collaborations](https://open.umich.edu/wiki/Health_OER_Collaborations) and <https://ctools.umich.edu/portal>. Institutions helpfully provided policy documents, strategic plans and lists of updated OER developments, in addition to other digital resources such as the UG's reflective 'Final OER Documentary' and OER productions on DVD.

Key OER Africa project individuals were interviewed, as were university staff selected by project coordinators in each institution (see Annexure 1). A standardized interview schedule would not have been appropriate as the range of interviewees included those responsible for widely varying institutional functions. Interviews followed a pattern of respondents being invited to share their experiences relevant to the aims of the mid-project evaluation, with follow-up discussion based on experiences and reflections related to overall project progress and direction.

Research papers from both the overall project and individual institutions afforded a valuable means of triangulating emerging insights and evaluation data.

The present evaluation overlapped rather unevenly, with research being conducted for the institutional case studies covering each participating institution. Case study interviews at the Ghanaian institutions had already been completed by the time interviews for the mid-project evaluation took place. In the case of UCT and UWC, at the suggestion of one of the project coordinators, staff were interviewed concurrently by the two individuals responsible for the case study research and the mid-project evaluation. Apart from sparing interviewees involvement in two sets of interviews, this procedure had a basic logic: both studies were assembling similar kinds of data, but for different purposes. An explanatory document outlining the aims of the two studies was sent to institutions prior to the evaluation visit. Interviewees did not report confusion or discomfort as a result of being interviewed by two people at the same time; and the interviewers found it useful to be able to share their impressions of interview data.

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<sup>4</sup> Ibid., page 16

<sup>5</sup> Health OER Phase 2: Project consolidation and sustainability. Draft design for formative evaluation. August, 2010

## 1.3 ANALYSIS AND STRUCTURE OF THE REPORT

### 1.3.1 KEY CONCEPTS

*Consolidation* is fairly easily measured by the indicators of progress in policy development and momentum in OER development.

*Sustainability*, on the other hand, can be as difficult to measure as it is to achieve.<sup>6</sup> For sustainability, a project needs to be located in a resilient environment able to adapt creatively to changing conditions. Indicators for assessing such an environment in this evaluation involved the concepts of ‘cultural’ and ‘social’ capital. According to Bourdieu (1986), cultural capital exists in three forms:

- (a) in the *embodied* state, it is found in long-lasting dispositions of the mind and body;
- (b) in the *objectified* state, it is found in the form of cultural goods such as artifacts, pictures, books, dictionaries, etc.;
- (c) in the *institutionalized* state, it is a form of objectification that formalizes dispositions into codes and regulations.<sup>7</sup>

While these three ‘states’ or conditions are necessary for sustainability within individual institutions, the full potential of OER (adaptation, reuse, etc.) depends on collaboration within an emerging community of practice across institutions. ‘Social capital’ links neatly with OER because it

calls attention to the fact that civic virtue is most powerful when it is embedded in a sense network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital (Putnam, 2000, p. 19).

The World Bank captures the concept well:

Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society’s social interactions... Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together”.<sup>8</sup>

### 1.3.2 USING THE CONCEPTS OF CULTURAL AND SOCIAL CAPITAL

The framework for evaluation of Health OER is shown in Table 1.

<sup>6</sup> E.g. as evident in a title such as: Bell, S. and S. Morse. 1999. *Sustainability indicators: measuring the immeasurable*. London: Earthscan Publications.

<sup>7</sup> Bourdieu, P. 1986. Forms of capital. In J.E. Richardson (ed.). *Handbook of research for the Sociology of Education*. New York: Greenwood Press, pp. 241-258.

<sup>8</sup> The World Bank. 1999. ‘What is Social Capital?’ <http://www.worldbank.org/poverty/scapital/whatsc.htm> [Accessed 5 October 2010]

**Table 1: Categories of analysis**

Domain of sustainability	Analytical category	Indicators/empirical questions
<b>Within</b> individual institutions	<i>Embodied</i> cultural capital	<ul style="list-style-type: none"> <li>• Acceptability and relevance of OER?</li> <li>• Preparedness to create OER?</li> <li>• Is there a sufficient threshold of academics who are confident, competent and active in OER production and use?</li> </ul>
	<i>Objectified</i> cultural capital	<ul style="list-style-type: none"> <li>• Is OER production ‘doable’ and viable?</li> <li>• What has been produced?</li> <li>• Are productions original or adapted from existing sources?</li> <li>• Have OER produced at one participating institution been used at another?</li> </ul>
	<i>Institutionalized</i> cultural capital	<ul style="list-style-type: none"> <li>• Is institutional policy amenable to OER?</li> <li>• Is there an alignment of relevant structures (e.g. ICT, library)?</li> <li>• Is there funding for OER? Are there support structures for OER production?</li> </ul>
<b>Across</b> individual institutions: the broader social level	<i>Social capital</i>	<ul style="list-style-type: none"> <li>• Is OER production and use linked to a durable academic network that bonds similar professionals across institutions, and generates social trust and reciprocity?</li> <li>• Does project management provide suitable support and promote wider networking and collaboration?</li> <li>• Is the website a pivotal resource for networking?</li> </ul>

These analytical categories provide the structure of the report that follows.

### 1.3.3 STRUCTURE OF THE REPORT (AND WHAT TO READ FOR A QUICK OVERVIEW)

Although there are four participating institutions, of which UWC is one, the report refers to the UWC Faculty of Dentistry and School of Public Health (SOPH) as distinct entities. Contractually, each has its own agreement with the U-M, as the grant holder. In addition to being housed on separate campuses, each also has its own distinctive history and ethos. When issues are common to the institution as a whole, the report refers to UWC.

Data presentation retains the anonymity of individuals as far as possible. For the names of those interviewed, see Annexure 1.



Section 2 sketches the distinctive institutional features against which the introduction of OER took place.

Section 3 follows developments in each participating institution, mapping these onto the analytical categories of cultural and social capital.

On the basis of the current situation, Section 4 moves to overall conclusions and judgement in regard to sustainability. The nature of the challenge of sustainability emerges.

Section 5 moves away from the present situation by raising issues that might be considered relevant to strategies for sustainability.

Section 6 offers some final thoughts. Readers wishing for a quick overview without reading the entire report will probably find this section inadequate. The summary in section 3.5 and the relatively short section 4 could serve as a purposeful overview. For an even more comprehensive overview, readers might also wish to scan Tables 3, 5, 6, 7 and 8.

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### 1.3.4 LIMITATIONS OF THIS EVALUATION

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Three limitations are noted.

- (a) The complexities of institutional differences are under-represented in this report. While account is taken of major differences, the constraints of the present evaluation – as well as the complexity of universities as organizations – necessitate that the thrust is towards generating defensible generalizations with regard to overall project consolidation and sustainability.
- (b) Discussion on OER development at UCT must carry the disclaimer that the Health OER project would not claim credit for all such progress. This is necessary because substantive – albeit uneven – OER developments had been taking place at UCT prior to the commencement of the Health OER project. As the UCT Dean of Health Sciences noted, there was “convergence” between the project and what had already been happening at UCT. This makes it virtually impossible to disaggregate the precise relative contribution of OER Africa to OER development at UCT.
- (c) The role of U-M is under-represented here because OER was already institutionalized at U-M. ‘Open.Michigan’ is a U-M initiative “that enables faculty, students, and others to share their educational resources and research with the global learning community”.<sup>9</sup> With its prior links with the health sciences across many countries in Africa<sup>10</sup>, U-M was ideally placed to serve Health OER as a trustee. In the interests of brevity, this report focuses predominantly on the *impact* of U-M’s seminal role in facilitating the establishment and consolidation of OER in partner institutions.

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<sup>9</sup> <https://open.umich.edu/> [Accessed 1 February 2011]

<sup>10</sup> See for e.g. [https://open.umich.edu/wiki/Health\\_OER\\_Collaborations](https://open.umich.edu/wiki/Health_OER_Collaborations)

## 2 CONTEXT: THE DISTINCTIVENESS OF THE PARTICIPATING HEIS IN RELATION TO OER

The Formative Evaluation of the 2009 Health OER Design Phase<sup>11</sup> observed that:

There are notable differences across the four African universities in respect of prior institutional positions in relation to open learning in general, and the use of ICT in teaching. Across institutions, individual academics themselves also had widely varying exposure to OER. Contextual settings, as we know, are more than just the sites where academic staff happen to practice: particular settings offer unique opportunities and constraints. The Health OER project has thus taken hold and developed in different ways across these varied contexts.

Before mapping developments at the four participating institutions onto the categories of cultural and social capital, it can be helpful to sketch the baseline position from which they had become involved in Health OER.

For reasons outlined in 1.3.4 (c) above, U-M is not included in the table below. Table 2: Key features of participating institutions at the time of project commencement

	UG	KNUST	UCT	UWC Dentistry	UWC SOPH
Prior orientation to OER	OER was introduced as a new concept to the Health Sciences.	OER was introduced as a new concept to the Health Sciences.	Prominent individual academics were active e-learning/ OER producers.	OER introduced as a new concept to the faculty.	SOPH had two resources available as OER prior to Health OER.
Development of OER policy	Started 'from scratch'.	Started 'from scratch'.	Developing organically on the basis of existing practices; formalization of on-the-ground developments.	No substantive institutional driving force to operationalize symbolic policy.	
Development of OER resources	Started 'from scratch' in tandem with policy development.	Started 'from scratch' in tandem with policy development.	Diverse OER developed by individuals prior to OER Health project.	Started 'from scratch'. OER creation disconnected from policy development.	Strong background in materials development for distance education.
Role of Health OER project	<i>Initiated</i> a new paradigm.	<i>Initiated</i> a new paradigm.	<i>Complemented</i> existing initiatives and developments.	<i>Initiated</i> a new paradigm.	<i>Added</i> a new open licensing dimension to existing resource-

<sup>11</sup> Health OER Inter-institutional Project, December 2009, op. cit., p. 5

	UG	KNUST	UCT	UWC Dentistry	UWC SOPH
					based teaching.
Faculty staff awareness of Health OER	High – Health OER is the dominant/sole force in promoting OER.	High – Health OER is the dominant/sole force in promoting OER.	Low – involved in many projects; multiple sources of funding.	High – Health OER is the dominant/sole force in promoting OER.	High – School is reliant on a range of funders for production of materials.

One would expect that the implications of such differences would become more apparent as the project matured, and as the issues of consolidation and sustainability came into focus. Indeed, this has been the case.

### 3 MAPPING EXPERIENCES ONTO DOMAINS OF SUSTAINABILITY

#### 3.1 EMBODIED CULTURAL CAPITAL: ACCEPTABILITY, RELEVANCE AND PREPAREDNESS FOR OER

A culture that supports OER development has two main dimensions: (a) there is a principled orientation to *openness*, a willingness to work across disciplinary and organizational boundaries, and (b) a conviction that working in an open way with OER is relevant and ‘doable’ in one’s own situation. An OER ‘champion’ would be characterized by both (a) and (b).

The 2009 formative evaluation found a core of active OER ‘champions’ across all institutions. The present evaluation encountered a widening core of committed OER developers. In all institutions, new OER creators had emerged, and at UG and KNUST it was particularly noticeable that new departments in the health sciences were now either producing OER or “coming on board”. A rough indication of the expanding base of involvement is reflected in the number of individuals identified by coordinators as people with whom the evaluator should conduct interviews. In the formative evaluation, there were 27 interviews; in the present evaluation there were 45.<sup>12</sup>

A second notable change was the tone in which allegiance to the OER paradigm was expressed. Evangelism (“OER came like an act of God”) was now rare. Expressions such as “It has come to stay” came across as a judgment based on experience and reflection. Elaborations made it clear that the initial optimism had been tempered by some disappointments with “non-producers”, and above all else, by the overriding and persistent problem of finding time for OER creation. The jointly authored paper ‘Beyond the first steps: Sustaining Health OER Initiatives in Ghana’<sup>13</sup> is a good example

<sup>12</sup> A further two scheduled interviews did not take place: one because of staff member illness, and the other because of a time scheduling problem.

<sup>13</sup> Tagoe, N., Donkor, P., Adanu, R., Opere-Sem, O., Engleberg, N.C., and Lawson, A. 2010. Beyond the first steps: Sustaining Health OER Initiatives in Ghana. Available <http://hdl.handle.net/10609/4849>

of the way in which participants have reflected critically on their initial experiences. At issue in such reflections is the challenge of how to achieve a mainstreamed OER mode of operation; the tenets of OER were not questioned because principled support for OER was intact. Moreover, whereas the promise and potential of OER had initially been persuasive, academics now had evidence that they could indeed produce OER, the pool of OER producers was growing, and first impressions were of their effectiveness.

Within those two main common features, there were significant institutional differences. At UG and KNUST, where OER was first introduced as a new concept, the culture of OER has been successfully 'home grown' with the significant support of Dr Engleberg's 2008-2009 sabbatical and follow-up visits from U-M.

At UWC Dentistry, where the concept of OER was also introduced as something new, gains in embodied cultural capital have not been as significant because of past histories. The UWC Faculty of Dentistry came about as a result of the merging of units from two different universities with very different institutional cultures. As a number of staff indicated, a culture of openness is not readily nurtured when staff from Stellenbosch University (formerly one of the privileged bastions of *apartheid* higher education) and UWC (a long-standing champion of quality higher education for the underprivileged) are merged. Interviewees also alluded to rather strong, closed departmental boundaries. One example of a 'closed' culture was the departure of a member of staff together with teaching material. As an OER was being developed to fill the void created by this loss, it could be said that the project is doing something to make the inherited culture more 'open'. Staff members within the project also indicated how their work in creating OER had enhanced their knowledge of work done in another department. The most significant indicator of a growing culture of openness is one of the two new projects initiated in Phase 2 of the project. UWC's archive of more than 30 000 dento-maxillofacial radiographs is being digitized and catalogued with the aim of making this unique collection available to the broader professional community. In being developed as an open resource in the first instance, this UWC Oral Radiography OER differs from the norm of staff producing resources with their own students in mind, and then later allowing open licensing to make the resource more widely available.

At UWC's SOPH, with its focus on distance education and its considerable expertise in developing resources, open licensing is but a technical step away. Prior to the commencement of Health OER, SOPH had already posted two open resources on the UWC Free Courseware site. Health OER could be said to have grafted a culture of more expansive openness onto a culture already predisposed to openness.

UCT differs radically from the other institutions in that Health OER converged with existing OER developments (see 2 above). OER production is indeed firmly embedded in Health Sciences, as well as in pockets across several faculties. With strong intellectual and technical support from the Centre for Educational Technology (CET) and increasingly from the office of the Deputy Vice Chancellor (Teaching and Learning), the culture of openness is growing organically in both 'top down' and 'bottom up' processes. Although the face of Health OER is merged with that of other organizations and units, there can be no doubt that it is augmenting an already existing institutional culture of openness. Interviewees generally reported viewing the openness of resources as 'natural'; and not sharing scarce resources seemed "silly", as one respondent put it. Compared to newcomers in other settings embarking on creating OER for the first time, those who have been producing OER for some time may be less prone to concerns about quality. Confidence in quality probably helps to facilitate a culture of openness.

Across all institutions, three issues merit mention in regard to the possibility of the present OER pool of champions growing in number.

- (a) The existing pool of OER champions came from different backgrounds. Some had come into it because they had used images in teaching, and others because they enjoyed “playing” with technology. On the other hand, some who were not attracted by an interest in technology per se had simply responded to a request to produce OER on a specific issue because of departmental needs, while others had responded to a coordinator’s invitation to submit a proposal for OER funding. Initial technological literacy does not appear to limit the potential for newcomers to embrace greater openness and enter the OER field.
- (b) In all participating institutions, coordinators have attempted to “spread the word” by offering presentations and demonstrations to other departments. Reports indicate no real opposition, and the coordinator at UCT offered the ‘ball park’ figure of 60-70% of new staff being interested in “doing something”. At the same time, there are many misconceptions about OER, fears are real (see Section 5.6), and of course, acceptance and participation are two different things.
- (c) A third point is the unintended consequence of OER production – the promotion of collegiality and closer working relationships across institutional hierarchies. In many cases, the creation of OER involves the cooperation of senior staff, junior staff and students. Not only does such a breaking down of barriers make OER involvement more appealing to some; it helps generate the cultural element essential to the entire OER enterprise: *trust*.

**Table 3: Summary of *embodied* cultural capital (acceptability, relevance and preparedness for OER) across institutions**

UG	KNUST	UCT	UWC Dentistry	UWC SOPH
OER introduced and consolidated in Health Sciences; beginning to spread incrementally	OER introduced and consolidated in Health Sciences; beginning to spread incrementally	Firmly embedded in Health Sciences; evident in pockets across other faculties; growing organically	Foothold in faculty. Initial attempts have been made to broaden OER base	Core distance education mode of operations is potentially conducive to OER ‘culture’ of openness

### 3.2 OBJECTIFIED CULTURAL CAPITAL: PRODUCTION AND USE OF OER

The different institutional OER starting points shown in Table 2 above imply different challenges in each. Progress in OER production and use should be viewed in light of the *main* challenges sketched in Table 4 below.

**Table 4: Main challenges in project institutions**

UG & KNUST	UCT	UWC Dentistry	UWC SOPH
<ul style="list-style-type: none"> <li>Need to ‘sell’ the OER concept</li> <li>Encourage</li> </ul>	<ul style="list-style-type: none"> <li>Locate and harness existing OER and expertise (whilst also ‘selling’ the concept)</li> </ul>	<ul style="list-style-type: none"> <li>Need to embed the project within the faculty</li> <li>Need to ‘sell’ the OER</li> </ul>	<ul style="list-style-type: none"> <li>Resource-based distance teaching is normative, but distance teaching has lack of support in a</li> </ul>

UG & KNUST	UCT	UWC Dentistry	UWC SOPH
<p>OER creation</p> <ul style="list-style-type: none"> <li>Develop support systems</li> </ul>	<p>to staff new to OER)</p> <ul style="list-style-type: none"> <li>Facilitate appropriate licensing for existing resources</li> <li>Initiate and support copyright clearance (dScribing)</li> </ul>	<p>concept</p> <ul style="list-style-type: none"> <li>Encourage OER creation</li> <li>Develop support systems</li> </ul>	<p>'contact' university</p> <ul style="list-style-type: none"> <li>Challenge is to sustain materials development, and to license as OER</li> </ul>

### 3.2.1 PRODUCTION OF OER

Institutions were asked to provide a list of OER completed with an indication of licensing status. As a broad indication of progress in production – and not as a measure of contractual accountability – the information provided is appended as Annexure 2.

### 3.2.2 FEATURES OF OER PRODUCTS

Four features of OER products are noteworthy.

#### *(a) Increased production and producers in new fields*

A tally of OER numbers would have little meaning as they differ in scale and type (see (c) below). However, notwithstanding UWC Dentistry not having yet completed any OER, it is clear from the lists of completed and in-progress OER that there has been significant progress in production. Compared with the production of OER by the end of 2009, new creators of OER have emerged from departments that had not previously produced OER. In UG, for example, from a base in Obstetrics and Gynaecology, Internal Medicine, Surgery, and Paediatrics, production has extended into Anatomy, Public Health, and Dentistry (where 4 of 7 departments in the college are now working on producing OER). KNUST has four OER from Pharmacology, which is relatively new to OER production.

#### *(b) Progress from educational resources to open educational resources*

There is an obvious difference between educational resources (ER) and *open* educational resources (OER). By the end of 2009, each institution had password protected ER, but there were only two genuine OER (produced by SOPH prior to the Health OER Design Phase). By the end of November 2010, the OER Africa website was housing 24 appropriately licensed OER.<sup>14</sup> These OER represent all four participating universities (with SOPH representing UWC). Obstetrics and Gynaecology are numerically dominant in a list which also includes Internal Medicine, Basic Sciences and Laboratory Medicine, Behavioural Sciences, Otorhinolaryngology, Occupational Therapy, Public Health and Family Medicine, and Public Health.

#### *(c) A rich diversity of OER*

<sup>14</sup>

<http://www.oerafrica.org/healthoer/HealthOERHome/HealthResources/tabid/274/Default.aspx> [Accessed 1 December 2010]



Although OER of the ‘learning-object’ genre are numerically dominant, the pool represents a rich diversity of OER types. There are full courses and modules, lectures and case studies, and tutorials for academic skills and research capacity development. Such diversity makes the pool of OER potentially relevant and attractive to a wide range of potential users and ‘reusers’, and for different purposes.

*(d) Appropriate attention to curriculum and pedagogy*

The 2009 *Formative Evaluation of Health OER Design Phase* drew attention to the curriculum and pedagogical implications of two types of OER. Different implications arose from the fact that the defining function of a ‘learning object’ OER is to support or enhance a particular topic within an existing curriculum. As an ‘add on’ feature, a learning object, typically in the form of video images with ‘voice over’, has some technical but no major conceptual implications for curriculum. It does for pedagogy, however. The question that arises here is how students will learn from a learning object, and in particular, how interactive it is.

In contrast, full modules or courses rely on in-depth curriculum planning. Some of the modules were designed for distance teaching and in this sense these OER *become* the teacher rather than simply being a means of *supporting* an existing teacher. Such models can provide an impetus for new ways of thinking about curriculum issues, such as: What selection of content should be included? In what sequence should this selection be presented? At what pace should students work through the learning material?

It is notable that appropriate institutional support structures are being developed in respect of both types of OER. The specialist, division-of-labour type of production processes at UG and KNUST are designed to ensure the smooth production of high quality learning objects. KNUST works with an ‘OER Instructional Design Framework’ to facilitate good pedagogy, and the head of the Department of Communication Design is presently at U-M to engage with learning design issues.

In relation to full modules and courses, UWC SOPH has developed a sophisticated, theoretically informed rationale and approach to the use of case studies. Production entails a division of labour here too, but only within the school itself. SOPH has its own specialists – with a strong background in education, rather than technology – who are responsible for the final compilation and editing of case studies. The other example that stands out is that of Obstetrics in UCT, where learning programmes using online resources have been built on the theoretical foundations of ‘situated learning theory’, a theory that positions learning within authentic activity, context and culture.<sup>15</sup>

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### 3.2.3 FEATURES OF OER PRODUCTION

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Two features of the process of OER production have implications for the way in which staff perceive the relevance and ‘doability’ of OER, and thus ultimately, for sustainability.

*(a) Resources to meet the needs of students, staff, patients and institutions*

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<sup>15</sup> Although largely associated with the work of Lave and Wenger, situated learning as used in this programme is also related to Vygotsky’s notion of learning through social development and Schön’s work on reflective practice.

Although the OER produced are of diverse types, a feature common to all is their origin as a response to very specific needs. OER to meet student needs emerged strongly, particularly in Ghana. Twenty-five or more students in clinical situations appeared to be normative, and in one department student numbers had increased “from 32 to 250-260 in the last few years”. The problem of sheer numbers is exacerbated when students are crowded around, for example, “one little tooth”. With its concern for disadvantaged students, UWC has responded to the challenges of both student numbers and under-prepared students. OER to strengthen academic skills were developed in response to student difficulties in, for example, engaging epidemiology without adequate numerical and “Excel skills”.

Student needs in clinical situations were complemented by the needs of patients. Before OER, one dean had been considering the part-time employment of “medical actors” because of his sensitivity to the embarrassment of patients when surrounded by students peering at their anatomy.

Both internal and external needs drew one academic into OER production. Internally, there had been a problem of staff leaving together with lecture material; and from the outside, the accrediting health professions council had requested the teaching of pathology to be further developed. OER presented itself as the perfect solution.

At a broader level, OER are perceived as having considerable potential to enhance institutional profiles. The UWC Dentistry Oral Radiography project referred to earlier was seen as a “major project for the rest of the world” that would at the same time attract foreign students who came to know about the library.

#### *(b) Time!*

Across all institutions and individual accounts, the single and most compelling obstacle to be overcome was finding time in which to create OER. A need often repeated in Ghana was for “protected time”. This was also emphasised in the mp4 reflection on progress at UG: “It’s a slow process”.<sup>16</sup> Initial expectations had been that “it would pick up very fast”. Unfortunately, the reality was that staff were doing OER in addition to everything else they do – in a situation in which there is a shortage of staff. The issue of faculty time commitments also features strongly in two research papers.<sup>17</sup> In UWC, where support structures are still evolving, a member of staff had been slowed down by having to hire and work with a technical person to produce the 3D model required; another spent much time overseeing production in a video suite.

Technical obstacles contribute to slow progress. At UG, for example, completed and approved OER remain on the Korle Bu internal server pending development on the main university server at the Legon Campus. Bureaucratic bottlenecks can occur, such as in the case of a dean reportedly delaying the uploading of an OER on the university server (‘quality’ concerns are magnified when the image of a university is at stake). But it is the time needed for OER creation that is the major delaying factor.

Being somewhat behind production schedules impacted on some staff at a personal level, e.g. “This has been a year of chase”. In one instance, anxiety was expressed about contractual obligations. Such concerns were not typical, however. The more general sentiment was simply that OER creation is slow and incremental: ways would have to be found to create adequate ‘protected time’ for OER production.

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<sup>16</sup> UG and U-M: ‘OER @ College of Health Sciences, University of Ghana’, available: <http://www.youtube.com/watch?v=wQyDkzlrNrK>

<sup>17</sup> Tagoe et al, 2010, op. cit.; ‘Omollo, K.L. Growing an Institutional Health OER Initiative: A Case Study of University of Ghana’, version 2, 28 September 2010



### 3.2.4 USE OF EXISTING OER

A key part of OER advocacy is the value proposition which maintains that access to existing OER for adaptation reduces the amount of time necessary for OER production. Two empirical studies in different parts of Africa support this value proposition. Whereas designing learning materials from scratch averaged 100 hours per notional study hour, it was found that sourcing and modifying OER took 40-60 hours.<sup>18</sup> The use of OER thus becomes a critical factor in a situation in which staff time is such a pressing issue.

The KNUST case study reports that even though there were “few existing OER modules that they [KNUST OER producers] could use or adapt for their own students”<sup>19</sup> there were some instances of staff adapting or wholly using existing OER from elsewhere. However, those interviewed in the present evaluation presented a more uniform picture of having embarked on new OER productions ‘from scratch’. None reported having systematically drawn from or adapted existing resources, other than their own.<sup>20</sup> Even with its earlier start in OER production, the view from UCT was that they were “behind” in respect of locating suitable resources for adaptation. The reasons for academics choosing the long route in producing OER are varied, but include technical difficulties such as:

- inadequate bandwidth and technology for carrying out searches
- the difficulty of locating relevant resources, and when they are located, they may not be suitably licensed.

Such difficulties contribute to a Catch 22-type situation in which OER producers do not have time to search for the resources that would save them time in developing the resources they need in order to make their teaching more efficient and effective.

A more substantive reason for not adapting existing resources emerged from a significant number of reports to the effect that even when relevant OER from elsewhere were found, they were *not suitable* because:

- the form of the medical condition for which the resource was required was unique to Africa (especially true in tropical Africa)
- in appearance, the same medical condition could present itself differently in patients of different skin colour (see also Omollo, 2010, op.cit.)
- health workers in Africa need to learn how to treat patients in contexts that do not always have optimal equipment and facilities.<sup>21</sup>

Project participants have adapted to these difficulties in a number of ways:

#### (a) *Developing own existing resources*

<sup>18</sup> <http://projectotter.wordpress.com/2009/08/17/oers-save-time-for-learning-designers> [Accessed 26/10/2009]

<sup>19</sup> Omollo, 2010, op.cit., p.9

<sup>20</sup> But as pointed out in the 2009 formative evaluation (op.cit.), “views on ‘starting from scratch’ somewhat mask the role of Dr Engleberg’s contribution as a co-author. His experience in the field certainly meant that relevant existing resources were part of his repertoire of knowledge. Staff would have no real way of knowing the extent to which his co-authorship drew on that repertoire.” (p. 24)

<sup>21</sup> Interestingly, UCT Computer Science appeared to be the only department adapting OER from elsewhere (Global dScribe, 27 October 2010). Is this one of the more universally homogenous disciplines, and is it less context specific than the health sciences?

Several academics at KNUST and UG developed their OER ‘from scratch’, but using images they had collected over the years. UWC Dentistry is exploiting its own existing resources to good effect. At UCT, OER of a more text-based variety have been developed from existing lecture notes and materials. As the use of existing resources to develop OER calls for careful copyright clearance, dScribing has become a core feature of OER production at UCT. SOPH has developed case studies from its own research.

*(b) Assistant researchers have been employed to locate resources*

The project coordinator at UCT employed a research assistant to help with the “OER health wiki”. Part of her brief has been to locate resources in response to requests from academics.<sup>22</sup> This researcher reported having addressed “about five” such requests in the past few months. A similar appointee at SOPH locates resources not for individuals, but in line with the needs of the department.<sup>23</sup>

*(c) Developing resources to facilitate searches*

Linked to the above, the UCT research assistant began compiling a paper on the experience of assembling a wiki. Her rationale is that it could be useful to others looking for resources (“it’s a hassle if you don’t know how to search”). A backbone has been built to which others can add, and her hope is that this will find its way onto ‘UCT OpenContent’.<sup>24</sup> SOPH has made good progress developing a Public Health Case repository. Resources are checked for licensing, and appropriately tagged. The OER Africa web manager suggested that an abstract be added to what will soon become a freely available repository. The department’s “second phase” vision is reusing open source materials.

*(d) Using OER Africa resources to enable OER development*

In reporting that ethical consent from patients was a “big” issue in OER production, a project coordinator reported having resolved the problem by utilizing the consent form from the OER Africa website.<sup>25</sup>

### 3.2.5 OER DEVELOPED IN PROJECT INSTITUTIONS BEING USED ELSEWHERE

The sharing of resources across the four institutions *within* the Health OER Network is addressed under ‘Social Capital’ (see 3.4). In terms of the use and sharing of OER between Health OER Network participants and *other* bodies, we have noted that those creating OER in the project drew very little from the outside. Contrary to what one might expect, fieldwork for this evaluation encountered more examples of OER developed within the project being used by bodies outside of it. For example:

- a clinical skills DVD on the examination of respiratory, cardiovascular and neuro systems was translated into indigenous languages and complementary copies given to other universities. Because of the “huge interest” this generated, the project

<sup>22</sup> Even with some experience in ‘searching’, this is a time consuming business. “About a day” was offered as a ‘ballpark’ figure for the time needed to conduct a search for one academic’s request

<sup>23</sup> Somewhat ironically, one of the interviewees reported that at a meeting with funders the request for funding a position specifically to locate resources had not been successful

<sup>24</sup> This could complement OER Africa’s Health OER Request facility planned for January 2011

<sup>25</sup> Hoosen, S. 2010. Guide to gaining ethical consent from patients for content released as OER. Available

<http://www.oerafrica.org/healthoer/HealthOERHome/HealthResources/tabid/274/mctl/Details/id/38582/Default.aspx>

coordinator persuaded the author to make the DVD available under the Creative Commons licence. It is now being used by a prestigious university nearby.

- CDs for undergraduate teaching in Family Medicine were given to the University of Namibia as part of the University of Ghent's 'twinning' project. After adaptation, that core curriculum is now in use in that university.<sup>26</sup>
- In addition to being used by U-M in the USA, KNUST's 'Buruli Ulcer' OER is being used by community health fieldworkers – trained by the author of the OER – in remote regions in Ghana.

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<sup>26</sup> Neither this nor the DVD above are yet on the OER Africa web site

**Table 5: Summary of *objectified* cultural capital (production and use of OER) across institutions**

UG	KNUST	UCT	UWC Dentistry	UWC SOPH
<ul style="list-style-type: none"> <li>Significant progress in learning object genre</li> <li>OER on internal server, OER Africa, and U-M OER website</li> </ul>	<ul style="list-style-type: none"> <li>Significant progress in learning object genre</li> <li>OER on university server, OER Africa, and U-M OER website</li> </ul>	<ul style="list-style-type: none"> <li>Diverse OER, e.g. learning objects, lecture notes, full modules, textbook</li> <li>OER on UCT OpenContent site, OER Africa, and U-M OER website</li> </ul>	<ul style="list-style-type: none"> <li>Some progress in learning object genre</li> <li>One new project designed as an OER, to be put 'out there'</li> </ul>	<ul style="list-style-type: none"> <li>Notable progress in developing case studies and full modules</li> <li>OER on UWC Free Courseware site, OER Africa, and U-M OER website</li> </ul>

As a way of addressing geographical distribution and network connectivity constraints, in mid-2010 U-M and OERA signed an MOU to host all of the completed OER on both the OERA and the U-M websites.<sup>27</sup> All of the 2009 completed resources are now available on both websites.

### 3.3 INSTITUTIONALIZED CULTURAL CAPITAL: OER POLICY, PRODUCTION AND SUPPORT

One of the key assumptions underpinning the Health OER Network is that the development of OER cannot remain a sideline activity within a university: "It must be integrated into institutional processes in order to both leverage potential and provide for its sustainability".<sup>28</sup>

An indication of the deepening institutionalization of the project is the greater range of interviews in this evaluation compared to the formative evaluation in 2009 (see 3.1). In the present evaluation, staff fulfilling various kinds of support roles were interviewed in addition to OER producers. While increased institutionalization is a feature across all participating institutions, in individual institutions it has taken place in different ways, followed different trajectories, and assumed different forms. Such unevenness is entirely to be expected, given the different starting points sketched in Section 2. Our discussion begins with institutional champions without whom institutionalization would not progress. This leads to consideration of actual progress in policy development. Finally, we look into institutions' own OER mainstreaming strategies.

#### 3.3.1 CHAMPIONS OF OER INSTITUTIONALIZATION

The champions under consideration here are those with the capacity to drive the mainstreaming of OER within their own institutions.

<sup>27</sup> <https://open.umich.edu/education/med/oernetwork/>

<sup>28</sup> 2009.10.09 African Health OER Network Proposal, op.cit., p. 2.

At both UG and KNUST, where the Health OER Design Phase introduced OER as a new concept, the Provosts of Health Sciences have been instrumental in institutionalizing OER. They are not abstract OER champions simply driving policy development; they have credibility as OER creators who have also taken their insights and experiences to international professional and academic fora. Both have the strong support of senior academics, including those responsible for leading OER coordination and development. A dean at UG, for example, pointed out why he supported institutional OER development: OER allowed for the acquisition of skills before students actually worked with patients; they addressed the problem of student numbers; and OER production encouraged junior and senior staff to work together.

At UCT, where the Health OER initiative has complemented already existing OER activity, there are multiple OER champions. In an institution in which real power is vested in the deans, Health Sciences has a dean described by a Deputy Vice Chancellor (DVC) as someone who has worked “tirelessly” to promote OER. With a strong background from the previous institution at which she had worked, the DVC (Teaching and Learning) is well placed to orchestrate OER strategy. An extremely influential campus-wide unit driving both OER production and its mainstreaming is the Centre for Educational Technology (CET).

Contrasts between the Ghanaian and South African institutions are notable. In the former, because OER was new, the production of OER and institutional policy development took place *in tandem*. The role of OER champions was one of proselytizing. At UCT, where OER production and institutionalization (e.g. in the form of becoming a signatory to the Cape Town Open Learning Declaration, 2008) had historically followed *parallel* and more or less unconnected tracks, the role of champions became one of unifying and orchestrating developments. According to the DVC, enterprise content management was necessary because historical OER development had led to a “panoply of cottage industries”.

UWC presents yet a third kind of contrast. In the interesting wording on the UWC website: “In 2005 UWC's Senate passed an ambitious [Free Content, Free/Open Courseware Policy](#), which removed institutional obstacles to publication of open educational resources.”<sup>29</sup> The terms “ambitious” and “removed institutional obstacles” allude rather tellingly to a situation in which UWC has a visionary OER policy in place, but no easily identifiable OER champion, and limited capacity and resources to drive OER mainstreaming.

SOPH is one of five departments with resources on the ‘freecourseware’ site, and has contributed two of the nine resources available there. Although SOPH staff are strongly supportive of OER, in a department that relies on ‘soft’ money for about 80% of its funds, it is no surprise that the Projects Manager depicts the school as living “from hand to mouth”. When the project commenced in the Faculty of Dentistry, it did so as no more than that: a project within the Faculty. This is because the ‘add on’ aspect of the OER-Michigan collaboration had initially left the project outside of mainstream Faculty issues.<sup>30</sup> The project coordinator carried sole responsibility for OER production until the project came to reside under the Faculty's Academic Programme Committee, with a Steering Committee chaired by the Deputy-Dean: Academic. OER is now being

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<sup>29</sup> <http://ics.uwc.ac.za/usrfiles/users/8990060109/Strategies/freecourse-0.4.pdf> [Accessed 1 December 2010]

<sup>30</sup> This contrasts with the situation in the Ghanaian universities where the project was simply a continuation and extension of existing collaborations

understood more as a resource for teaching. The concept of OER has dovetailed helpfully with a current move in the university (and in Dentistry) towards a blended approach to teaching and learning. That is not to say, however, that OER is being championed at institutional level.

### 3.3.2 PROGRESS IN POLICY DEVELOPMENT

It can be helpful to view the various policy processes in each institution in relation to particular meanings of 'policy'. De Clercq (1997) provides the following categories of policy:

- Symbolic policies – rhetoric about intentions
- Substantive policies – what the governing body should do
- Procedural policies – what action will be taken through which mechanisms
- Material policies – provision of resources for appropriate actions.<sup>31</sup>

#### (a) UG and KNUST

Given the extent of change called for in order to fully institutionalize OER, UG and KNUST have made remarkable progress. UG has a *'Draft Policy for the Development and Use of Open Educational Resources for University of Ghana'*. This makes provision for: an infrastructure for producing materials; a server to make materials available; and an organizational structure for planning OER. Issues of quality, copyright, and a reward system, as well as workload and time, are covered. Had it not been for delays resulting from a change in Vice Chancellor, the policy would already have completed its passage through the University Planning Committee and the Academic Board.

KNUST's *'Policy Overview for the Development and Use of Open Educational Resources (OER)'* is now official policy. This covers key issues such as copyright, systems for production (authoring), delivery (sharing), and access. As at UG, a review process and a reward system are incorporated.

The UG and KNUST institutional policies are essentially 'symbolic' and 'substantive' in that they are purposeful and coherent in providing commitment to OER as well as guidelines for production and access. Policy intention, such as 'faculty members should have clearly defined protected time' for OER development, is encouraging but aspirational. More detailed policies for staff appointments, job descriptions, workloads, and so on would need to follow. However, a trajectory has been established for the translation of policy intention into 'procedural' and 'material' policies at both of these institutions. Because the OER being developed are of a standardized 'learning-object' type, standardized production processes are appropriate and division-of-labour structures have been put in place. Academics provide the content and script; the technical and media specialists carry out the technical work. UG has established its own technical production unit, while at KNUST the pivotal role of the Department of Communication Design (DCD) in OER production has been institutionalized in both policy and amendment of the DCD curriculum.

#### (b) UCT

Because of its prior entry into the OER field, UCT's policy position is almost dichotomous to that of UG and KNUST. Having already shown its commitment to

<sup>31</sup> De Clercq, F. 1997. Policy intervention and power shifts: an evaluation of South Africa's education restructuring policies. *Journal of Education Policy*, 12 (30), pp. 127-146



openness in education by signing the 'Cape Town Open Education Declaration', UCT does not appear to see the need for an overarching OER policy in the 'symbolic' and 'substantive' domains. With many staff having already produced OER in semi-autonomous ways, and with campus-wide open content initiatives such as the 'Opening Scholarship' project<sup>32</sup> and 'UCT OpenContent directory'<sup>33</sup> launched in February 2010, the thrust is to aggregate and order a rich fund of existing assets. Institutionalizing OER is more a matter of organically weaving together top-down and bottom-up initiatives than one of overarching policy articulation. The focus is very much on 'procedural' and 'material' policy domains.

There is a clear institutional trajectory from

- i. *VULA* (UCT's online collaboration and learning environment, used to support UCT courses as well as other UCT-related groups and communities), to
- ii. the *OpenContent* directory (the web portal for showcasing and making available UCT's open teaching and learning content), to
- iii. the ultimate goal of 'Open UCT' providing resources across the three standard areas of higher education endeavour: Research; Teaching and Learning; and Community Engagement. This will entail the realignment of organizational structures.

As noted above, the process is driven by multiple champions. CET appeared to be pivotal in providing intellectual leadership together with technical support. Sustainability has featured in overall planning, and the OER movement is strongly supported by reflection and research.

Thus, while incremental processes are inherently slow, significant progress is evident. Student complaints about lecturers who have not utilized Vula probably augment the institutional thrust, and there are now some intensely resource-rich sectors in Vula. In paediatrics, for instance, a collection of 350 PowerPoint presentations is available for e-learning. Although more than a conventional repository (students can also download onto it), UCT OpenContent housed 276 downloadable resources at the time of the evaluation interviews.

### (c) UWC

UWC stands out as an early adopter of OER policy. The 2005 policy document (see 3.3.1), although in accord with core UWC values, has more or less remained at the level of 'symbolic' policy. OER Africa has carried out a policy review of other key policy documents with the aim of identifying those that could more purposefully contribute to an overall framework more conducive to OER creation and use.<sup>34</sup> Gaps in the current policy framework were identified and the document concluded that: "Without modification of the policy environment to address these gaps, it will be difficult to harness this potential in a systematic and sustainable way".<sup>35</sup> But in the absence of prominent institutional champions and impulses from within, one would not expect a review of this kind to have immediate effect.

<sup>32</sup><http://www.cet.uct.ac.za/files/file/ResearchOutput/Revised%20Online%20Facilitation%20Guide/Opening%20Scholarship%20summary.ppt>

<sup>33</sup> <http://opencontent.uct.ac.za/> The UCT OpenContent directory is the web portal for accessing open teaching and learning content from UCT

<sup>34</sup> OER Africa Management Team. 'Policy Review: University of the Western Cape, Health OER'. 22 August 2010

<sup>35</sup> Ibid, pp. 14-125

SOPH pointed out that, institutionally, OER is situated in the e-learning facility, and that like the institution itself, this facility is not well resourced. While it is fundamentally focused on better teaching and student learning on campus, and accordingly password protected for students, the e-learning home page<sup>36</sup> has a notice to the effect that non-UWC users may submit a registration request. The notice “Posted by James Kariuki on 2006-08-03 10:08:59” makes the facility appear somewhat dated. Although technically functional<sup>37</sup>, the facility does not appear to offer substantive learning support. More seriously for OER, unless this facility is viewed as a staging post to an open content platform, it is likely to function as a centripetal rather than centrifugal force.

In the absence of an institutional OER umbrella, the OER creators in UWC Dentistry and SOPH are left to develop policies and procedures within their own faculties. Until recently, OER within UWC Dentistry operated very much as a project within the Faculty (see 3.3.1). Despite advances, the OER Steering Committee sought the assistance of Neil Butcher in formulating a motivation to faculty for adding its name to the OER network. With about 80% of its funds derived through private grants, foundations and agencies, the challenge to the SOPH is almost one of mainstreaming itself within its own institution before it might contemplate the luxury of promoting institution-wide OER policy.

### 3.3.3 ALIGNMENT OF POLICY AND PRACTICE

A large body of the literature on education change draws attention to the disjuncture between policy and practice. Important though policy is, the real issue becomes that of consistency between policy and practice. Table 6 provides a view of the alignment of OER practice with three different policy regimes evident in the project at:

- (a) KNUST and UG, where there is a clear over-arching OER policy (approved at KNUST; approval pending at UG)
- (b) UCT, where there is a clear OER strategy for aligning structures and existing OER (rather than a single over-arching institutional policy)
- (c) UWC SOPH, where the school has developed its own strategy in a context in which institutional policy and support await further development.

*Note:* UWC Dentistry is not represented in these typologies because that project is at the initial stage of becoming embedded within the Faculty: as yet there is no clear Faculty policy position, and OER production is being carried out largely at the initiative of individuals. As seen above, OER range from the ‘learning object’ genre to the only OER in the entire project designed expressly for the outside world.<sup>38</sup>

Table 6 is best read vertically down each column. Each column begins with institutional challenges (taken from Table 4). From this contextually grounded basis, particular types of resources are developed. Each resource type is accompanied by an appropriate pedagogy and modes of production. Contingent issues include the possibility of official ‘incentives’ for OER (as there is for research output), and a system of monitoring of quality.

<sup>36</sup> [www.elearn.uwc.ac.za](http://www.elearn.uwc.ac.za) [Accessed 11 November 2010]

<sup>37</sup> The evaluator was granted access rights

<sup>38</sup> The yet-to-be-developed policy position is also evident in the fact that while there is an internal quality review, there are as yet no explicit criteria. Anxiety on the part of individuals producing OER is unsurprising.



Table 6: Consistency of OER practice within differing policy contexts

	<b>KNUST &amp; UG</b> <b>Clear, over-arching</b> <b>comprehensive</b> <b>institutional policy</b>	<b>UCT</b> <b>Clear strategy rather than</b> <b>over-arching institutional</b> <b>policy</b>	<b>UWC SOPH</b> <b>Institutional policy being</b> <b>developed</b>
<b>Challenge to institution in promoting OER creation and development</b>	<ul style="list-style-type: none"> <li>Need to 'sell' the OER concept</li> <li>Encourage OER creation</li> <li>Develop support systems</li> </ul>	<ul style="list-style-type: none"> <li>Locate and harness existing OER and expertise (whilst also 'selling' the concept to staff new to OER)</li> <li>Facilitate appropriate licensing for existing resources</li> <li>Initiate and support copyright clearance (dScribing)</li> </ul>	<ul style="list-style-type: none"> <li>Resource- based distance teaching is normative, but distance teaching has a lack of support in a 'contact' university</li> <li>Challenge is to sustain materials development, and to license as OER</li> </ul>
<b>Type of resource being developed</b>	'Learning object' genre to support existing teaching	Diverse: learning objects; lecture notes; complete modules and courses; textbook	Distance materials are 'the teacher' – but with various forms of mediation and support
<b>Pedagogy</b>	<b>UG:</b> Academics and Multi Media expert develop and revise the OER  <b>KNUST:</b> Instructional techniques based on the 'ADDIE' model of instructional design	Varied – but infused with elements of social/cultural/ language learning and underpinned by various theoretical positions e.g. situated learning, reflective practice	Sophisticated case study approach with strong contextual roots
<b>Production process</b>	Division of labour: <ul style="list-style-type: none"> <li>Academics provide content and script</li> <li>Technical and media specialists create the production</li> </ul>	Production by academics, with all processes kept as close as possible to academics who have access to technical support, as needed	By academics (some on contract); teamwork is a strong feature; little or no institutional support
<b>'Incentive' for OER creation</b>	Policy makes provision for incentive for OER creation, as for research	No incentive structure	No incentive structure
<b>Monitoring of quality</b>	A department-based review mechanism following liaison and monitoring within the production line	<ul style="list-style-type: none"> <li>'Pride of ownership' principle</li> <li>"Light moderation" (mainly for copyright issues) at CET</li> </ul>	Quality 'inside' rather than 'on top'; teamwork, and the two who write materials into distance mode are educators

The key feature that emerges here is that even though these typologies embody marked differences, *each has its own logic*. Take the UG/KNUST typology as an example of logical consistency. Because the focus is on 'learning objects', a standardized learning design model seems appropriate. OER of this type can be used anywhere to support any existing curriculum. Pedagogic issues are generic. It then follows that a standardized production process is possible, with an appropriate division of labour. If OER are of a more-or-less uniform type, it becomes possible and even appropriate for policy to consider the equivalence of OER and research 'units' for the purposes of recognition

and incentives. Similarly, a standardized, more centralized type of quality monitoring becomes possible.

Without labouring the point with further examples, it is this evaluator's view that a strong – but different – logic of consistency runs across the other two typologies.

### 3.3.4 RESOURCEFUL MEASURES TO SUPPORT OER

Despite some remarkable progress in institutional policy development conducive to OER, policies are as yet relatively silent in the 'material' policy domain: the provision of resources for appropriate actions. With its final policy<sup>39</sup> now approved, KNUST stands out as being explicit in regard to resourcing for OER: "Colleges, faculties and departments will be required to make budgetary allocations for the development of OER within their units. They will also be required to explore external sources of funding including grants and collaborations to roll out OER" (p. 6). On the one hand, then, it could be argued that devolving such responsibility leaves OER development vulnerable to the goodwill and commitment of faculties and departments. On the other hand, since policy can only enable but not enact appropriate actions, one might argue that institutionalization is achieved as much by the resourcefulness of OER champions and creators as by policy. And indeed, there are many instances, across all participating institutions, of resourceful project management that contributes to institutionalization as much as formal policy does. The following points are illustrative examples.

#### *(a) Internal funding (not provided through policy) to support OER*

One of several instances of self-sufficiency is that when UG fortuitously found the right person to run the unit for the production of computer-based OER for teaching, the College of Health Sciences found the means to underwrite the cost of the appointment in addition to providing office space and equipment.

#### *(b) Attracting funding from new sources*

Kumasi, Nov. 11, GNA – The Government has allocated S\$250,000 towards the strengthening of Information and Communications and Technology (ICT) infrastructure at the Kwame Nkrumah University of Science and Technology (KNUST), Professor William Otoo Ellis, the Vice-Chancellor, has announced. He said with universities worldwide sharing educational and research materials online on various websites, the support would significantly enhance the core business of the KNUST.<sup>40</sup>

#### *(c) Achieving connectivity and coherence across funded initiatives*

UCT provides several examples of the way in which funded projects cohere. The blurring of lines across projects means that individuals working in OER appear to be identified by their function and not by their project affiliation. An example of the connecting of different sources of funding is reflected in the significant resource, *Textbook of Urogynaecology*, being posted with the acknowledgment: "Funded by Health OER Project (Hewlett Foundation) (Partly)".<sup>41</sup>

#### *(d) Engagement of interns and Master's students in supporting OER*

<sup>39</sup> KNUST. August 2010. *Policy Overview for the Development and Use of Open Educational Resources (OER)*

<sup>40</sup> <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=197295> [Accessed 16 November 2010]

<sup>41</sup> <http://opencontent.uct.ac.za/> [Accessed 4 December 2010]

SOPH and UCT in particular provided several examples of students being engaged in locating resources for staff, dScribing and so on. Although remunerated for their services, the work they were doing connected OER with their own studies and career plans in ways that offered mutual benefits. The interns and students interviewed presented fresh and interesting perspectives on their OER experiences – and appeared to be well on their way to broadening the pool of OER champions who would make OER normative practice.

*(e) Harmonizing functions across departments*

The most striking example of OER being harmonized with the work of a different disciplinary department is that of KNUST, where the Department of Communication Design (DCD) in the College of Arts and Social Sciences has become involved in the project to the mutual benefit of both the project and the department and its students. Students gain valuable experience in developing artifacts on the basis of a genuine relationship with clients, and the OER are of a high technical standard. This arrangement has been institutionalized in both policy and amendment of the DCD curriculum.

*(f) Utilizing the services of 'retired' academics/practitioners*

The services of retired staff were mentioned at two institutions. UG cited this as a key strategy that allowed the institution to retain valuable knowledge and experience in a way that “immortalizes” these people. “Enormous” benefits were reported as a result of UCT’s engagement with retirees<sup>42</sup> (and “if Plato hadn’t written what Socrates said, his work would have been lost”).

*(g) Managing the 'incentive' issue and the tension between teaching and research*

Several of those interviewed argued the need for an incentive to produce OER in the same way that there are strong incentives for research publication. Policy at UG and KNUST is indeed aimed at doing precisely this. However, where the tension between OER and research still exists it can be obviated at the level of personal planning. At UWC Dentistry, the motivational interviewing in oral health education project has been planned as a research project that will be publishable.

A series of fortuitous circumstances in UCT’s Division of Occupational Therapy illustrates how the potential reach of OER may bridge the gap between teaching and recognized publication in unanticipated ways. Lecture notes prepared by a Master’s student covering for her lecturer who was completing her PhD have appeared in a journal aimed at Spanish-speaking countries:

The editors of the *Journal of Occupational Therapy of Galicia* (TOG) – named, in part, after the historic region in Spain – translated into Spanish Ramafikeng’s lecture notes on the Model of Creative Ability, made available online through UCT’s [OpenContent directory](#). Those notes have now appeared as an introduction to the journal’s [September edition](#), an occupational therapy practice model that originated in South Africa in the 1960s and 1970s.<sup>43</sup>

At SOPH, the case studies used for teaching are derived from research required by funders. Could there be a better example of teaching in higher education being research led?

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<sup>42</sup> As evident, for example, in the development of e-learning in paediatrics and the collection of 350 PowerPoint presentations for students on Vula

<sup>43</sup> <http://www.uct.ac.za/dailynews/?id=7599> [Accessed 18 November 2010]

**Table 7: Summary of Institutionalized cultural capital (OER policy, production and support) across institutions**

	UG	KNUST	UCT	UWC Dentistry	UWC SOPH
<b>Process of policy making</b>	Mainly top down – led by Provost	Mainly top down – led by Provost	Top down and bottom up	No strong operational institutional thrust; OER Africa has contributed to policy review	
<b>Policy progress</b>	Institutional policy complete; final approval pending	Institutional policy complete; policy has been approved	OER environment being created organically through aligning resources and structures	Institutional policies are under review; first steps being taken to mainstream the project within Faculty	Institutional policies are under review; SOPH relies on funding; school itself not fully mainstreamed

### 3.4 SOCIAL CAPITAL: THE BROADER OER NETWORK

We begin with a brief consideration of Health OER's theory of change because it is the basis of social capital: productive, durable OER networks are meaningful only if built on substantive individual, institutional, professional and national needs. After discussion on networking between project partners within participating institutions, the role of Health OER is discussed, with particular reference to broader networking and collaboration.

#### 3.4.1 OER AFRICA THEORY OF CHANGE

The project rationale is that poor health outcomes in Africa's developing countries are partly attributable to too few health providers, staff and resources; and too many students. OER developed through collaborative networks can lead to more productive teaching and learning, and to more and better health care providers.<sup>44</sup>

The review above (Sections 3.1 and 3.3.1) suggests that, amongst academics, the theory of change has greater validity than ever. In particular, student numbers have further increased, and there is a need for African-produced resources for Africa (see 3.2.2). A concrete example of validity is the centrality of OER to UG's plan to turn regional hospitals into hospitals with teaching facilities.

Validation of the situation being addressed – the inadequate training of health workers – emerges strongly from a stream of reports on the broader national picture. The following are some of many examples:

- “In Africa, many health and education indicators are dismal. Given the rate of progress, current trends will not allow these countries to meet the 2015 Millennium Development Goals.”<sup>45</sup>

<sup>44</sup> 2010 Proposal, op.cit. pp. 2-3

<sup>45</sup> World Bank. 2010. *Delivering Service Indicators in Education and Health in Africa: A Proposal*

- The Commission for Africa report, *Still our Common Interest*: “...the health, education and inclusion challenges are the most demanding in terms of resources. We recommend that these resources be provided in predictable, long-term streams, with a carefully sequenced steady increase in step with improvements in African governments' capacity to deliver effective services.”<sup>46</sup>
- “The number of doctors graduating from South African universities has dropped in recent years, despite a pressing need for more medical practitioners. A more than 6% decline in medical graduates between 2004 and 2008 – from 1,394 to 1,306 – has been blamed on a lack of funds, staff shortages and poor facilities.”<sup>47</sup>
- “...as many doctors are leaving the country (South Africa) as its universities are producing.” Since 1998, 98 South African citizens have been trained as doctors in Cuba.<sup>48</sup>
- “Only one-third of applicants who applied to enter the Kwame Nkrumah University of Science and Technology for the 2009-2010 academic year were offered admission due to inadequate lecturers and facilities. ... Authorities are worried about the situation but say the trend is likely to continue for some time as funds are not in sight to help reverse the situation.”<sup>49</sup>

### 3.4.2 NETWORKING WITHIN PARTICIPATING INSTITUTIONS IN THE PROJECT

The July 2009 Cape Town Workshop brought together institutions and individuals interested in OER, but it did not translate into new networks of collaboration. For example, in the Faculty of Dentistry at UG where OER production is taking hold, there was no knowledge of the work of UWC Dentistry in the project. Such networking that exists is historical rather than a result of the Cape Town Workshop or Health OER. It comprises academics in cognate areas that have traditionally collaborated on an institutional basis. This is particularly true of the Provosts and a number of leading academics at UG and KNUST. The flourishing relationship in Obstetrics and Gynaecology across UG and KNUST is also historical. But of course these prior networks did not exist for the production of OER. Health OER has strengthened existing networks through the sharing of OER.

Dr Engleberg's sabbatical shared across the two Ghanaian institutions, followed by supportive roles played by other U-M project staff that followed, may be responsible for the fact that the UG/KNUST relationship is considerably more developed than the UCT/UWC relationship. As the UCT Coordinator pointed out, although there were some personal contacts across the two nearby institutions, these would exist even if there were no Health OER project.

No significant networking was reported across the major geographic divide. In fact, the only suggestion of contact across national boundaries was the remark of a UWC

<sup>46</sup> <http://www.universityworldnews.com/article.php?story=20100918080049424&mode=print> [Accessed 20 September 2010]

<sup>47</sup> <http://www.universityworldnews.com/article.php?story=2010040308282427> [Accessed 6 December 2010]

<sup>48</sup> <http://www.businessday.co.za/articles/Content.aspx?id=121123> [Accessed 16 September 2010]

<sup>49</sup> <http://news.myjoyonline.com/news/200908/34322.asp> [Accessed 28 October 2010]

academic who was pleased to have had “interaction with Peter Donkor”, the provost at KNUST.

The lack of networking emerging from this evaluation confirms the findings of the Luo et al (2010) study on collaboration:

Most of the interviewees stated that even though they saw the benefits of cross-institutional collaboration, they did not know how to initiate collaboration. In particular, participants did not know “what the person [from other institutions] does, the skill he has, the interest of the person, and productions that he’s done”<sup>50</sup> (p. 17).

Similarly, the need for collaboration, and acknowledgement of shortcomings in this regard, were widely and readily acknowledged by interviewees in the present evaluation. At this stage of the project, however, the lack of networking does not appear to be perceived by project participations as any kind of failure on anyone’s part. As part of general recognition that change is slow and incremental, initial efforts have been strongly focused on the essential first step: OER *production*. At UG, KNUST and UWC Dentistry, where the learning object OER genre has become normative, production has been preceded or accompanied by initial efforts to acquire or utilize suitable equipment for filming procedures or materials. Moreover, script writing was a new experience for academics.

The view that OER progress comes about through incremental steps appears to be reflected in the widespread view that networking should address, in the first instance, agreement about OER topics so as to avoid duplication and overlap. At UG and KNUST there was a belief that their own partnership should be developed further before more expansive networking came into play.

### 3.4.3 HEALTH OER NETWORK MANAGEMENT AND THE WEBSITE

Networking and collaboration beyond the four participating institutions brings the role of project management and the OER Africa website to the fore. In the 2009 Formative Evaluation it was noted that OER Africa and U-M project management had been appropriate and effective in enabling the realization of design phase activities. This view, together with the appreciation expressed by project participants with regard to their relationship with project management, was reinforced in the present evaluation.

Ctools<sup>51</sup> and ‘Basecamp’ (a programme for integrating services with management systems) enables the U-M and OER Africa team to keep track of files related to the project. This serves as an archive of ‘project memory’ and those accessing it are provided with regular updates. The site has sections covering all aspects of the project, including Hewlett grant documentation, resources, action plans, administration, minutes of meetings, institutional engagements, network building, advocacy, search and discovery, dScribe process development, dScribe services, and evaluation. Sections on “conferences” and “related news articles” keep participants up to date with developments in the field. Ctools could not be more efficient or comprehensive.

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<sup>50</sup> Luo, A., Ng’ambi, D., Hanss, T. August 3, 2010. Towards Building a Productive, Scalable and Sustainable Collaboration Model for Open Educational Resources. [https://open.umich.edu/wiki/Health\\_OER\\_Collaborations](https://open.umich.edu/wiki/Health_OER_Collaborations) p.17 [accessed 15 November 2010]. The report was subsequently posted under the title “Fostering Cross-institutional Collaboration for Open Educational Resources Production”

<sup>51</sup> <https://ctools.umich.edu/portal/site/5766a067-a84e-43c8-94c0-43add93f6407>



The Interim Report for Hewlett Foundation Grant (December, 2010)<sup>52</sup> provides coverage of network building, advocacy and institutional engagement that is too detailed to repeat here. Nonetheless, it should be noted that members of the Health OER Network are active participants and networkers on the international front, and enjoy a high profile. For example, the keynote address at the Open Education Conference 'Crossing the Chasm' (Vancouver, 12-14 August 2009) was delivered by the Project Director of OER Africa.<sup>53</sup> International networking of this kind raises opportunities for extending the impact and reach of Health OER. Such current activities and possibilities include the following:

- (a) The Medical Education Partnership Initiative (MEPI), under the auspices of the U.S. National Institutes of Health, has invited U-M and OER Africa to give a presentation as part of the MEPI Grantees Inaugural Meeting in early March. This \$130 million investment involves direct grants to

Botswana, Malawi, Ghana, Ethiopia, Kenya, Mozambique, South Africa, Nigeria, Tanzania, Uganda, Zimbabwe and Zambia, working in partnership with U.S. medical schools and universities. Pilot grants are to begin in Kwame Nkrumah University of Science and Technology, Ghana, in partnership with University of Michigan, University of Ghana, Ghana Ministry of Health, Komfo Anokye Teaching Hospital, Korle Bu Teaching Hospital.<sup>54</sup>

- (b) A number of initiatives have sought the support of OER Africa:
- The Public Health Alliance Initiative in East Africa, which is creating a standardized curriculum in public health by constructing a Master's degree based on a case study, problem-solving approach;
  - The West Nile University, which is being established with a focus on nursing, ICT and teacher education. It has the potential and already has some of the resources to be an online learning, virtual university;
  - A Clinton Foundation blended e-learning project in Rwanda has asked for assistance in operationalising the initiative, which has the potential to be constructed on open learning materials and principles.
- (c) OER Africa has been training staff in searching, analyzing and adapting OER in five nursing departments at Kamuzu College of Nursing, Malawi.

The website [www.oerafrica.org](http://www.oerafrica.org) is pivotal in maintaining and extending the network. From serving U-M and the four partner institutions, the website is evolving into a broader network. Its resources, services and functions are functional and easy to navigate. As with many issues covered in this report, an account of the website could be a study on its own, and comment here is limited to its pivotal role in maintaining and extending OER collaboration and networks.

The website has much to attract new adherents wishing to know more about OER and how to enter the field. Those wishing to experience or use OER can access any of the OER listed in section 3.2.1.1 (b). Provision has been made for turning casual use of the website into a formal association. The first newsletter (Vol. 1 No. 1 April 2010) carried an invitation to individuals and institutions to join the network by signing the African

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<sup>52</sup> Interim Report for Hewlett Foundation Grant # 2009-4796 to the University of Michigan "2010 African Health OER Network" available at [https://open.umich.edu/wiki/Health\\_OER\\_Collaborations](https://open.umich.edu/wiki/Health_OER_Collaborations)

<sup>53</sup> Ngugi, C. Crossing the Chasm: OER in Africa – A Sea Change: Reclaiming our Power – Reclaiming the Potential of Higher Education. <http://www.oerafrica.org/ResourceDownload.aspx?id=37991&userid=-1>

<sup>54</sup> <http://africasciencenews.org/asns>, [Accessed 7 October 2010]

Health OER Network Declaration and, in doing so, commit to pursuing open education and the vision for an African Health OER Network.<sup>55</sup> By early December, 76 individuals and 15 organizations had been added to the list of signatories.<sup>56</sup> The newsletter that was launched in April 2010 has about 600 subscriptions, of which approximately 200 were requested. One of the benefits of the SAIDE/OER Africa relationship is evident in that OER developments are show-cased in the SAIDE newsletter, which has a mailing list of around 4000. One of the early fruits of the newsletter has been an association with EBW Healthcare, funded by the Desmond Tutu Foundation. This pedagogical guide to support the training of health workers and community health workers is supported by professional development resources. These are currently being uploaded onto the OER Africa website.

The Health OER Network has built relationships with major repositories that include Connexions, OER Commons, MedEdPORTAL (a programme of the Association of American Medical Colleges) and the Global Health Informatics Partnership (GHIP), “a wholly owned subsidiary of American Medical Informatics Association (AMIA), to implement the Health Informatics Building Blocks (HIBBs) project”.<sup>57</sup> The most recent relationship is with the International Support Action (ISA), which offers diagnostic support in infectious diseases and oncology through its Clinical Platform.

There are two notable features of the project becoming part of a cognate global community. First, it is achieving this without compromising its African identity. For the ISA, the partnership with OER Africa is a way of extending its reach in providing “educational resources within the African context”.<sup>58</sup> The HIBBS project “seeks to build workforce capacity *in resource constrained environments* [evaluator’s emphasis] to plan, develop, manage, and use health information and communications technology (HICT) applications”.<sup>59</sup> The agreement with MedEdPORTAL is that OER Africa is the African arm of its mission to pursue collaborative activities and projects. The second feature is implications for the issue of quality. MedEdPORTAL provides “a free peer-reviewed publication service and repository for medical and oral health teaching materials, assessment tools, and faculty development resources.”<sup>60</sup> A peer review service of this kind could offer much in relation to the kinds of ‘quality’ issues and concerns evident in Health OER. Website management refers OER that are now beginning to be submitted by individuals outside of the project institutions to this MedEdPORTAL service. OER creators in project institutions also have the opportunity of becoming peer reviewers.

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<sup>55</sup><http://www.oerafrica.org/FTPFolder/Website%20Materials/Health/Newsletters/April%202010/online-version.htm>

<sup>56</sup><http://www.oerafrica.org/healthoer/HealthOERHome/ViewSignatures/tabid/1331/Default.aspx> [Accessed 7 December 2010]

<sup>57</sup> [www.oerafrica.org/hibbs](http://www.oerafrica.org/hibbs) [Accessed 16 November 2010]

<sup>58</sup> <http://www.theisaproject.eu/2010/12/isa-collaborates-with-the-african-health-oer-network/> [Accessed 7 December 2010]

<sup>59</sup> [www.oerafrica.org/hibbs](http://www.oerafrica.org/hibbs) [Accessed 16 November 2010]

<sup>60</sup> <http://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/> [Accessed 7 December 2010]



### 3.4.4 AN INCREASING FOCUS ON COLLABORATION

From the outset, the trajectory of the project appears to have been conceptualized with collaboration in mind. An example of this is the research ‘Towards building a productive, scalable and sustainable collaboration model for open educational resources’.<sup>61</sup> Partly as a follow up to this report, the U-M Health OER Network Project Manager has established two call systems to connect staff at the partner institutions: the global dScribe call (every other month, started in October 2009) and the media/tech support call (every other month; first meeting held on 6 December 2010). The former includes individuals from U-M, OER Africa, UCT, KNUST and the Pontifical Catholic University of Peru. The University of California at Berkeley will be joining the call, which consolidates and supports current initiatives, nurtures networks and communities of practice and extends that network. The latter covers matters of media and technical support that participants wish to discuss.

The increasing focus on collaboration is reflected in a recent resource on the website, the discussion paper ‘OER Africa Communities of Practice’.<sup>62</sup>

**Table 8: Summary of *social capital* across institutions**

	UG	KNUST	UCT	UWC Dentistry	UWC SOPH
<b>Within the project: networking across participants</b>	Networking with U-M and KNUST (but the latter mainly predated Health OER)	Networking with U-M and UG (but the latter mainly predated Health OER)	Some networking with U-M; however, main networking involves UCT staff with other academics outside the project	Some networking with U-M; very limited networking with other Health OER participants	Some networking with U-M, but networking with other academics is mainly with those outside the project
<b>Broader networking</b>	<ul style="list-style-type: none"> <li>Flourishing networking on the part of management is integrating OER Africa into a global network</li> <li>Website is a pivotal resource for providing access to resources and for networking</li> </ul>				

### 3.5 SUMMARY OF THE CURRENT SITUATION

The following summary attempts to capture the essence of the discussion thus far in relation to forms of capital evident at this stage of Phase 2 of the project. It is a

<sup>61</sup> Luo, A., Ng’ambi, D, and Hanss, T., op. cit.

<sup>62</sup><http://www.oerafrica.org/understandingoer/UnderstandingOER/ResourcesOnOER/tabid/356/mctl/Details/id/36387/Default.aspx> [Accessed 1 December 2010]

generalized summary in that it attempts to go beyond the individual institutional differences depicted in Tables 3, 5, 7 and 8.

*'Embodied' cultural capital:* Within the participating faculties, there is strong evidence that an OER culture has taken hold, and that it exists at a deep-seated level informed by reflection on experience. Although it cannot yet be said that there is a sufficient critical mass of academics who are confident, competent and active in OER production and use to ensure OER sustainability, there are signs that the culture of OER is spreading slowly but surely.

*'Objectified' cultural capital:* From different starting points, there is a general picture of increased OER production and new OER producers in new departments. Much progress has been made in the licensing of already-developed resources as OER. OER productions represent a diversity of types, from 'learning objects' to case studies and complete modules. A distinctly positive feature for sustainability is the fact that OER have been developed to meet particular needs, and therefore have relevance. However, faculty members have struggled with their workloads and finding the time in which to complete OER. There has been very little re-use or adaptation of OER from elsewhere. Project participants have creatively used locally available resources to enable and facilitate OER production.

*'Institutionalized' cultural capital:* There is a pool of champions to 'drive' institutionalization, and their adherence to OER has been sharpened through reflection on initial experience. In three of the four institutions, a clear OER policy or strategy is strongly evident. Policy development has followed very different tracks across institutions. Notwithstanding differences, there is a strong logical consistency between, on the one hand, strategies and approaches to policy, and on the other, the type of OER being produced along with a chosen mode of production and stance on quality assurance and incentives for production. Encouraging for sustainability is the resourceful way in which institutions have tapped into their own existing resources to support and institutionalize OER.

*'Social capital':* Accounts from institutions and news reports as well as research reports provide a very clear picture of the Health OER theory of change being more valid than ever. In this sense, the project has relevance to needs experienced by partner institutions. However, at this stage, with the exception of UG and KNUST, there is little or no networking across partner institutions. This is mainly because progress is viewed incrementally, one step at a time, with OER production being the first step. The workload of faculty staff does not allow sufficient time for OER creation and is a significant deterrent to progress. At the same time as this lack of inter-institutional networking might be jeopardizing the project, Health OER management is meeting with considerable success in promoting the profile of the project and in extending networks and collaboration. The website is a platform that holds the project together, enables visitors to find what they need, encourages participation, and is beginning to focus more strongly on developing networking and collaboration.

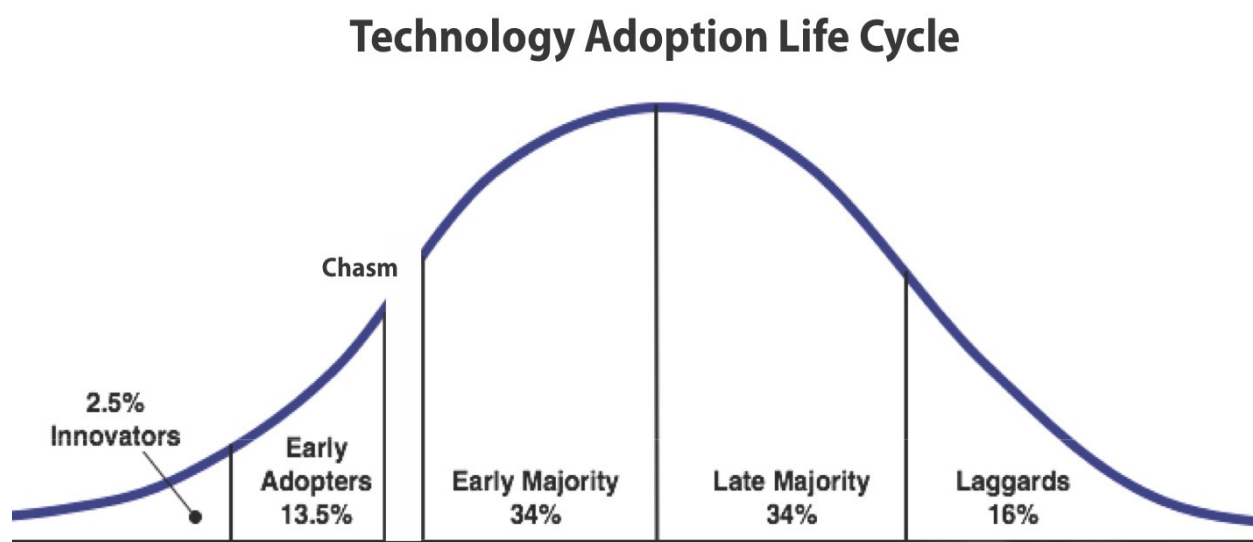
## 4 SUSTAINABILITY: THE PRESENT POSITION AND CHALLENGES

### 4.1 THE PATH TO SUSTAINABILITY

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We have reviewed project developments as assets or forms of capital and concluded that much has been achieved. Some obstacles to further OER development have also emerged. How do these achievements and obstacles translate into prospects for longer-term sustainability?

Drawing on the ‘technology adoption’ model of Rogers (1983)<sup>63</sup> that depicts the stages of innovation acceptance in new cultures, Stacey (2010) argues that OER in general have come through an innovation phase, are striving for adoption, and aspire to cross into early majority.<sup>64</sup> With reference to Moore’s (1991)<sup>65</sup> variation of the technology adoption model, he portrays the situation shown in Figure 1.



**Figure 1:**

In the trajectory towards becoming normative, the OER movement must first cross the chasm between “early adopters” in order to enter the realm of an “early majority”. Stacey points out that many disruptive technology innovations do not successfully cross the chasm and simply disappear – and OER certainly is a disruptive innovation.

Health OER has clearly reached, or is about to reach, the chasm. One way of addressing the dreaded “S word”<sup>66</sup> through the lens of the ‘technology adoption life cycle’ is to ask the hard question: Is the movement with its early adopters positioned to cross the chasm to an ‘early majority’ and normativity? On the basis of the capital that the project has developed, an institution-specific view is suggested in Table 9.

**Table 9: Prospects of sustainability if institutions were left without Health OER support**

UG	KNUST	UCT	UWC Dentistry	UWC SOPH
Sustainable	Sustainable	Sustainable	Sustainability	Sustainability

<sup>63</sup> Rogers, E. M. 1983. *Diffusion of Innovations*. New York: Free Press

<sup>64</sup> <http://edtechfrontier.com/2010/10/26/foundation-funded-oer-vs-tax-payer-funded-oer-a-tale-of-two-mandates/> [Accessed 2 November 2010]

<sup>65</sup> Moore, G.A. 1991. *Crossing the Chasm*. New York: HarperCollins Publishers

<sup>66</sup> A term used by Timothy Vollmer

[http://mediapolicy.newamerica.net/blogposts/2010/open\\_education\\_in\\_higher\\_ed\\_textbooks\\_or\\_pencourseware\\_and\\_the\\_s\\_word-36273](http://mediapolicy.newamerica.net/blogposts/2010/open_education_in_higher_ed_textbooks_or_pencourseware_and_the_s_word-36273) [Accessed 19 November 2010]

UG	KNUST	UCT	UWC Dentistry	UWC SOPH
within Health Sciences, and possibly the institution.  Vulnerability: over-reliance on Provost	within Health Sciences, and probably the institution.  Vulnerability: over-reliance on Provost	within the institution: there are multiple institutional OER champions; various sources of funding for OER have been accessed	seems unlikely at present, but recent developments have promise of moving the project beyond that of 'project' status only	within the School seems likely, if 'soft' funding can be sustained

Judgement of this kind is somewhat speculative, however, and helpful only in identifying the present position. Nor does it readily lead to thinking about ways of crossing the chasm. A more instructive perspective on sustainability emerges from the fact that, as shown, the institutions represent profound differences in history, resources and prior orientation to OER. This sheer diversity is valuable in exposing the variation that is possible with different conditions for OER development.

In the following section we accordingly distill project experiences of developing OER across very different kinds of institutional settings into issues that have a bearing on crossing the chasm.

## 4.2 CONCLUSIONS – AND SUSTAINABILITY THROUGH THE LENS OF PROJECT PROCESS AND EXPERIENCES

### 4.2.1 THREE CONCLUSIONS

When the project processes and experiences are viewed holistically, three clear, overriding conclusions emerge.

#### Conclusion 1

Individual and institutional participants in the Health OER project have all been OER-productive in their own distinctive ways, but in a manner that is consistent with their own ethos, contextual realities, strategies and resources. OER creations and OER policy have been developed in logically 'grounded' ways.

#### Conclusion 2

Participating institutions have creatively utilized their own resources to produce and support OER in ways that are aligned with their own distinctive forms of OER production and policy development.

**Conclusion 3**

Health OER project conceptualisation and follow through reflects a respect for institutional autonomy and the encouragement of progress built on grounded needs and possibilities. Project support has been built on institutional needs and choices.

**4.2.2 A JUDGEMENT ON SUSTAINABILITY**

The implications of these three conclusions lead to a single overall judgement.

**A judgement: OER is credible and viable**

In complementary ways, both project participants and project management have been resourceful in exploiting and making the most of opportunities. Although OER developments have taken different forms, having been grounded in contextual conditions in each institution, the concept of OER has **credibility**. When a disruptive innovation is introduced in diverse, complex and autonomous organizations like universities, this is probably the most encouraging implication for sustainability that might be hoped for. Credibility offers the best chance of innovation contributing to the treasured overall goal – better teaching.

Credibility enables institutions to utilise their own resources to support OER in ways that contribute to **viability**. Without credibility and a measure of viability, sustainability would be very unlikely, if not impossible.

In this sense, in the evaluator's opinion, the project has not been hamstrung by the assumptions of project logical frameworks that drive many funded projects. In those kinds of models, project participants undertake activities specified in the blueprint, and those inputs result in a set of outputs that will lead to predefined objectives. The logframe model provides a set of neat causal relationships that unfold in a linear way – on paper.<sup>67</sup> In contrast to the rigid imposition of a template, Health OER, guided by clear project aims, has exercised agency and judgement in supporting logically grounded development strategies.<sup>68</sup>

<sup>67</sup> Harley, K. 2005. Learning from logframes: reflections on three educational development projects in East and Southern Africa. *Compare*, 35 (1), pp. 27–42

<sup>68</sup> The two different ways of understanding the world and acting with it are nicely described by Malcolm, 1999. The world as clockwork (the world of Newton and Descartes) is a giant machine that obeys quantifiable laws. If we turn the right cogs and pull the right levers we have predictable results. The other view is 'world as organism'. For example, the seed becomes a tree but the forces that shape can't be predicted – what kind of tree it becomes depends on the way its surroundings influence it. The sun and rain may help it grow; people may help it grow, but

Of course this does not mean that the challenges are of a technical nature only.

### 4.2.3 THE CHALLENGE OF SUSTAINABILITY

The key challenge to sustainability arises from two fundamental project tenets that are both proven. But when they are put together within Health OER, they co-exist in a state of tension. The two tenets are:

*(a) African-produced OER are necessary*

The Health OER project rationale states that:

Currently, most OER projects are undertaken in the developed world. Even those intended to benefit Africa. This often results in materials being developed by educationalists who do not necessarily have immediate insight into the context and challenges of educational delivery in Africa.<sup>69</sup>

The distinctive vision is thus one in which “Africa plays an active role as a producer of knowledge within this global economy”.<sup>70</sup>

As we have seen, project experiences validated this rationale and vision because of site-specific contextual issues such as class size, the nature or specific form of medical conditions, available resources to address conditions, language issues, culture, and so on.

*(b) The OER value proposition*

Existing OER create the opportunity for adaptation to academics’ own individual purposes and thus reduce the amount of time necessary for OER production. So sharing OER reduces teaching loads, makes teaching more effective in difficult circumstances (such as large student numbers), and enhances quality. In line with this, the project expectation was that OER creators would “make use of OER from the developed world and adapt it for appropriate use locally.”<sup>71</sup>

As we have seen, the default position of academics has not been one of adapting existing OER: it has been one of ‘starting from scratch’.

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they may also chop it down. And the tree in turn helps to shape the environment. (Malcolm, C. 1999. Outcomes-based education has different forms. In J. Jansen and P. Christie (Eds.), *Changing Curriculum: Studies on Outcomes-based Education in South Africa*. Kenwyn: Juta, pp. 77-113). Malcolm’s two world views have strong affinity to ‘generative’ and ‘successionist’ theories of causation in Harre, R. 1972. *The philosophies of science*. Oxford: Oxford University Press.

<sup>69</sup> Ngugi, C. 2009. The Relevance of Open Educational Resources to Higher Education in Africa. OER Africa Panel Presentation at Hewlett Grantees Meeting, March 3, 2009, p.1

<sup>70</sup> Ngugi, C. Crossing the Chasm: OER in Africa – A Sea Change: Reclaiming our Power – Reclaiming the Potential of Higher Education. <http://www.oerafrica.org/ResourceDownload.aspx?id=37991&userid=-1> [Accessed 2 December 2010]

<sup>71</sup> Ngugi, 2009, *ibid.*, p. 2



### The challenge

The main challenge to OER sustainability arises from the fact that the project has not yet met the project expectation that OER creators will make use of OER from the developed world and adapt it for appropriate use locally. This imperils the OER 'value proposition'. In this sense, although the resourcefulness of institutions has contributed to OER viability, more substantive ways need to be found of securing viability.

The next section addresses issues relevant to meeting the challenge.

## **5 THE CHALLENGE OF SUSTAINABILITY: MAKING OER MORE VIABLE**

A number of 'propositions' – rather than 'lessons learnt' – are offered in this section.

### **5.1 RETAIN SUCCESSFUL MANAGEMENT STRATEGY AND APPROACHES**

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The three conclusions in 4.2.1 suggest that project conceptualization and mode of operation are appropriate and effective. If that proposition is accepted, it follows that the present managerial strategy and approach should be maintained.

Nonetheless, we have seen that OER development is slow and incremental. Encouraging greater OER adaptation or reuse would undoubtedly give impetus to the creation of OER. In-depth reasons for African academics regarding OER from elsewhere as inappropriate for adoption and adaptation is thus a key issue calling for further exploration. Here it is not possible to do more than identify some of the factors that appear to be relevant to this issue.

### **5.2 WHY DO OER CREATORS START FROM 'SCRATCH'?**

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If it is assumed that much content in the Health Sciences is relatively universal, one might surmise that traditional modes of working individually are so deeply ingrained that the academics do not start on OER production by searching for suitable resources that they might use or build upon. This default position may well be more widespread than the Health OER project: research indicates an overwhelming hesitancy on the part of OER creators to adapt or reuse others' content (see, for example, Anderson, 2009).<sup>72</sup> Alternatively, existing resources may be so inadequately 'tagged' that accessing them is too time-consuming. However, content is but one aspect of OER; another is pedagogy and yet another, cultural consonance.

Good teaching in any discipline requires the teaching materials and teaching and learning strategies employed in these to be tailored to the specific contexts and cohorts of students. Clearly, in the Health OER project, OER producers have been addressing the

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<sup>72</sup> Anderson, T. 2009. *Are we ready for Open Educational Resources?* Paper presented at the International Council for Open and Distance Learning, 23<sup>rd</sup> World Conference, Maastricht. Retrieved January 6, 2011, from <http://www.slideshare.net/terrya/icde-disruptive-o-e-rs>

problem of large student numbers. Some academics have emphasized the importance of equipping medical students with the capacity to practise in contexts lacking hi-tech equipment.

A number of academics in Ghana and South Africa have stressed the importance of cultural consonance between teaching materials, the characteristics of the students and the patients they would be dealing with, particularly in regard to communications. In developing their own 'clinical gaze', health practitioners have to be aware of cultural issues and they need to understand what the patients are telling them, while patients have to understand what they are being told about treatments and prescriptions. One of the OER projects takes not just clinical needs but also social/communication needs into account by requiring the medical students to become proficient in two of the indigenous languages of the population they serve. A clinical skills DVD covering the examination of respiratory, neuro and cardiovascular systems is also being translated into the indigenous languages.

A number of measures were suggested by interviewees as ways of overcoming obstacles to adaptation/ reuse:

- *Taxonomy and tagging of resources:* Those promoting greater incorporation of social aspects into the medical curriculum as well as those representing Public Health believed that the OER Africa taxonomy was "a bit too clinical". As Public Health functioned more within a social sciences frame, the Dewey system had shortcomings when utilized in a repository. Mention was made of staff developing their own classifications. The importance of necessary detail – such as the level for which a resource was suitable – was stressed. Not all might agree with such views. This raises the need for collaborative work on how the website 'space' should be conceptualized and how resources might best be presented for (potential) users. Such discussion could include other issues such as the need for information on the authorial intent of the creator of the resource.<sup>73</sup>
- *Use of open sources in all aspects of OER production and presentation:* That dScribing can be a labour-intensive business emerged clearly from those engaged in this process. Apart from labour costs, obtaining copyright permissions can be expensive. One interviewee reported having to pay DALRO<sup>74</sup> even for World Health Organization material. It therefore seems an obvious suggestion that new OER productions should rely on open-source materials as far as possible. The use of open-source software for making resources available within institutions has cost-saving benefits in addition to the potential to facilitate easy transferability across institutions.

Interestingly, some institutions have begun moving in the direction of accessing existing OER for adaptation by employing research assistants to search for sources on behalf of academics (see Section 3.2.2).

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<sup>73</sup> In late 2010, OER Africa and U-M put together a new taxonomy for the completed Health OER. The taxonomy has been implemented on the U-M site and is in progress on the OERA site. <http://www.oerafrica.org/healthoer/HealthOERHome/ResultsPage/tabid/1564/mctl/taxonomysearch/modid/3877/Default.aspx>

<sup>74</sup> A multi-purpose copyright society administering aspects of copyright on behalf of authors and publishers



We need to know much more about ways of supporting OER adaptation for African contexts. But this issue is also linked to the way we conceptualize ‘an OER’.

### 5.3 THINKING ABOUT THE CONCEPT OF ‘AN OER’

There could be merit in broadening the scope of the way in which ‘an OER’ is conceptualized.

First, from the time of project inception, there has been a strong focus on OER *production*.<sup>75</sup> At the opening panel of the grantees’ meeting in 2009, it was stated that: ... investing in OER creation, organization, dissemination and utilization methodologies that are ‘home-grown’ should be seen as an opportunity to enhance African practitioners’ capacity to *produce* [evaluator’s emphasis] high quality programs and materials. In so doing, they will also gain the understanding necessary to ensure that the underlying and potentially transformational effects of producing and using quality OER materials can be realized.<sup>76</sup>

Contracts with institutions have concentrated on OER production, and this was certainly a successful way of getting the project ‘off the ground’ and creating ‘buy in’.

Second, and as part of creating ‘buy in’, OER has tended to be seen as synonymous with ‘learning objects’ (or video productions with ‘voice over’). The very useful research paper on collaboration<sup>77</sup> begins with an implicit view of a ‘learning object’: “The success of OER production depends on collaboration among numerous players who fulfill a variety of roles as shown in Figure 1”.<sup>78</sup> This figure depicts roles comprising subject experts, instructional designers, learning technologists, educators, researchers and learners. Although it is also acknowledged that a single individual may play more than one role, two questions arise:

- (a) As seen in Section 3.2.1, OER may assume different forms (case studies, lecture notes, textbooks, etc.). Different kinds of OER may invoke different functions and roles.
- (b) Different types of collaboration may be appropriate for different kinds of OER. In the case of UCT, the institutional strategy is to keep all aspects of production, including quality assurance, close to the author.

Third, there is the question of incentives for OER production in the same way as for research outputs. An alternative to setting up an OER incentive structure to compete with research is conceptualization of OER production as part of a research initiative leading to conference presentations and publication in the growing number of medical education journals (see 3.3.4). Titles such as *Ghana Medical Journal* (e.g. see the cross-institutionally authored paper by Adanu et al, 2010)<sup>79</sup>, *Medical Teacher* and

<sup>75</sup> Not all OER initiatives in other contexts begin with production. The strategy of the Peruvian institution involved in the Global dScribe call is documented in the meeting minutes as follows: “They are trying to measure how people use OER so they are always trying to get people to use it first before producing materials (use it first, give back afterwards); ‘use OER before producing OER’”. Global dScribe call. 27 October 2010

<sup>76</sup> Ngugi, C. ‘The Relevance of Open Educational Resources to Higher Education in Africa’. Opening Panel Presentation, Hewlett Grantees’ Meeting, 2009

<sup>77</sup> Luo, A., Ng’ambi, D., Hanss, T., op cit.

<sup>78</sup> Ibid., p. 5

<sup>79</sup> Adanu, R.M.K., Adu-Sarkodie, Y., Opare-Sem, O., Nkyekyer, K., Donkor, P., Lawson, A., and Engleberg, C. (December 2010). Learning and Open Educational Resources in Health Sciences in Ghana. *Ghana Medical Journal*, 44 (4): 159-162.

*International Journal of Medical Skills* were mentioned. Most universities pride themselves as being 'research' universities and one clear expression of this would be to encourage OER production in a way that makes teaching 'research-led'. The most striking example of this is the 10-year longitudinal study being undertaken at UCT by the Family Medicine (Clinical) unit on its resource-based model of teaching.

The opening line in Collins' massive 1098-page history of intellectual change is: "Intellectual life is first of all conflict and disagreement".<sup>80</sup> Harmonizing OER production with research has the potential to sharpen quality by infusing criticality into the OER field which, because of its ready ideological appeal, might be susceptible to lapsing into a 'feel good' lack of criticality.

#### 5.4 MAKE CURRICULUM AND PEDAGOGY EXPLICIT

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Technical issues such as ICT infrastructure and bandwidth loom large in any OER context. There is a danger, as some academics pointed out, that the technology drives the learning process. In fact, this does not seem to have happened in Health OER: the developers of different types of OER have been addressing curriculum and pedagogy, as needed, in alignment with the functions of the OER being developed. Given that theoretical foundations have or are being developed, there is reason to suggest that theoretical foundations of OER should be made explicit for the benefit of potential users and adapters of the material. This need not imply high level, abstract theory. Succinct statements of authorial intent might be sufficient in most cases.

Situated theory, with learning embedded within activity, context and culture (see 3.2.1.1) has obvious relevance within the African context of Health OER. The same applies to the research-based case studies which will be studied by UWC SOPH students in several African countries. A number of academics emphasized the importance of a keen sense of audience: it's "incredibly important" to know who the students are, what's relevant to them, and how they can engage.

Far more than a collection of free online course materials, the open content movement is a response to the rising costs of education, the desire for access to learning in areas where such access is difficult, and an expression of *student choice about when and how to learn*.<sup>81</sup> (evaluator's emphasis)

Open resources accompanied by explicit statements about curriculum and pedagogy also have the potential to serve the *professional* aspects of curricula. OER make visible much about curricula that would otherwise remain invisible. From a Provost through to several academics the point was made that seeing someone else's curriculum provided a benchmark for one's thinking about one's own curriculum: what content should be there (or not be included) and how it should be sequenced? An extension of this argument is that explicit curricula have the potential to inform the standards-setting functions of professional boards and quality assurance agencies. In Ghana, for instance, the West African College of Surgeons is an examining body for all the teaching institutions. The OER creator who presented an OER to this body reported that one of the main reasons for its favourable reception was its potential for "standardizing procedures" in the workshop being conducted for the training of examiners. In South Africa, the Colleges of Medicine of South Africa (CMSA) "is the custodian of the quality

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<sup>80</sup> Collins, R. 2000. *The Sociology of Philosophies. A global theory of intellectual change*. Cambridge. The Belknap Press, p. 1

<sup>81</sup> Johnson, L., Levine, A., Smith, R., & Stone, S. 2010. *The 2010 Horizon Report*. Austin, Texas: The New Media Consortium, p. 6

of medical care in South Africa and is unique in the world in that it embraces 28 constituent Colleges representing all the disciplines of medicine and dentistry”.<sup>82</sup> From 2011, all specialists will write the CMSA exam. One academic referred to this as a “huge opportunity” for OER.

The visibility of content would seem particularly important when, in the accounts of several academics, new aspects of social learning are being added to traditional epistemologies. For example, how do teachers or practitioners interpret facial expressions and body language in making diagnoses and judgements which inform their practice? Cultural issues are strong in how one develops the necessary “clinical gaze”. Language issues are said to be key in medical examination, and the teaching of indigenous languages is now an integral part of some curricula (see 5.2).

### 5.5 SOME INSTITUTIONAL ISSUES

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A number of institutional issues emerge as being worthy of project-wide deliberation. These include:

- *A centre for technology/higher education studies:* The evaluation provided a striking example of the great potential benefit to OER of a university-wide unit such as a centre for educational technology or for higher education studies. Combining these two functions has the potential to fuel OER momentum through campus-wide intellectual leadership and strategies for OER-supportive technology.
- *Libraries:* In one of the participating institutions, the library had originally been seen as a key component in the institutionalization of OER. Developments had been disappointing, however. In another, the process of digitalizing all library resources was under way, making the library central to the institutionalization of OER. A strong case for integrating OER into libraries has been made: “By partnering with libraries – entities that already share the open philosophy and have already proven their value to the academy – it will be possible for OER operations to become more firmly embedded in the spirit and structure of the campus.”<sup>83</sup> Project-wide deliberation on ways of achieving such integration could benefit OER institutionalization.
- *Inter-departmental cooperation and roles for students:* Perhaps the prime example of cooperation across departments is the arrangement at KNUST which involves students in the Department of Communication Design in the OER project. There are others, such as the two Faculty of Humanities Master’s students contributing to and researching the teaching of indigenous languages being infused into a medical course at UCT. By providing narration and acting out roles, medical students have been active in OER production at UG and KNUST. Student roles could be linked with assessment, such as a coursework requirement for evaluating existing OERs. Opportunities for peer learning abound.

### 5.6 ACADEMICS’ PERCEPTIONS AND FEARS

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<sup>82</sup> <http://www.collegemedsa.ac.za/> [Accessed 5 December 2010]

<sup>83</sup> Kleymeer, P., Kleinman, M., Hanss, T. 2010. Reaching the Heart of the University: Libraries and the Future of OER. Presented at the Open Education 2010 Conference, Barcelona, 2-4 November 2010.

One would not expect academics to embrace OER in an uncritical way, and indeed the shift from teaching in the privacy of classrooms to having one's teaching 'out there', in the public domain, is immense. Some healthy skepticism was reported during the evaluation. However, there were also some not well-founded perceptions and fears that might need to be addressed in advocacy work. The most significant of these were three inter-related fears:

*(a) My OER isn't perfect yet*

Unlike classroom teaching, one's work in the public domain must be perfect – at least in the perspective of some attitudes that were reported. While all striving for quality is self-evidently laudable, there is a difference between quality and perfection when an OER is at issue. No OER can be 'perfect' for all contexts, and the need for adaptation to particular student populations and contexts is inherent to OER. Improvement also comes about through interaction with other users and reflection on the experience of using an OER.

*(b) The purpose of OER is to allow others to see what I'm doing*

Related to the above fear is that the purpose of OER is to allow 'managers' to see what one is doing. It's an imperative to put one's work on display. In a pervasive atmosphere of accountability regimes and quality assurance, the fear that OER is yet another monitoring device is understandable. OER advocacy might need to separate the movement from managerialism. OER becomes an issue of trust – not contract and surveillance.

*(c) People will steal my stuff and benefit unfairly*

Again, when academics are subject to performance appraisals in which research outputs are measured in units, this fear is not without justification. However, in contradiction to these fears is evidence that OER is, in fact, helping to regularize and restore practices that protect authors' (and patients') rights. For example:

- dScribing activity within the project has had to deal with attribution that appears to be almost normatively cavalier, especially in regard to the use of images.
- In one reported case it was discovered by an accrediting professional council that a particular course being revised and rewritten as an OER had in its original form been 'appropriated' from another university. This came to light because the original author was on the accrediting body delegation.
- OER has highlighted erstwhile laxity in respect of obtaining patients' consent for images of them to be used in teaching. The Consent Form resource on the OER Africa website has served a useful purpose.

A final point relevant to predispositions and the project taking advocacy into new disciplines is the view expressed by a number of institutional strategists that the applied disciplines are more readily amenable to OER.

## 5.7 FUNDING: FROM FOUNDATION TO TAXPAYER

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The experience of Health OER Network could be added to the experiences of other such initiatives so as to lobby governments to mandate all public-funded educational institutions to make their content free for everyone to access. If not mandatory (which would be the ultimate form of 'mainstreaming') then there should be nothing less than meaningful state incentives for OER. The argument for mandating OER is certainly

mounting in several countries;<sup>84</sup> and the US Department of Education makes provision for grant seekers to receive priority if they include OER as a component of an application for funding from the Department.<sup>85</sup>

Apart from the moral argument, the case for OER could be financially persuasive. For example, the South African Minister of Higher Education expresses deep concern for ongoing inequalities and wishes to make higher education more accessible to the poor.<sup>86</sup> However, we still read reports such as:

#### South Africa: Students off to Cuba

Durban – The KwaZulu-Natal Health Department held a send-off event for 15 students who will leave for Cuba next week to study medicine. The group will spend five years in the Caribbean country at a cost of R101 400 per student per annum.<sup>87</sup>

A total of R7 605 000 to train 15 doctors (more than half a million rand each) looks very expensive – not to mention the kinds of social and cultural issues that are increasingly being cited as an important component of medical education. Effectiveness aside, the SOPH at UCT points out the immense wastage that occurs when patients do not understand situations and accordingly do not follow prescribed drug regimes correctly. It was also pointed out that there were not enough doctors to carry out the current national campaign for circumcision. OER could easily be produced to train nurses for tasks such as these.

Government support for OER could easily be ushered in with no direct financial support at all. In Ghana's National Service Requirement,<sup>88</sup> OER production could be classified as a form of National Service.

## 6 OVERVIEW AND FINAL THOUGHTS

We have reviewed project developments as assets or forms of capital that have been achieved. That review has shown that within participating institutions an OER culture has taken hold, and that it exists at a deep-seated level that is informed by reflection on experience. Although uneven across institutions, significant – perhaps even remarkable – progress is evident in respect of the production and licensing of OER. In three of the four institutions, a clear OER policy or strategy is well developed.

While these developments and achievements are encouraging for sustainability, it is the *processes* through which they were achieved that would seem to have the most compelling implications for sustainability. Having been developed to meet particular needs, and being grounded in particular contextual conditions, OER productions embody the asset that is most encouraging of all for sustainability. It is *credibility*. Because OER has credibility, participating institutions have creatively used available

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<sup>84</sup> See, for example, <http://www.thehindu.com/sci-tech/internet/article613909.ece?css=print> [Accessed 7 September 2010]

<sup>85</sup> <http://creativecommons.org/weblog/entry/23465> [Accessed 12 September 2010]

<sup>86</sup> <http://www.universityworldnews.com/article.php?story=20100128200722544> [Accessed 19 November 2010]

<sup>87</sup> <http://allafrica.com/stories/printable/201009150008.html> [Accessed 16 September 2010]

<sup>88</sup> direct CTools link: [2009.07 National Service Requirement.doc](#) [Accessed 28 November 2010]

resources to enable and facilitate OER production. This has given OER a measure of *viability*.

In addition to providing appropriate support consistent with institutional needs and choice, project management has done much to integrate the project into broader global networks without compromising its distinctive African identity. The OER Africa website is a pivotal resource for providing access to resources and for networking.

However, the challenge that has been identified is making what is credible more *viable*. Clear threats to viability emerged. Of these, faculty workload and time in which to produce OER loomed largest. This threat is compounded by the lack of adaptation and reuse of existing OER as well as the virtual absence of networking across participating institutions. These are not simply technical issues for resolution at institutional level, however. It has been argued that the origin of the workload and lack of network difficulties lies in two project tenets that are each proven, but that generate a tension when juxtaposed. First, it is logical that African-led resources are needed for Africa. Second, we know that adapting existing OER saves time in the production of new OER. But for reasons we do not yet know enough about, OER producers have preferred to produce original OER themselves, starting 'from scratch'. This imperils the OER value proposition because it does not make the workload easier. It makes it harder.

However, this is but the view of the writer of this report, and this writer is aware of its limitations. A significant feature of the Health OER Network is the focused research built into project planning, and the amount of reflection within the project that has led to an impressive collection of conference papers and publications. The merits of an 'evaluative account', a meta-narrative developed around a set of studies on a clearly articulated focus, has been well documented by Bhola (2002).<sup>89</sup> At this stage of the project there could be merit in aggregating experiences and reflections in the form of an 'evaluative account' of the project. Benefits could be greatest if such an evaluative account were aimed particularly at understanding issues involved in the use of OER from the developed world for local adaptation and use. This could lead to the generation of strategies for achieving the level of viability needed to cross the chasm to greater sustainability. Such an account might also find ways of including rich project experiences that have not yet been formalized in writing.

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<sup>89</sup> Bhola, H. S. 2002. A model and method of evaluative accounts: development impact of the national literacy mission (NLM) of India. *Studies in Educational Evaluation*, 28, 273-296



## Annexures

**ANNEXURE 1****INTERVIEWEES****University of Ghana (18 and 19 October 2010)**

Professor Aaron Lawson (Provost); Professor Richard Adanu; Dr Ebenezer Badoe; Dr Sandra Hewlett; Mr Patrick Kuti; Dr Kwame-Aryee; Professor Grace Parkin; Professor Yao Tettey; Mr Chris Yebuah.

**Kwame Nkrumah University of Science and Technology (21 and 22 October 2010)**

Professor Peter Donkor (Provost); Professor Ohene Opare-Sem; Professor Kwabena Danso; Mr George Koffour; Mr Kwabena Kusi-Appouh; Mr John Marfu; Dr Richard Phillips; Ms Nadia Tagoe.

*Focus group interview with DCD students:* Epilogue Annku, Ralitsa Debrah, Douglas Baiden, Samuel Owusu Agyeman Duah and Benjamin Prempeh.

**University of Cape Town (8 and 9 November 2010)**

Prof Jo Beall; Ms Glenda Cox; Mr Greg Doyle; Dr George Draper; Professor Derek Hellenberg; Professor Cheryl Hodgkinson-Williams; Professor Marian Jacobs; Professor Maurice Kibel; Ms Veronica Mitchell; Ms Gillian Stevens; Ms Shoeshoe Letao.

**University of the Western Cape (10 and 12 November 2010)**

*Staff in the Faculty of Dentistry:* Professor M.E. Parker and Dr Fathima Peerbhay (joint interview); Professor Wendy McMillan; Dr Razia Adam; Dr Manogarie Chetty.

*Staff in the Faculty of Community and Health Sciences:* Professor Uta Lehmann; Ms Lucy Alexander; Ms Naadira Desai; Mr Ehi Igumbor; Mr Shun Govender and Mrs Teresa de Lima (joint interview); Ms Nandipha Matshanda.

**OER Africa (based in South Africa)(15 November 2010)**

Mr Neil Butcher (OER Strategist); Ms Sarah Hoosen (Health OER Coordinator); Ms Monge Tlaka (OER Africa Web Manager).

**University of Michigan (all telephonic interviews)**

Dr Cary Engleberg (Professor of Internal Medicine), 16 October 2010; Ms Kathleen Ludewig Omollo (Health OER Network Project Manager), 17 November 2010; Mr Ted Hanss (Chief Information Officer, Medical School), 19 November 2010; Dr Airong Luo (Research Area Specialist), 29 November 2010.

## ANNEXURE 2

### OER PRODUCTION IN EACH INSTITUTION

#### University of Ghana

##### Completed

- Total Abdominal Hysterectomy\*\*
- Caesarean section\*\*
- Episiotomy\*\*
- Case studies on sexually transmitted infections\*\*
- Video presentation on introduction to anatomic dissection\*\*
- Clinical examination in gynaecology\*
- Clinical examination in internal medicine\*
- Clinical examination in surgery\*
- Clinical examination in paediatrics\*

*\*not yet fully authorized for open use though fully licensed*

*\*\* fully licensed and authorized for open use*

#### Kwame Nkrumah University of Science and Technology

- Mental State Examination (Behavioural Sciences)
- Laboratory Methods for Clinical Microbiology (Microbiology)
- Microbiology
- Clinical Chemistry (Glucose Tolerance Test) (Molecular Medicine)
- Automated Blood Counts
- Buruli Ulcer (Internal Medicine)
- Examination of the Pregnant Woman (Obstetrics/Gynaecology)
- Frog Heart Preparation (Pharmacology Lab Procedures)
- Respiratory Depressant Effect of Morphine on Rabbits (Pharmacology Lab Procedures)
- Respiratory Depressant Effect of pentobarbitone mice-rats (Pharmacology Lab Procedures)
- Set up an isolated tissue-organ bath experiment (Pharmacology Lab Procedures)
- Strychnine poisoning in toads (Pharmacology Lab Procedures)
- Ped Cases (Pediatrics)

(All licensed as various categories with Creative Commons)

##### Currently in development and proposed

23 resources currently in development; 17 proposed for 2011<sup>90</sup>

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<sup>90</sup> Omollo, K.L. 'Growing an Institutional Health OER Initiative: A Case Study of the Kwame Nkrumah University of Science and Technology', version 2, 28 September 2010, p. 5.

**University of Cape Town**

<b>Title</b>	<b>Material (i.e. video, website, PPT, etc.)</b>	<b>Source (new, update of existing OER, modified into OER)</b>	<b>Status</b>
Collaborating with Theresa Lorenzo to convert two courses to OER: AHS4091W (Intro to Critical Research Literacy) and AHS40925 (Community-based Development and Project Management)	Course	Modifying existing material into OER	Starting
OT Model extension (working with Bongi)	Lectures/website	Updating existing OER	Done 1, need to finish number 2
Veronica's Website Still waiting for information	Website	New	Need to animate key, create website and put material together
SAGP Guide to Medical Practice website	Website/ glossary of terms	Updating existing OER	Updating content, should be finished mid December 2010
Promoting equitable access to health care for households	Lectures/case studies	Modifying existing material into OER	Done case 1 as pilot
Diploma in Occupational Health Course – CD 2	Course modules	Modifying existing material into OER	Should be finished mid December 2010
Neurology examination	Video	New	Done
Basic Clinical Skills – Translated from English to Afrikaans	PPTs	Modifying existing material into OER	

Also, on the OER Africa website:

Postgraduate Diploma in Occupational and Environmental Health available on <http://www.oerafrica.org/healthproject/ProjectResources/tabid/976/mctl/Details/id/37475/Default.aspx> (accessed 1 December 2010)

**University of Western Cape (Dentistry)**

- Oral and cell biology (final editing stage)
- Dental material procedures (final production stage)
- Dental materials: objective and structured clinical examination (being reconceptualized)
- Motivational interviewing and its application in Dentistry (commenced in 2010)
- Oral Radiography (commenced in 2010)

**University of Western Cape (School of Public Health)****1 OER that preceded the Health OER Network and posted on**

<http://free.uwc.ac.za/freecourseware/school-of-public-health>

- 881520 – Measuring Health and Disease 1: Introduction to Epidemiology
- SPH727 – Managing Human Resources for Health

## 2 OER courses posted on the OER Africa website

<http://www.oerafrica.org/healthoer/HealthOERHome/HealthResources/tabid/274/mctl/taxonomysearch/modid/3877/Default.aspx> [accessed 1 December 2010]

- Alcohol Problems: A Health Promotion Approach Module Guide
- Measuring Health and Disease I: Introduction to Epidemiology Module Guide
- Managing Human Resources for Health Module Guide

## 3 *Case studies scheduled for completion by end of December 2010 (with the aim of providing students with PDFs on CD and lodging on freecourseware websites)*

- The Revolving Door: Child Malnutrition in Mount Frere, Eastern Cape Province of South Africa
- Preventing Non-Communicable Diseases in the Urban Township of Khayelitsha, South Africa
- Diarrhoeal Disease and Sanitation Provision in an Urban Community of Sub-Saharan Africa

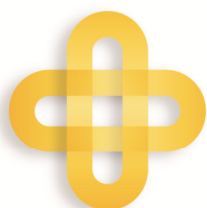
## 4 **Development of six academic skills and research capacity development PowerPoint tutorials for distribution on CD to students**

- Making graphs with Excel (to be added to OER Africa website)
- Writing a literature review (65% complete)
- Sampling in Qualitative Research (60% complete)

## 5 **Develop a Public Health Case Study repository for the Postgraduate programme** (internet search 80% complete)

- 100 resources tagged and checked (complete except for awaited permissions).





African Health  
OER Network

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