Health OER Inter-Institutional Project

Formative Evaluation of Health OER Design Phase

December 2009

"… There are fewer more urgent tasks than to design social infrastructures that foster learning …. the whole human world is itself fast becoming one large organization, which is the object of design and which must support the learning we need in order to ensure there is to be a tomorrow. Those who can understand the informal yet structured, experiential yet social, character of learning – and can translate their insight into designs in the service of learning – will be the architects of tomorrow."

(Wenger, E. 2003. *Communities of practice: Learning, meaning and identity.* Cambridge University Press. Cambridge: p.225).

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Formative Evaluation of Health OER Design Phase

1   Background

1.1   The project purpose and its design phase

The *Health OER Design Phase* proposal document[1] outlines the aim of the one-year effort to develop a sustainable and scalable OER programme to support health education, particularly in South Africa and Ghana. Working with OER Africa, the University of Michigan (U-M) would facilitate collaboration between the Kwame Nkrumah University of Science and Technology (KNUST), the University of Ghana (UG), the University of Cape Town (UCT), and the University of the Western Cape (UWC).

Design phase specifications were:

1. Engaging university leadership in implementing institutional policy frameworks that facilitate the success of OER
2. Holding faculty development workshops to build institutional capacity in OER
3. Enhancing an innovative, low-cost, and scalable process (dScribe) for converting educational materials into OER
4. Collaboratively developing educational materials as OER and deploying them in respective curricula
5. Promoting the collaboration and its outputs through a community of practice web site
6. Establishing a framework for a longitudinal study of faculty productivity and the effect of OER on learning outcomes and provide feedback on socio-technical aspects of collaborative OER practices
7. Producing an evidence-based long-term logic model for Health OER based on a vision that multiple stakeholders will own, in which funders will invest, and which institutions are committed to sustaining. This consensus-driven model will be the basis of a Global Health OER follow-on proposal (p.2).[2]

The project was approved on 17 November 2008, and activities commenced in earnest in early 2009.

1.2   Evaluation terms of reference

The rationale for the present evaluation is drawn from the *2008 Health OER Design Phase* project document*:*

> We will evaluate our strategy and outcomes through a variety of means. 2009 will be a year of primarily formative evaluation, in which the structure and issues of Health OER are defined. Formative evaluation strategies, such as surveys, questionnaires, interviews, and focus groups, will be used to gather information *(*p.11).

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[1] Health OER Design Phase: Proposal to the Hewlett Foundation Education Program: October 2008.
[2] These details are also provided on www.oerafrica.org (accessed 9 October 2009).

A draft Evaluation Brief was circulated to the partner institutions for comment in August 2009. The framework was based on project activities and outputs as described in Table 1.

Table 1: Project Activities and Ouputs for Evaluation

ACTIVITIES	OUTPUTS
Institutional Policy Engagement	Detailed policy strategies to facilitate OER activities
Health OER Publishing Projects	**Published and implemented OER learning materials**

The review was to be based on:

(a) A study of relevant documents
(b) Interviews with academic staff involved in institutional policy making and OER production
(c) Interviews with students who had experienced OERs (in cases where this was possible).

The evaluation approach was not intended to be judgemental, but rather to explore experiences (on progress, achievements and blockages) thus far. Respondents were to be invited to look back in a way that provided experiences as a basis for identifying issues relevant to further project development.

Broad approval of the Evaluation Brief was received, together with valuable guidance in respect of the conduct of the review, particularly in relation to institution-specific circumstances.

1.3   Conduct of the review

In making arrangements for institutional visits, an attempt was made to distinguish this evaluation exercise from Dr Airong Luo's study involving prior research visits. Essentially, the present evaluation was specifically focused on actual activities and outputs at this early stage of the project in each of the participating institutions; Dr Luo's research was a more academic, 'generalisable' study with the goal of understanding the social and technical barriers to cross-institutional collaboration in OER and how to create a sustainable and scalable model of collaboration in OER.

Visits were characterised by thoroughly helpful cooperation on the part of institutions and academic staff. The evaluator was extremely grateful for their frank and friendly openness. There appeared to be no misunderstanding regarding the purpose of the evaluation visit, although one head of department who had been recently interviewed by Dr Luo observed that they felt "under the gaze".[3]

In total, 21 interviews were held with staff (19 personal and 2 telephonic), and 2 focus group interviews were conducted with students. Annexure 1 provides a list of interviewees. With three possible exceptions, all key figures were interviewed.

1.4   Interpretation of data and structure of the report

In the interest of achieving generalised 'findings', the interpretation of data strove to capture the aggregated experience without losing a sense of individual difference which is such a pronounced

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[3] This expression has likely reference to Foucault's work on *surveillance*.

feature of the participating institutions. This is a delicate balance. In its presentation, the report strives to capture difference while minimising the 'personalisation' of institutions and individuals. For example, a staff member who is quoted is referred to simply as an "academic". As interviews were not audio-taped, quotes are drawn from transcriptions of the evaluator's notes taken during interviews, during which an attempt was made to capture key statements as accurately as possible.

Limitations of the evaluation include the fact that the interview sample was indeed but a sample, particularly in respect of those involved in institutional policy-making. University organisational structures are such that it would be impossible – in a 25-day assignment – to interview all relevant stakeholders involved in policy-making; nor would it be possible in an exercise of this scale to capture all relevant aspects of policy-making in organisations as complex as universities. The evaluator is also aware of the way in which the project has been supported in a well-documented, reflective way, and that project participants will have a great deal of in-depth knowledge on aspects of the project which are necessarily addressed in more abbreviated form in this report.

As a necessary precursor to matters of substance, Section 2 of the report provides an overview of project management and the different contexts in which the project was being implemented. Sections 3 and 4 cover the substantial focus of the evaluation: Policy engagement (section 3); and Production of OERs (section 4). Both are based on data that are both quantitative (drawn mainly from documentary evidence) and qualitative (from interviews). Section 5 identifies relevant issues arising from project experiences as well as some of the tensions and constraints.

Readers requiring only an executive summary type of overview could focus on 'Conclusions' at the end of each of sections 3 and 4. Key conclusions are boxed, and shaded. Key 'conclusions' are summarised in a final 'Conclusion' in section 6.

2 Project management and context – and the challenge

2.1 Project management

Evaluation of project management lies outside the scope of the present evaluation. However, as management obviously infuses what takes place in institutions, it will be addressed and disposed of as an issue at the outset.

What emerges implicitly in the narrative that follows is that the joint OER Africa and U-M project management has been highly appropriate and effective in enabling realisation of design phase activities specified in section 1.1. A number of aspects of project management merit highlighting:

(a) Project launch in institutions was supported by meetings, information sessions and policy discussions with institutional leaders and faculty members, particularly in Ghana.

(b) Detail on all project activities is housed under "Hewlett grant 2009" on U-M's website, https://ctools.umich.edu/portal. "This site is for the U-M and OER Africa team to keep track of files related to the 2009 Hewlett grant for Health OER work in Ghana and South Africa." Files on the site cover all aspects of the unfolding of the project: founding documents, visits, meetings, minutes, email communications, schedules of events and a rich and varied set of resources. Separate email notifications alert project participants to new developments,

documents and resources. This site is exemplary in achieving communication and project accountability.

(c) Contracts with relevant parties were put in place timeously.

(d) The dScribe model and process is an innovative asset brought to the project. It is described as:

> … a University of Michigan initiative that uses students to convert curriculum materials into Open Educational Resources [OER]. Each semester, motivated students collaborate with faculty and a team of U-M Open Educational Resource specialists to gather, review, edit, and publish course materials for use by students, educators and self-learners worldwide.[4]

(e) There is widespread approval and appreciation of the manner in which the project has been managed.[5]

(f) Project consolidation and networking were considerably advanced in the successful 'Health OER Inter-Institutional Workshop' in Cape Town, 27–29 July 2009. This event brought together 49 individuals from OER Africa and the five partner universities in a way that also potentially extended the reach of the project through representation from the University of KwaZulu-Natal, University of Malawi (Kamuzu College of Nursing), the University of Nairobi/East Africa Consortium, Makerere University, the University of Botswana, Stellenbosch University, and the Open University Health Education and Training in Africa (HEAT) Project.

(g) The document 'A vision for a Health OER Network in Africa', first discussed at the Cape Town Workshop, and developed in subsequent discussions, appears on the OER Africa Health website.[6] Apart from Rationale and Vision, the document addresses the key issues of ownership (by participants, not a single entity); membership (open); quality assurance (the responsibility of individual institutions; no centralised function for the network); and the audience (university academics, not students). The vexed language issue is also addressed.

(h) In terms of the final activity in the Design Phase proposal, a follow-up funding proposal (dated 16 September 2009) has been drawn up and submitted.

Finally, there is the matter of potential tension between the nature of a project that is firmly "for Africa and by Africans" but which has a lead institution from the United States. In practice, this potential appears to have been defused and turned into an asset. Project participants all reported a very healthy relationship with U-M, projecting no sense of feeling dictated to. Together with OER Africa, they were defined as the facilitators/drivers, but not controllers, of the project. The following quotes are illustrative:

- "… a great relationship with U-M". [They have good copyright processes, and resources] "… but don't give impression of knowing it all."
- "U-M are very different from other US institutions seeking to benefit themselves."
- "Ted has been central to progress."

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[4] https://open.umich.edu/wiki/index.php5/Learn_More_about_the_dScribe_Process#How_does_the_dScribe_process_work.3F (accessed 18 August 2009).

[5] The only discordant comment during all evaluation visits was in fact misguided: the academic who expressed unhappiness about the single laptop and non-transferable software was unwittingly attributing a feature of the earlier Gates grant with the Hewlett OER grant. (Due to the relationship of the Ghanaian universities with U-M, it is possible that this academic conflated the two different grants into a single project.)

[6] http://www.oerafrica.org/healthoer/VisionStatement/tabid/955/Default.aspx (accessed 30 November).

- [Respondent described difficulties] "… then I met Lynn – she was so great."
- [On a policy-related difficulty] "We'll rely on the magic Neil"
- "Cary was extremely helpful – we couldn't have done this without him." (There were numerous other such statements made by Ghanaian academics, and some of the Western Cape participants who knew of Dr Engleberg's work in Ghana expressed regret that they had not had the benefit of his experience and expertise.)

2.2   Project context

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 had widely varying exposure to OERs. Contextual settings, as we know, are more than just the sites where academic staff happen to practise: particular settings offer unique opportunities and constraints. The Health OER project has thus taken hold and developed in different ways across these varied contexts. Such differences are identified in summary form at this point but not developed in detail as they become manifest in sections 3 and 4 below.

(a) A significant difference – which sets the Ghanaian institutions apart – is that they were effectively 'starting from scratch' in terms of both OER policy development and materials production. In contrast, the Western Cape partners had significant policies in place to promote OERs at the commencement of the project. 'A Free Content and Free and Open Courseware implementation strategy for the University of the Western Cape' had been passed by the Senate Executive Committee in October 2005. UCT became a signatory to the Cape Town Open Learning Declaration (2008).

(b) UG and KNUST had the benefit of the sabbatical presence of Dr Cary Engleberg from U-M to provide the necessary initial project momentum. (This single factor is so fundamental that it makes it difficult, later, to estimate the weighting of other factors contributing to the success of developments.)

(c) Pre-existing relationships with U-M facilitated a seamless entry of UG and KNUST into the OER Africa project. At UG, for example, the visit of the President of M-U to explore collaboration in February 2008 was cited as an important development. A similar kind of pre-existing relationship was mentioned at KNUST, where knowledge of the conception of the OER project "helped tremendously".[7] In this regard, the Faculty of Health Sciences at UCT was also involved in a joint U-M relationship,[8] but available evidence suggests a less developed relationship. At the other end of the continuum, UWC was reportedly the last of the institutions to enter into the network. A number of key players in Ghana mentioned meeting UWC staff for the first time at the Cape Town workshop.

(d) There had been a good deal of OER production in Health Sciences at UCT prior to commencement of the project. This led to a major focus on retrospective dScribing once the

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[7] Provost Peter Donkor's presentation 'History of OER at Kwame Nkrumah University of Science and Technology, Ghana' at the Cape Town Workshop lists the series of contacts with U-M and UG and other African universities and organisations, discussions with OER Africa, and sponsored workshops and conferences between February and September 2008.

[8] This did not emerge from Interviews at UCT, but was mentioned in passing by one of the other project participants.

project began. In the Ghanaian institutions, OER production would take place in tandem with dScribing and copyright clearance.

(e) The nature of the student body influences academics' perceptions regarding the need for, and the nature of, OERs. Contact teaching appeared to be the norm in Ghana, whereas a form of distance or 'blended' learning was a feature of some programmatic activity on the UCT and UWC campuses.

(f) Compared to tenured staff, the responsibilities of contract staff are generally more contractually defined with different incentives for career development and progression. Five of the UWC academic staff interviewed were contract staff.

It is essential that judgments with respect to OER progress made in this report be viewed against the background of contextual differences. It is to be expected that unevenness in progress across institutions will owe much, in particular, to differences in membership of networks prior to the project and to the sabbatical presence of Dr Engleberg in Ghana.

2.3   Project and institutional challenges

Before moving to an understanding of how contextual differences became manifest in OER policy and materials production in sections 3 and 4, one might note the implications of embedding OER as a normative activity supported by policy change and staff recruitment to the OER cause. This is a fundamental shift of a scale that is sometimes not fully acknowledged.

First, it involves a momentous shift from knowledge as 'sacred' to knowledge as an open resource. Historically, the concept of knowledge was indeed 'sacred'. The organisation of knowledge and its dissemination was intimately connected to principles of social control. In this paradigm, knowledge is dangerous and cannot be freely exchanged: it must be confined to special well-chosen persons, and transmitted in a context in which the teacher has maximum control over their own knowledge or disciplines with "the jealous eye of a threatened priesthood".[9] Openness, then, brings a potential sense of loss of structure and continuity. The literature provides very few instances of Damascus Road conversions such as occurred at MIT when one of the institutional heads came to the following conclusion while taking a shower: "Well, if we're not going to try to make money from our educational material, maybe we should just give it away".[10]

Second, even if the ideology of 'openness' is accepted, the logistics of policy and organisational change are not easily managed. Universities are not homogenous entities. They house units that have a degree of semi-autonomy by virtue of their specialised disciplinary expertise; such separateness is often compounded by physical separation on different campuses. Policy development and approval require the approval of all academic, technical and administrative sectors of the university community.

Little wonder that universities are sometimes cited as the most change-resistant institutions in history.

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[9] Durkheim, E. 1961. *Moral Education.* London. Collier-MacMillan. p.169.
[10] http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=408300&c... (accessed 8 October 2009)

3 Policy engagement

It has already been noted that while the trajectory of policy development began *de novo* at UG and KNUST, at UCT and UWC the project's challenge was to build on and support existing policy to make it real in supporting OER activity.

A brief narrative of progress in each university is followed by an overall analysis and assessment of progress.

3.1 Policy progress

3.1.1 University of Ghana

Following policy workshops offered by U-M and OER Africa, the College of Health Sciences (compromising 6 schools and a research institute) embarked on a systematic approach to policy overhaul. Timing was fortuitous: project commencement coincided with the cyclical revision of the institution's statutes. A second advantage was the sabbatical presence of Dr Engleberg which meant that the College was able to show OERS to the institution – the College was "not selling an abstract concept".

The committee charged with responsibility for policy development comprised academics and the assistant librarian, as an information scientist, to advise on the accessing and sharing of resources and promoting collaboration. Support was provided by Drs Engleberg and Johnson in both the initiation stage and in commenting on draft versions of the policy proposal.

Good progress had been made by the time of the Cape Town Workshop where the Provost reported that the writing of draft policy was in the final stage, covering: necessary infrastructure; accessibility of materials; quality assurance; a reward system for OER production; and copyright. At the time of the evaluation interview, the Provost estimated that the College was "half way through the process" of having a policy in place. The policy document would need approval of the Academic Board and was on the agenda for its next meeting. Policy would then go to University Planning.

Having been through various iterations, the most recent version of the policy document is on the CTools website, which is accessible only to project team members (protected by username and password).[11]

3.1.2 Kwame Nkrumah University of Science and Technology

Like UG, KNUST was able to support high-level discussions within the institution with practical examples of OER.

Within the College – with its five constituent faculties and schools and Centre for Collaborative research – there is keen awareness of the complexity and implications of policy change. The OER Coordinator drew attention to the radical nature of revision required by pointing out that conventions and laws in many fields of endeavour are still current even though they were fashioned in different eras to address sets of social practices that are now quite different. So too, university policy needed to understand the new realm. The Provost, while fully supportive of the project and

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[11] Referenced as: 2009.11+UG+OER+Draft+Policy (accessed 16 November).

its sustainability ("it mustn't be allowed to die"), was concerned with issues of both principle and practicality: Can OER be free? How to get OER to the students? Students must have a PC: how to deal with delivery? How to access? Who owns my material?

The report of the policy committee appointed to review existing policies and to propose revisions needed to facilitate the introduction and production of OERs has been submitted to the Academic Board, but had not yet been approved at the time of the evaluation visit. This draft addresses issues of OER production, publishing, distribution and access. It had initially been sent to the (multiple) interested parties in the university, and inputs were awaited. The target date for approval was the end of 2009, but: "A lot of push is needed. Whether it gets there in time depends on different interest groups making their inputs."

3.1.3   University of Cape Town

Policy development at UCT is not part of a contractual obligation with OER Africa. The Grant Agreement states:

> The overall purpose of the project is to pilot a process of both identifying existing, and developing teaching and learning resources, arranging the appropriate copyright and quality assuring these resources with a view to sharing these resources and processes with colleagues at other medical schools around the world. (https://ctools.umich.edu , accessed 8 October 2009)

In light of prior developments, this declared purpose is entirely appropriate. Nevertheless, it is instructive to include a very brief outline of policy development in relation to OERs because it differs so markedly from the policy situation in the Ghanaian institutions.

Although UCT is a signatory to the Cape Town Open Education Declaration (2008), OER policy development did not emerge as a specific, coordinated *project*.[12] Rather, a variety of individual initiatives within Health Sciences and the broader university contributed to an environment supportive of OER. Such initiatives included a research project "Opening scholarship", directed at dissemination of scholarship; out of that came "OER UCT" (Shuttleworth-funded) and this was more about implementation, involving an audit of who was doing OERs.

Despite the absence of consolidated, overarching institutional policy on OER, actual developments are moving the institution in that direction. Within Health Sciences, the Faculty Electronic Archive Project has begun to combine all the electronic resources from the MBChB Vula course into one dedicated restricted site. At institutional level, there is a commitment to building a portal to collect metadata of UCT resources and to identify sites to be made available, and then to have UCT metadata available in the OER commons as a UCT 'package'. Much of this drive is centred in the innovative work being done in the Centre for Educational Technology (CET). A view expressed in this Centre is that the "reef of complexity" underneath "openness"[13] defies a single consolidated drive to

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[12] This declaration has been categorized as "utopian in its general outlook – it asks activists to find their own practical implementation in their local context" (Deacon, A. and Wynscully, C. Educators and the Cape Town Open Learning Declaration: Rhetorically reducing distance. *International Journal of Education and Development using ICT*: Vol. 5, No. 5 (2009).

[13] Hodgkinson-Williams, C. and Gray, E. Degrees of Openness: The emergence of Open Educational Resources at the University of Cape Town. *International Journal of Education and Development using ICT*: Vol. 5, No. 5 (2009).

embed OER in institutional policy, and that this could be better achieved by "organic growth" achieved through strategic initiatives which, when aggregated, would achieve the desired result. However, organisational factors give the Health OER coordinator seemingly little capacity to influence institutional OER policy (see summary in Table 2 below).

3.1.4   University of the Western Cape

As at UCT, UWC had a significant policy statement on OER in place prior to commencement of the Health OER Project: 'A *Free Content* and *Free* and *Open Courseware* implementation strategy for the University of the Western Cape'.   Policy impact is reflected in the website http://freecourseware.uwc.ac.za/ which houses six courses: one in Biodiversity and Conservation Biology, three in Law, and two from the School of Public Health (SOPH).

However, at the time of the evaluation not all staff in the OER project were familiar with the overarching Free Content and Free and Open Courseware policy. Those who were, described it as having no impact on their work, and one academic deemed it "vacuous". Another observed that its author "was way ahead – no one followed." One reason given for this was lack of institutional follow-up in terms of provision of resources.

Academics in the Health OER project are in the Faculty of Dentistry and the School of Public Health (SOPH) in the Faculty of Community and Health Sciences. These two faculties are on different campuses on which each coordinator for Health OER reports to a Dean. For various reasons (which possibly include their not having been part of the vibrant network to which UG and KNUST belonged) the project started rather more slowly than at other institutions. The project leader of the SOPH performed this task while on study leave to the end of April 2009; and in Dentistry the project got off "on the wrong foot" as the Dean had been inadvertently left off the list for initial discussion. The first step– induction into project -was thus missing. "Vision was denied to the faculty." The project was consequently perceived by some as a "private project". Nevertheless, progress has been made in institutionalising the Health OER project: as an official part of the organization structure, the "OER Task Team" is under the Faculty Academic Programme Committee.

Given these circumstances, it is not surprising that policy development has not been a priority in either Dentistry or the SOPH. Staff focused on the much more relevant and immediate task of developing OERs. Moreover, organizational factors give the Health OER coordinator very little capacity to influence institutional OER policy (see summary in Table 2 below).

At institutional level, however, the OER Africa Management Team completed a 'Policy Review: University of the Western Cape: Health OER'. This is a comprehensive and detailed 15-page document, and one of the academics reported that one of the OER Africa Management Team was to conduct a workshop with staff in early 2010. Given UWC's history of championing access and open learning, together with its initiatives in e-learning and 'blended'/ distance learning approaches, the Health OER policy review could contribute to meaningful OER policy engagement and development.

3.2   Policy development supported by institutional change

An interesting feature of policy engagement in Ghana is that it has been accompanied by some actual structural change to promote the project and OER development, as is evident in the following two examples:

- UG has involved two library staff in policy development and IT support. An additional IT person has been employed and will be retained when project funding no longer underwrites the cost. A "Medical Illustrations Unit" was being established.
- At KNUST, the Department of Communication Design 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. Strategically, the department wants to position itself to create OERs on behalf of staff who become its clients by providing the script. The curriculum has been adjusted to make this possible. As a result, project staff are relieved of the burden of technical production, and their OERs are of a high technical standard. Students gain valuable experience in developing artefacts on the basis of a genuine relationship with clients.

3.3   Conclusions

The relevant design phase expectation was: "Engaging university leadership in implementing institutional policy frameworks that facilitate the success of OER." *Actual* change was not expected, nor would it be realistic to believe that such immediate impact might be possible.

The following conclusions are thus based on project *engagement* with leadership.

3.3.1   Coverage of OER-relevant issues in draft policy

UG and KNUST have draft policies in the process-approval stage in their respective institutions.

Table 2 below maps each institution's policy position onto a matrix of the main issues that an overall policy might need to address in order to create a policy environment for OER.[14] The more gradually evolving policy positions at UCT and UWC could not be condensed in a way that makes it possible to map them onto this matrix. This is partly also because even though the issues have been debated, such as quality assurance in the SOPH, such debates occur at different levels as there is no centralised initiative in driving OER development. However, it was noted above (section 3.1.4) that OER Management had reviewed *existing* policies at UWC in light of the extent to which relevant OER issues were addressed.

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[14] Issues, or policy domains, used in this table are not drawn from an authoritative source. They were constructed by the evaluator on the basis of factors that have logical connections with OER.

Table 2   Domains of coverage in UG and KNUST draft policy documents

Domains of critical policy issues	University of Ghana	Kwame Nkrumah University of Science and Technology
OER policy underpinned by institutional vision and mission	Need for revised vision implicit: at present the policy document "will govern the production and use of such material within the University of Ghana"	√
Clarity on intellectual property rights – who owns copyright?	√	√
Clarity on licensing (conditions under which OERs are shared)	√	√
Policy on ethical issues (e.g. images of patients' faces incorporated in OERs)	√	√
Cover for legal liability in respect of possible abuse of OERs	√	√
ICT policy addresses provision and access of appropriate hardware for staff and students	√	√
Human resource guidelines to legitimate or 'mainstream' OER development as part of 'normal' academic work	√	√
Technological and other forms of support are available to staff embarking on OER development	√	√
Provision of incentive structure for OER production (as for peer-reviewed research outputs)	√	√
Organisational (committee) support and coordinating structure for OER production, e.g. OER Board	√	√
OER quality assurance policy and process	√	√

3.3.2   Organisational factors and capacity of OER Coordinators to influence institutional policy

Universities have their own distinctive missions, histories, and ethos – and they have autonomy. Different organisational styles present different opportunities and constraints in terms of strategies for engaging policy with a view to making it supportive of OER development. Table 3 summarises the main differences.

Table 3   Summary of differences relevant to engagement with overarching OER policy across institutions

	UG	KNUST	UCT	UWC
Prior institutional positioning in relation overarching OER policy	None. Began *de novo* with Health OER Project	None. Began *de novo* with Health OER Project	Overarching but largely symbolic policy in place (Cape Town Open Learning Declaration)	Overarching but largely symbolic policy in place (A Free Content and Free and Open Courseware policy)
Means through which OERs might be embedded in institutional policy	Single, consolidated drive covering all relevant aspects of embedding OER	Single, consolidated drive covering all relevant aspects of embedding OER	Incremental, organic growth through multiple strategic thrusts	Possibility of incremental growth building on institutional history and free courseware site; OER institutional policy review
Coordination of Health OER project and capacity to influence institutional policy development	*Provost and OER project coordinator*	Provost and OER project coordinator	IT Manager in Educational Development Unit reports to Dean (and works mainly with those *making* OERs; at institutional level, CET works with *existing OER resources*)	Two coordinators in different faculties on different campuses report to respective deans (one coordinator is a contract member of staff)
	Capacity to influence policy: High	Capacity to influence policy: High	Capacity to influence policy: Limited	Capacity to influence policy: Low

Notwithstanding these differences, a number of common threats emerged during the review:

(a) Across universities, there were reports of fairly widespread staff suspicion of OERs.
(b) 'Champions' come and go, and initiatives are vulnerable to the mobility of staff and new institutional appointments, especially in key decision-making posts.
(c) Further down the line, there is the hard fact that Councils must ultimately approve policy. Political constituents within Councils may not view OERs in the same light as academics.

3.3.2   Summary of progress in policy engagement

Contextual differences across institutions present different levels of opportunity for policy engagement directed at an OER mode of operation. In this context, meaningful and productive policy engagement has taken place to the extent that this has been possible in less than a year.

As a result, two institutions - neither of which had a history of OER policy or production - have draft policies which cover the major domains necessary to support of OER. Health OER has played an unassertive and sensitive supportive role in commenting on policy drafts. These policies are currently in the institutional approval process. In the two other institutions, the challenge would be to build on the largely symbolic policies already in place and to capitalise on the past OER-type initiatives which had taken place within them. In one, the Health OER Management team has conducted a detailed review of existing institutional policy in relation to OER. In the other, where the contractual obligation covers only OER production, the institution itself has OER champions positioned to promote OER-friendly policy. Here the organic way in which OER policy has been and appears still to be developing would probably be best left to own momentum, with Health OER available as a resource should support be requested.

Universities are complex, autonomous institutions in which curriculum and operational changes are made only after deep and careful consideration. Given the momentous extent of change associated with a shift to an OER mode of operation, project progress can only be adjudged to be extraordinarily impressive.

4   Production of OERs: The tables and numbers

Here we review the actual production of OERs (Design Phase activity 4: "Collaboratively developing educational materials as OER and deploying them in our respective curricula").

In practice, "Developing" implies: (a) the development of original productions; or (b) the development or 'dScribing' of existing materials to create OERs. Although not all activities are amenable to being neatly grouped under these two categories, the structure that follows is:

4.1.   *Original productions*
4.1.1.   OERs <u>completed</u>
4.1.2   OERs <u>planned</u> and/or in progress

4.2   *Development of existing material and Dscribing*
4.2.1   Existing material <u>made publicly available</u> as OERs
4.2.2   Existing material <u>in process</u> of being developed as OERs.

Because the data under these categories appear to place some institutions in a more favourable light than others, it should be noted that institutional differences are mainly linked to the weighting of activities on either developing original productions or dScribing/ developing existing materials. As will be seen, activity in UG, KNUST and UWC (Dentistry) has been single purpose in terms of OER production; activity in UWC (SOPH) and UCT has included a strong focus on developing existing resources into web-based OERs.

Data in the tables that follow are the most up to date available at the time of writing.[15]

4.1. Original productions

4.1.1. OERs completed – including five all but completed

Table 4   University of Ghana

	OER	Author/s	Licence	URL	Login
1	Total Abdominal Hysterectomy	Richard Adanu, Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=15	Password protected
2	Sexually-transmitted Diseases and Pelvic Infections	Akye Essuman, Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=10	Password protected
3	Caesarian Section	Richard Adanu, Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=4	Password protected
4	Episiotomy and Repair	Richard Adanu, Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=8	Password protected
5	Abdominal Uterine Bleeding	Richard Adanu			

Table 5   Kwame Nkrumah University of Science and Technology

	OER	Author/s	Licence	URL	Login
1	Mental State Examination	Celice McDermott Nana Osem Osei Tutu Akua Nketiah Adjapong Kojo Twum Nimako Oppong Victor Barnor Cary Engleberg Veronica Boatemaa Owusu-Afriyie	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=2	Password protected
2	Laboratory Methods for Clinical Microbiology	Yaw Adu-Sarkodie Cary Engleberg Charles Agyei Osei	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=14	Password protected
3	Microbiology	Cary Engleberg Yaw Adu-Sarkodie	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=3	Password protected
4	Clinical Chemistry (Gluocose Tolerance	Francis A. Yeboah	Creative Commons	http://web.knust.edu.gh/oer/course/view.php	Password protected

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[15] The data are drawn from: (a) the Project List file dated 2009-11-06 at ctools.umich.edu, OER Hewlett, Resources; and (b) personal communication and information provided by project coordinators.

	Test)	Cary Engleberg		?id=7	
5	Therapeutics I	John Marfo's wife	Open to enrolled students only	http://web.knust.edu.gh/oer/course/view.php?id=12	Password protected
6	Pharmacy Informatics	John Marfo's wife	Open to enrolled students only	http://web.knust.edu.gh/oer/course/view.php?id=11	Password protected
7	Automated Blood Counts	Ohene K. Opare-Sem, Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=6	Password protected
8	Buruli Ulcer	Richard O. Phillips Stephen Sarfo Emmanuel Adu Cary Engleberg Veronica Owusu-Afriyie	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=5	Password protected
9	Examination of the Pregnant Woman	Kwabena Danso Cary Engleberg	Creative Commons	http://web.knust.edu.gh/oer/course/view.php?id=9	Password protected

Table 6   University of Cape Town

	OER	Licence	Progress
1	Guide to procedures in Obstetrics & Gynaecology	Will be OER	Assurance that will be complete by the end of 2009.
2	Occupational Therapy: Interactive Conceptual Framework	Will be OER	Complete: being packaged into HTML at time of writing.

Table 7   University of the Western Cape (Dentistry)

	OER	Author/s	Progress
1	Oral and Cell Biology	Manogari Chetty	Estimated completion date 1/1/2010
2	Dental Material Procedures	Razia Adam	Estimated completion date 6/1/2010
3	Dental materials: Objective and structured clinical examination(OSCE)	Tariq Lodhi	Estimated completion date 12/31/2009

4.1.2 OERs planned and/or in progress

University of Ghana

1. Abdominal Uterine Bleeding (Richard Adanu)
2. Diet and Oral Health (Tom Ndanu)
3. Clinical examination in surgery (Nii Armah Adu-Aryee)
4. Clinical examination in surgery (Kobinah Nkyekyer)
5. Dental cases (Tom Ndanu)
6. Pathology Image Library (Richard Gyasi)
7. OBGYN procedures (Dr Nkyekyer)
8. Medical procedures in children (Oduro-Boatey)
9. Nursing: Physical examinations in the Maternity Ward (Comfort Affram).

Kwame Nkrumah University of Science and Technology

1. Consulting room scenarios for paediatrics (Joslin Dogbe)
2. Nursing: Physical examination of Patient(Victoria Bam, Cary Engleberg)
3. Development of the Face (Jelili Akinwande)
4. Clinical Pharmacy Case Scenarios (Dr Woode)
5. Principles of Pharmacology (Dr Woode, George Kufour)
6. Coagulation Animation (Ohene K. Opare-Sem, Cary Engleberg)
7. Community Health Visit Recordings (Dr Baffour)
8. Community Diagnosis (Dr Baffour)
9. Medical Lab Technical Laboratory (Dr Mensah)
10. Membrane Transport Systems (Dr Bedu-Addo)
11. Physical Examination of Surgical Procedures (Dr Amaning)

The following are planned for production in collaboration with the Department of Communication Design, all with a completion target date of May 2010:

12. Chemical Profiling of Medicinal Plants (Chromatographic Technique) (Dr A.Y. Mensah)
13. Micromorphology of Medicinal Plants (Dr A.Y. Mensah)
14. Phytochemistry of Medicinal Plants (Dr A.Y. Mensah)
15. Therapeutics (Mrs Afia Marfo)
16. Social Pharmacy (Dr Frances Owusu-Daaku)
17. Public Health (Dr Catherine Dawson Amoah)
18. Use of Ultra-Violet/Visible Spectroscopy in drug Analysis (Samuel Oppong Bekoe)
19. Assay of Aspirin (Samuel Oppong Bekoe)
20. ManaEducation of Patient (Victoria Bam)
21. Kinetics of Pathogens in infected cells (Yaw Adu-Sarkodie)
22. Multiplication of Pathogens (Yaw Adu-Sarkodie)
23. Heat responses to Pathogens (Yaw Adu-Sarkodie)
24. Actions to improve maternal and Child Nutrition (Anthony K. Edusei)
25. Estimation of Population Parameters from Samples (Anthony K. Edusei)
26. Methods of Sampling in Epidemiological Investigations (Peter Agyei-Baffour)
27. Care and Prevention of Athletic Injuries (Dr James Adjei)
28. Kinesiology (Dr James Adjei)

29. Safety use of facility and Equipment (Mr Samuel Acheampong)
30. Pharmacology Lab Procedures (George A. Koffuor)
31. Pelvic Examination (H.S. Opare-Addo)
32. VVF Examination (H.S. Opare-Addo)
33. Breech Delivery (H.S. Opare-Addo)
34. VVF Repair (H.S. Opare-Addo)
35. Phytotherapy (Dr T.C. Fleischer)
36. Complementary Medicine (Dr E.F. Kang)
37. Traditional Medicine (Dr W.K.B.A. Owiredu)
38. Phytotherapy (Dr T.C. Fleischer)
39. Complementary Medicine (Mr G.A. Sam)
40. Traditional Medicine (Prof. Sarpong)
41. Enumeration of Bacteria (Mr Francis Adu)
42. Formulation of Pharmaceutical dosage forms (M.T. Bayor, K. Ofori-Kwakye)
43. The Pharmatokinetics of Drugs (M.T. Bayor, K. Ofori-Kwakye)
44. Examination of Lumps (Dr E.P. Amaning)
45. Examination of Breast (Dr E.P. Amaning)
46. Examination of Hernias (Dr F. Aitpillah)
47. Lab Diagnosis of Sickle Cell Disease (Mr Opoku Okrah)
48. Lab Diagnosis of G6PD-deficiency (Dr Addai-Mensah, Dr Alex Debrah)

University of Cape Town

1. Ear, Nose and Throat Medicine (decision needed on whether this video on clinical examination can be released as an OER)
2. Core Obstetrics Self-Test project (construction of self-assessment Multiple Choice Questions)
3. Video Library Bank of Problem Based Learning cases (unlikely UCT's policy committee will allow it to be used beyond UCT because of privacy/patient policies).

UWC School of Public Health (Progress and planning has taken place in four areas)

(a) Develop a Public Health Case Study repository for the Postgraduate programme (Internet search 20% complete)
(b) Develop five case studies based on SPOH research projects for masters and Postgraduate Diploma programmes:
    1. Severe childhood malnutrition and mortality in the Eastern Cape Province 1998–2004 (60% complete)
    2. Community participation in delivering services: A community-based sanitation initiative in Khayelitsha, Cape Town, 2002 (50% complete)
    3. Illustrative cases on health assessment and screening for chronic diseases (50% complete)
    4. Acting on the outcomes of a waiting times survey, 2008 (0% complete)
    5. Health systems in crisis, 2008 (30% complete).
(c) Further case studies are planned, on the basis of current and ongoing research:
    1. Addressing the risk factors for non-communicable diseases in two provinces of South Africa, 2009 ongoing

2. Managing the district health system, possibly in the context of the HIV/AIDS pandemic.

(d) Development of six academic skills and research capacity development Powerpoint tutorials for distribution on CD to students (initial stages: two of the Powerpoints are 40% and 30% complete).

4.2   Development of existing material and dScribing

This is a broad category as it includes different levels of development – in some cases the existing material is suitable as OER in its present form, but institutional policy and copyright issues need to be addressed.

4.2.1   Existing material made publicly available as full OERs

Table 8 UWC School of Public Health

	OER	Description	Licence	URL	Login
1	Managing Human Resources for Health	Introduction to the scope and context of human resource management in the health sector. Fully developed four unit module with reading list and assignments	http://creativecommons.org/licenses/by-sa/3.0	http://free.uwc.ac.za/freecourseware/school-of-public-health/managing-human-resources-for-health	Completely open access (no password protection)
2	Measuring Health and Disease 1: Introduction to Epidemiology	Fully-developed three unit module with readings and assignments	http://creativecommons.org/licenses/by-sa/3.0	http://free.uwc.ac.za/freecourseware/school-of-public-health/measuring-health-and-disease-1-introduction-to	Completely open access (no password protection)

4.2.2   Existing material in process of being developed as OERs

Table 9 University of Cape Town

Project Title	Comments (e.g. project scope)	Complete	Status Update
Postgraduate Diploma in Occupational Health: Occupational Hygiene	existing material	No	90% dScribed
Postgraduate Diploma in Occupational Health: Epidemiology	existing material	No	50% dScribed
Urogynaecology textbook	existing material	No	90% dScribed
Database of Medical Terms and descriptive for General Practioners	existing material	No	90% dScribed

Table 10 UWC School of Public Health

Project Title	Comments (e.g. project scope)	Complete	Status update
Alcohol problems: A health promotion approach	Fully developed module	Yes	Has been submitted for uploading on the Freecourseware site

4.3   Overview and conclusions on progress in OER production and development

4.3.1   Overview

Tables 11 and 12 below reflect achievements in respect of original productions thus far, with Table 13 providing an overview of plans.

Table 11   Total number of original productions complete or scheduled for completion by January 2010

	Total	Creative Commons-licensed OERs	Password protected OERs	Open access
Completed OERs	14 *(5 UG; 9 KNUST)*	7	13	0 *
Scheduled for completion Jan 2010	5 *(2UCT; 3 UWC Dentistry)*			All appear likely to be Creative Commons, open access

* Status of all is intended to be Open Access, but institutional policy is awaited to make this possible.

Table 12 Total number of existing materials developed to completion, and in progress

	Total	Creative Commons-licensed OERs	Password protected OERs	Open access
Completed OERs	2 *(UWC SPOH)*	2	2	2
In progress	5 (4 UCT; 1 UWC SOPH)			

Table 13 OER activities reported to be at the planning/ initial development stage

	UG	KNUST	UCT	UWC Dentistry	UWC SOPH
Case study-type OERS	8	48	3		7
Internet search: Case study repository to be developed					1
Powerpoint tutorials for CD distribution					1

4.3.2   Conclusions and comment on progress in OER production and development

(a) Overall: Collaborative development of educational materials in individual HEIs

The most important overall conclusion in respect of the Design Phase specification is that in individual institutions, expectations and contractual targets have been met or exceeded by an impressive margin. Collectively, the number of productions is equally impressive.

The further Design Phase specification with respect to: "*Promoting* [writer's emphasis] the collaboration and its outputs through a community of practice web site" has also been exceeded in that two OERs are publicly accessible and a further 13 await policy finalisation before full OER status is achieved (see Tables 11 and 12).

(b) The trajectory of OER production and planning

In some participating institutions – especially UG and KNUST - there is evidence of a momentum that is encouraging to the project and its further development and sustainability.
- Only one unit has not yet finalised future plans (see Table 13).
- In the Ghanaian institutions, an increasing range of departments/schools has been drawn into the project. In UG, Medicine, Dentistry, and Nursing are now involved in OER production; and at KNUST participating units are: Internal Medicine, Community Health, Pharmacognosy, Clinical and Social Pharmacy, Pharmaceutical Chemistry, Nursing, Sports and Exercise Science, OBST & GYNAE, Herbal Medicine, Pharmaceutics, Surgery, Medical Lab. Tech. The number of units involved is striking after earlier reports of suspicion in some of these units.
- Linked to the above point is the fact that the range of authors is increasing. At UG the pool of authors has swelled from the original two to eight; and at KNUST from 13 authors and co-authors to approximately 33.

In all institutions, academics working within the project are, or have become, OER 'champions' (see section 5.1).

Notwithstanding these encouraging developments, there are threats:
- Workload emerges as the single most significant threat to OER production. Some academics invoked the middle-class norm of 'deferred gratification' in pointing out that time spent on OER *now* means promise of future reduction in workload. However, this does not solve their immediate workload problem.
- An interlinked threat is the *quid pro quo* principle. All those interviewed were happy to share their resources, but there was widespread expectation of being able to benefit from access to the OERs of others. Openness is not only about nobility; there are also hard-nosed equations about costs and benefits. This is to be expected when time is a scarce commodity.

(c) Differences across institutions

Differences in contextual settings were sketched in Section 2.2 above. In each institution, project coordinators and participants have engaged the project in creative ways that are most appropriate to their own context.

Broadly speaking, the rapid OER outputs of UG and KNUST are a reflection of the way in which they have capitalised on the combination of pre-existing membership of project networks and the sabbatical presence of Dr Engleberg. They have also reinforced that combination of advantage by establishing purposeful structures within their institutions to support OER production.

The fact that the production of original OERs is less prolific across the Western Cape participants seems obviously attributable to their later induction into the project. This appears to have affected UWC in particular. For some UWC staff, the July workshop was a "revelation" and one academic in Dentistry reported being under the misapprehension, prior to this event, that OER productions were supposed to be novel, constructed without reference to materials "out there". Nevertheless, staff in Dentistry have made impressive progress with individual OERS, working largely as 'loners' but with strong Project Coordinator support. In addition to late project induction, the SOPH has faced additional obstacles linked to contractual work situations, and described itself as "inching along", not yet having spent its budget at the time of the evaluation. But the SOPH has capitalised on its history to become the first unit to be able to claim fully developed OERs (see Table 12). It has also developed a valuable, theoretically informed rationale and approach to the use of case studies (see document 'A case study of severe childhood malnutrition').

Like SOPH, UCT has engaged in the task of developing existing material into OERs. Indeed this, together with archiving and dScribing, are the dominant features of UCT's project activity. This is because, as a seemingly 'natural', organic development – which was also apparently not propelled by institutional policy – academics in the health sciences had begun moving into the production of web-based courses in the 1990s.[16] For example, one academic has been offering a web-based course in Occupational Health for 8 years, with the programme now into its third cycle. One academic had put up his own website in 1995. This had nothing to do with his having been influenced by the OER movement – in fact he might be regarded as a lone OER pioneer. As textbooks were "horrifically expensive", his website enabled students to access his teaching online. At present his entire third-year course is being put on the Web, and staff on at least three continents are benefiting from it. Of course, the Health OER project cannot claim credit for any of this. These academics described their association with the project in terms such as: "I'm supportive of the project, but haven't done much"; "I'm a 'piggy-backer' on the project"; "... have a glancing association only". However, there is some evidence of mutual benefit. For the project, UCT has rich materials for dScribing; and for the academics there is heightened awareness of copyright issues and Creative Commons licensing.

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[16] According to one, they did so to a greater extent than other faculties, and this may suggest that OERs are particularly effective in the health sciences.

(d) Two kinds of OERs

Linked to institutional differences in OER activity, as above, is the fact that two distinctive, broadly contrasting types of OERs are being developed in the project. These two types of OERS play different roles in the learning process.

OERs being developed in Ghana and UWC Dentistry are of the more discrete case study or 'learning objects' genre, while some of the Western Cape productions being developed or dScribed are more substantive as full modules or learning programmes. Pedagogical and curriculum implications of these two types of OERs are discussed in Section 5.1.

(e) The value proposition of OER

The value proposition refers to the extent to which access to existing OERs facilitated adaptation to academics' own individual purposes and reduced time necessary for OER production. Although it was not possible to produce statistics to enable a definitive view, there is some evidence to support at least a modified model of the value proposition.

Background to this issue was the hope of measuring time spent on actual OER production against the benchmark figure of 100 production hours to produce one hour of materials-based teaching.[17] At first glance, it is not possible to test the proposition as the 'learning object' genre OERs, like policy, were reportedly developed "from scratch". OER authors' reasons for this included:

- The wish to proceed directly from a particular 'problem' area experienced by their own students – for several, the route into OERs was through what they were already doing, and interested in, and what needed to be done.
- Finding out what might be available was too time-consuming when workload was already the major problem for all staff. Alternatively, in the few cases where searches had been undertaken, very few useful sites had been found, or academics were put off by sites requiring payment. As a consequence, there were some dismissive attitudes towards 'what's out there'.
- In cases where relevant OER material was available, the extent of modification necessary for adaptation to local contexts was a deterrent (e.g: "There wasn't a good video of birth in local conditions anywhere. In SA, you've got a bed, 2 clamps, a pair of scissors, 3 bowls, and a curtain – if you're lucky"; "There was nothing to suit my purposes".)
- It was easier to start from scratch, especially if one already had suitable photographs; then build interactive materials around that.
- In various ways some of the above may be linked also to the fact that some academics reported simply preferred to do "their own thing" – playing around with the technology, enjoying the challenge of seeing if they could master it, or: "I'm a loner – I like to do my own thing".

However, it is possible that 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

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[17] This benchmark figure is drawn from the work of Tony Mays.

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. Certainly, it is notable that Dr Engleberg co-authored 3 of the 5 completed productions at UG and 11 of 14 completed OERs at KNUST. Similarly, at UCT two academics mentioned the technical expertise of "George" (a retired professor) as having provided much impetus for their initial OER production. The value proposition may thus lie in the contributions of 'champions' with expertise and knowledge of 'what's out there' rather than direct adaptation of web-based resources.

A different dimension of the value proposition is that a number of OERs were reported to be suitable for use by field workers, nurses and other health workers in clinics where medical practitioners were not available. Such OERs were described as dealing with "simple things – what to look for, simple treatments, possible side effects, what to do if patients don't follow treatment".

5   Issues arising from project experience

A study of this kind cannot presume to make recommendations about taking the project further; nor indeed was this part of the evaluation brief. However, a number of issues are mentioned as possible points of interest. Data in this section are qualitative, drawn from interviews.

5.1   Champions: Academics' views on OER, and the question of 'generalisability'

5.1.1   Views that constitute champions of OER

At least three features of academics' views on OERs provide sufficient justification to classify them as 'champions' of OER:

(a) Principled commitment to the OER school of thought

Across institutions, the evaluator encountered principled support for the OER school of thought (even though at the level of implementation there was acute awareness of practical and logistical difficulties). Principled support was augmented by recognition of new social / political imperatives.

- How committed are you to OER? "Absolutely"
- "OERs? It's not if, it's how. OERs is the future."
- "Its day has come."
- "We have poor resources but because of the Internet we can share. The North has technology, but the South has some diseases they know nothing about. "
- "The project must continue but there are questions which are practical, not sceptical." (A Provost)
- "...new paradigm: teaching used to be lecture based. Now, it's about sharing. Policy must understand this realm."

(b) Attribution

Institutional recognition linked to career progression is a separate issue dealt with below, but without exception academics stressed the importance of attribution – not monetary reward – if their OERs were to be used by others.

- "I'm convinced others will find this work useful .... happy for this – but there must be attribution."
- "Acknowledgement goes further than any form of remuneration."
- "Academics don't make fortunes from copyright – money comes from performances. Attribution is the big thing."

(c) Attitudes to teamwork

Although medicine is the archetypical high status profession that keeps outsiders out, interviewees stressed the importance of teamwork within the profession.

Is teamwork an obstacle in producing OERs?

- "Teamwork is important in medicine ... no sole ownership of things in medicine – Doctors refer patients to specialists."
- "...Not really sure what's 'mine' – we all use each other's ideas."

5.1.2 Can one generalise on champions' utterances?

Do the interviews in this evaluation study provide a valid basis for generalisation on a range of OER issues? Those interviewed, as seen above, were the OER champions and after all, the OER sceptics on campuses were not interviewed. An argument to support generalisation is that academics interviewed in this evaluation study came into the project from varied backgrounds and for varied exogenous and endogenous reasons:

- "Ted heard about me through professional associations ..."
- "... linked with work I was doing anyway on assessment ..."
- "... coincidence: WHO had asked me to produce learning material for them."
- "I had a lot of pictures and was selected to go to the workshop."
- "Colleagues nominated me because of my interest in computers."
- "... chance meeting with Cary. ... nice open friendly guy and we got chatting. "
- "Serendipity ... had to write a new 20-credit module and couldn't find content."
- "... hadn't heard of OER before – a new concept. But I love to video stuff so OER was like a prayer answered."
- "... nominated by the department ... didn't know anything about OER when I went to the first workshop."

If they all became OER champions, against that background of difference, it is surely reasonable to suggest that others coming into OER from equally varied backgrounds might well respond in broadly similar ways, raising the same kinds of issues. On this basis, it is suggested that the issues identified below are not necessarily peculiar to this project.

The appeal of OERs does not seem to be limited to a particular class of academics; data gathered in the course of the present evaluation provide a reasonable basis for identifying issues relevant to an Health OER project.

5.2 Effectiveness of OERs

Even in the case of an OER module in its third cycle, a senior academic was wary of pronouncing judgement of its effectiveness as an evaluation tool was needed for that. Notwithstanding: *Perceptions of both staff and students pointed to reasons why OERs should be effective.*

(a) Staff perceptions

- "seeing is believing"
- "... teach 250 students in batches of 15. ... repeat certain procedures over and over again ...OER can help greatly."
- "... Pathology .... understanding of 3D is difficult when you can't see it."
- "Pictures are worth a thousand words in microbiology ... it's a 'fact rich' subject".

(b) Student perceptions

- ... Caesarian and breach birth... had the CD – could watch it repeatedly".
- "14 in a theatre – crowded around. ... better view on the CD."
- "... more effective use of time – 3 hours in theatre."
- "... question and answer great – can't do that in theatre."
- " sometimes not comfortable with a patient ... cases more comfortably dealt with at a distance."
- " ... visual representations of stages of disease – Cary discussed symptoms."

However, there are two qualifications: 1) staff and students are referring to educational resources, not OERs; and 2) students are talking of 'enhancement/ support' type resources. As a number of academics pointed out, participation in the "real thing" in learning medical procedures, and the "feel of what it's like" are indispensable.

5.3 Curriculum and pedagogy

The two different types of OERs (see Section 4.2.3d) have very different implications for curriculum and pedagogy. A discrete, 'learning object' type OER – such as illustrating the range of dental materials available to a practitioner, or a hysterectomy, or a particular condition like the buruli ulcer –could be integrated into any curriculum with relative ease. The biggest challenge would be to ensure its contextual appropriateness. On the other hand, a Postgraduate Diploma in Occupational Health, for example, would present an author – and others wishing to adapt or 'remix' it – with the full range of curriculum challenges, including:
- Selection of content
- Sequencing of content (the hierarchy: what must come first, second and so on)
- Pacing of content (the rate of progression through the bodies of content)
- Making the overall structure, as well as the evaluation criteria, clear to students.

Key differences are summarised in Table 14.

Table 14   Curriculum differences associated with two different types of OERs[18]

	'Learning object' type OER	Complete modules or programmes
Purpose/ function	To support or 'enhance' learning; OER is task-oriented	The OER is the teacher; contact sessions are likely to be the support mechanism
Role of OER creator of the teacher	• Selection of content • Development of interactive material based on content that is suitable for context	• Selection of content • Development of interactive material based on content that is suitable for context • Make decisions on sequencing and pacing, and making clear to students the structure of the course and its evaluation criteria
The essential challenge (following on from the role, above)	Mainly at level of pedagogy	Curriculum and pedagogy
Usefulness to curriculum adapter of authorial intent of creator of OER	Low – it is a discrete, self-contained, interchangeable unit that may or may not need adaptation to context	High – knowledge of original design principles would be useful when adaption or integration into an existing programme takes place
Adaptation and integration into other curricula	Relatively easily inserted into a curriculum dealing with that particular topic	Not a straightforward technical process. Curriculum coherence must be respected.

The only major commonality across these two types of OERs is that – whether at the stage of creating an OER or adapting/ integrating it into another curriculum – the teacher should be familiar with students (and their problems), and the context.

The importance of pedagogy for both types of OER is clear in Table 14. As one academic pointed out: "OER is a tool – it's not a methodology". Students learn in different ways. We need to be clear how resources will be used.

The following observations arose during evaluation visits:

(a)   Health appears to be a field to which OERs are well suited. First, within medical circles, there is openness about the trustworthiness and reliability of knowledge. As one senior academic pointed out, medicine is evidence-based: You can be proved wrong, as indeed some gurus have. The openness of OERS "makes stuff available as a way of testing, sharing

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[18] Categories in this table are partly drawn from Bernstein's distinctions between "horizontal" and "vertical" discourses. Bernstein, B. 1996. *Pedagogy, symbolic control and identity: Theory, research, critique*. London: Taylor and Francis.

and demystifying it". Second, the distinctiveness of medicine is that it brings together: (i) the trainer; (ii) the trainee; and (iii) the patient. Bringing all three together at propitious moments for teaching purposes may not always be possible (patients can't always wait, especially if in pain). 'Learning object' type OERs could offer a particularly suitable form of induction for newcomers to OER production. Many academics already have suitable photographs, and from there could move with relative ease towards adding a script for 'voice over' in the form of interactive questions and answers.

(b) OERs, by their very nature, support good pedagogy. First, as one academic pointed out, because Web 2 technology enables pedagogy to be embedded in the content, learning principles are 'visible' to students even if not made explicit. Second, for staff, the 'visible' structure of the OER enables them to have a better understanding of what students are doing. (An academic running a fully developed OER course noted that because OERs had reduced the 'residential' time students spent on campus – 8 weeks down to 3 weeks – the time between contact sessions was more regulated and purposeful as assignments were built into the OER. Previously, staff did not know what students did between contact sessions. Contact sessions were now dedicated to skills development, students' interpretation of their own conditions, and so on.)

(c) The evaluation revealed striking instances of students emerging as agents in the pedagogy of OERs by enabling them to regulate the pacing of their own learning. A significant observation from one academic was that when only contact teaching was the norm, students came to believe in the pedagogical authority of the teacher as a personality; OERs broadened the base of the pedagogical authority by modelling the concept of resources as a valid source of knowledge for the rest of one's career. There were also indications that students could become instigators for institutional OER development: one of the OER pioneers at UCT was of the view that students will come to demand OER pedagogy. One striking example of the way in which OERs can reduce the pedagogical distance between teachers and students was the OER in which students had performed the role-play around which the OER was built, and had been involved in discussions on the best ways of making the script meaningful to students.

(d) The evaluator's subjective impression is of widespread and impressive pedagogical expertise in the health sector. At all levels, academics working in OER development were using – even if only at the tacit level – pedagogical principles that professional teacher educators would applaud. An increasing number of units have also made provision for posts of responsibility for teaching (amongst those interviewed were a former schoolteacher and an MPhil in Education). The UWC SOPH document, 'A case study of severe childhood malnutrition' (Section 4.3.2 c), makes a persuasive, theoretically informed pedagogical argument for placing the case study at the centre of OER development in a way that unifies the two activities that are often positioned as counter forces in academics' use of time: research and teaching. Universities have the resources, if they wished, to cooperate in the mounting of a high quality postgraduate programme on OER in Health Education – and offer it as an OER.

Pedagogical support for Health OER producers did not appear to be necessary; but various forms of technical support to turn scripts into actual OERs did.

5.4   Tensions and constraints

5.4.1   The policy paradox

With respect to project terms of reference, impressive progress is reported above (Section 3.3) in policy *engagement* with institutional leadership. At the same time, something of an impasse became evident in that the release of materials – as fully open education resources – awaited *policy development*.

In the context of looking ahead at policy development, Table 3 (Section 3.3.2) presents something of a paradox. Prior to the Health OER project, the Western Cape partners had significant macro policies in place to promote OERs. At the same time, these policies did not appear directly to have encouraged some of the very impressive OER development that in fact took place.[19] By contrast, at the commencement of the project, the Ghanaian institutions had no such macro policies in place. Notwithstanding, both UG and KNUST have been prolific in producing Health OERs.

It could be helpful to view this paradox in terms of the different purposes of policy. One useful distinction of policy purposes includes:

- *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
- *Symbolic* policies – rhetoric about intentions. (de Clercq, 1997)[20]

Using these categories one could suggest that, independently of the Health OER Project, the Western Cape has been strong on substantive and symbolic policies: but less so on the procedural and material side. OER champions in UCT reported the attractiveness of building the procedural and material policy dimensions in an incremental way through a variety of strategic thrusts. By contrast, as a direct result of the project, the Ghanaian institutions had embarked on developing all four policy purposes *de novo,* and simultaneously, at the structural level.

The paradox becomes a conundrum. For the project, the challenge becomes one of achieving all four dimensions of policy purpose in a way that results in a productive relationship between *structure* and *culture*. The latter is where things happen ("communities of practice are the locus of 'real work'")[21] but as a UCT academic said: "OER is so simple. What you have you share. But it's difficult to get that culture going." Structure is obviously easier to change, and probably favoured by funders as an overall approach. However, if it is too radical, one may get the appearance of change without the reality of change.[22]

5.4.2   Incentive for OER production and state policy

The primacy of peer-reviewed publication was mentioned by staff everywhere as being the vehicle for career progression, status and access to resources. In terms of career, good teaching had

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[19] On the question of existing policy, one of OER pioneers observed that it was "no hindrance, no incentive".
[20] 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.
[21] Wenger, 2003: p.243.
[22] Hopkins, D, Ainscow M & West M. 1994. *School improvement in an era of change.* London. Cassell.

uncertain or incidental benefits. This draws attention to a tension – more of an anomaly, in fact – within state funding formulas for higher education.

The need for more effective teaching to deal with greater numbers of students is a feature of education across Africa. Within the project, for example, KNUST reportedly turns away two-thirds of its applicants due to lack of institutional capacity, not the quality of applicants.[23] Although in South Africa one reads statements such as: "Improving teaching and learning in both the college and the university subsystems is a priority",[24] the actual situation is that state policy rewards research handsomely and good teaching not at all (except possibly indirectly through financial incentives for good 'throughput rates'.) The result is that one of the main priorities of leading research universities is to poach A-rated researchers from each other – quite the opposite of what taking meaningful measures to support the healthy sharing of teaching resources could achieve.

This anomaly leaves institutions wishing to take the OER route in the position of what was variously described as: "a gamble people take", and a "speculative investment". An eloquent senior academic in Ghana observed that taking the OER route is a slippery slope. "However, everyone will have to go down it – and it's better to do it with skis." Nevertheless, governments appear to be too oblivious of the enormous potential of OER to provide the skis.

5.4.3   Mainstreaming OER

The above anomaly filters down to institutional level in a way that makes it difficult for academics to meet institutional research demands *and* to regularise OER production as part of normal business in a way that is not seen as an exotic and extravagant pursuit of personal enthusiasms. One possibility for minimising this tension emerges from the very plausible view expressed by one academic: teaching and research are binary oppositions at undergraduate level, "but they come together at postgraduate level." The postgraduate level might indeed be the most productive level at which to target the mainstreaming of OER into teaching while policy is awaited.

A second interim strategy could be to conceptualise all new curriculum development as OERs by using only references that are open source documents. The academic who raised this point spoke of "huge copyright costs – sometimes even to bodies like the WHO!" This point could be reinforced with reference to the amount of time and energy currently being spent on retrospective dScribing.

5.4.4   Strong or weak coordination?

The document 'A vision for a Health OER Network in Africa' states that the network "is not owned by any single entity, but rather by all participants." Indeed, this is fully in keeping with the nature of genuine communities of practice: "Most communities of practice do not have a name and do not issue membership cards (Wenger, 2003. p.7).

However, from participating institutions there were indications that the OER network needed coordination, "an honest broker", or "a middle man" to facilitate production, sharing, and reciprocity. Such perceptions seemed to be sourced in appreciation of the management of the project. At a more practical level, one senior academic argued that OER production across

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[23] <http://news.myjoyonline.com/news/200908/34322.asp>
[24] Director General of Higher Education and Training, Mary Metcalfe, *WM & G*, November 20–26, 2009: p.40.

institutions should be coordinated. There was too much "Do your own thing" resulting in overlapping OERs; rationalisation, as a consortium, was needed.

On the other hand, strong individuality was a feature of much OER production, with several academics reporting that they indeed preferred to do their own thing. Furthermore, it was argued that overlapping topics covered by OERs could be beneficial in producing different perspectives on the same issue. In any event, the most important thing was that OER production should be based on the needs of one's own students.

Within each institution, as opposed to the network, there was much appreciation for the work of institutional project coordinators. Nonetheless, some academics argued the need for more internal monitoring of OER production – targets, progress updates, etc. "to keep staff on track". A degree of "institutional clout" was necessary. But again, there were views to the contrary. To these could be added the opinion of a senior academic and project coordinator who argued that close management of flair and skills can be dangerous: coaches should develop flair, not crush it in the name of orthodoxies. There should be "some freestyling".

5.4.5   OERs as completely or strategically open

Some academics – and particularly those who had been developing OERs on their own for some time – favoured OERs being unequivocally open, e.g. "… not worried about competition – only a university can award a qualification." Others tempered openness with concerns about possible misuse of OERs by unqualified or unscrupulous people, e.g. "It's about legal openness, not market openness." It was also pointed out that there is an anomaly of the creators of OER being regulated, while users are not.

Others favoured strategic openness in the form of putting out "some stuff – but not the high stakes stuff." Another said: "We need to keep something back", and of a web-based course: "I'm nervous someone will run off with it".

Across such differing views, there was something of a common thread –the need for reciprocity: "There must be something in it for us".

5.4.6   Quality issues: must be a factor, but where is quality monitored?

All interviewees upheld the importance of quality in respect of OERs, but different views were expressed on how it should be monitored.

From senior academics in particular, came the view that: "We can't just put everything out in the name of being free." The classic method of external peer review drew some support – but this had financial implications. Others favoured a non-threatening process of internal peer review – but this "could get bogged down and hold everything up".

There were many indications that OER might have their own inherent features of quality regulation:
- The public nature of OERs means that nobody will be cavalier about what it is "put out there" (keen awareness of this from several academics).
- Teamwork is a factor in ensuring quality.

- While contact teaching is largely impervious to scrutiny, and one doesn't get feedback from a textbook, one does get immediate feedback from students, and this is more effective than retrospective, cyclical reviews.

Some pointed out that in branches of the health sciences, a professional body regulates and quality assures qualifications leading to registration with that body.

Notwithstanding differences, all of these views implicitly endorse the statement in the Vision document: "African Health OER Network will not perform any quality assurance function itself ... quality will be addressed at the margins of the network." Furthermore, current draft policies seek to establish an incentive for OER production similar to established incentives for research production. This implies that each university will ultimately have to have its own policy and quality criteria for OERs.

Of course, quality considerations cannot be focused only on the *original* OER production. The main rationale for OER is 'share alike' – the right to use, remix, "tweak" etc resources that are in the public domain. Centralised network quality assurance of different iterations and derivatives of a particular OER would be an impossible and illogical step. At the level of derivatives, most universities already have guidelines and criteria for good teaching.

5.4.7 OER Africa: Anglophone? Francophone?

The Vision document states:

> Participation in the African Health OER Network is open. There are no conditions for joining. The primary target is African health academics and faculties, first focusing on those whose language of operation is English, but with openness to growing to accommodate other languages if suitable partners indicate willingness to drive processes in other languages.

A limited number of academics expressed a view on how the network might become truly African. Two opposing kinds of views emerged: (a) the colonial divide heritage was so strong that for the Francophone academic world to accept OER networks and OERs it would need to have been part of the groundwork; (b) Differences were "no big deal" because the same diseases run across national boundaries. Visual images of these diseases are the same and would require only a different language for presentation.

6 Conclusion

The evaluation purpose was to review progress made in the Health OER project as it approached the end of its first year of operations. Evaluation was centred around: (i) institutional policy engagement to facilitate to OER activity, and (ii) progress in the production and implementation of OERs.

At the outset it was noted that the joint OER Africa and U-M project management had been highly appropriate and effective in enabling realisation of design phase activities, and had firmly embedded the project in participating institutions. Sound social relationships have created the foundation for a flourishing community of practice.

Contextual differences across the institutions presented different levels of opportunity for policy engagement to facilitate OER activities. Differing prior positions to OER across the institutions led to the project taking hold and developing in different ways.

In the policy realm, meaningful and productive engagement has taken place. As a result, two institutions – neither of which had a history of OER policy or production – had comprehensive draft policies in the institutional approval process at the time of the evaluation. In the other two institutions, the challenge was to build on the largely symbolic policies already in place and to capitalise on the past OER-type initiatives which had taken place within them. In one, the Health OER Management team conducted a detailed review of existing institutional policy in relation to OER. In the other, in the judgement of the evaluator, institutional developments had been and were moving towards the generation of OER policy of their own accord in a way that would have made assertive project measures inappropriate. Given the momentous nature of policy change entailed, and the generally thoughtful and inclusive way in which institutional change takes place, project progress has been extraordinarily impressive.

Institutions with no history of OER development designed OERs of the 'learning object' genre, while those in which individuals had of their own accord developed OERs focused strongly on developing existing materials, some in the form of full modules or courses, into OERs. It was noted that these two types of OERs – learning objects genre and full modules – have very different implications for curriculum and pedagogy. Notwithstanding such differences, with respect to the "production" of OERs, the most important overall conclusion is that expectations and contractual targets were being met in two institutions, and exceeded by a substantial margin in two others. The Design Phase aim of "promoting" the collaboration and its outputs through a community of practice web site has also been exceeded with two OERs now publicly available while a further 13 await policy finalisation before full OER status is achieved.

In all but one unit in one institution, plans for further OERs are well advanced, and there is evidence of success breeding success: new OER writers and specialist units feature in the most recent institutional plans.

A number of tensions within issues such as state policy, institutional policy and the coordination of OER production arose out of evaluation interviews. However, the most serious threats to the network appeared to be: the possibility of policy development stalling (policy being necessary to enable the release of OERs into the public domain); staff workload; and the level of technical support needed by staff. With respect to the latter, one institution had found a structural solution by embedding its Department of Communication Design in OER production in a way that brought benefits to all.

In fact, the first year of the project shows how, in each institution, project coordinators and participants have engaged OER in creative ways that are most appropriate to their own contexts. In short, the project has shown the power of OER development: with good management and the goodwill of coordinators and academics who are its champions, it can succeed in different contexts and organisational cultures. The project has yielded lessons of experience, theoretical arguments – and draft policies and concrete OERs – as a foundation to extend the network.

Annexures

Annexure 1: Interviewees

University of Ghana (12– 13 October)

Staff: Professor Aaron Lawson (Provost); Mr Samuel Aggrey (Assistant Librarian: Head of Computer-assisted Learning Centre); Rev. Thomas Ndanu (Research Fellow, Dental School); Dr Daniel Osei (Medical School); Mr Solomon Sulemani (Assistant Librarian, Head of User Services).

Focus Group Interview with Medical Students: Nwosu Ikenna; Lord L. Addo-Yiremkyi; Iwere B. Roli; Ifeadi Ngozi; Kumah Xgyeman

Kwame Nkrumah University of Science and Technology (11 October, 15–16 October)

Staff: Professor Peter Donkor (Provost); Professor Ohene Opare-Sem (Head of Department of Internal Medicine at Komfo Anokye Teaching Hospital); Professor Father John Appiah-Poku (Dean Allied Health Sciences, Department of Behavioral Sciences); Dr Joslin Dogbe (Paediatrician Lecturer); Dr Richard Phillips (Physician Specialist, Infectious Diseases); Mr Adam Rahman (Department of Communication Design); Dr Francis Yeboah (HOD Molecular Medicine).

Focus Group Interview with Medical Students: Charles Martyn-Dickens; Wemakor Stephen Kofé; Twumasi Ankrah Harrison; Solomon Nii-Kotey Kotey; Noble Vondee; Jeffery Kudiabor.

University of the Western Cape (11–12 November)

Staff in the Faculty of Dentistry: Professor Wendy McMillan; Dr Razia Adam; Dr Manogarie Chetty; Dr Tariq Loudi.

Staff in the Faculty of Community and Health Sciences: Ms Lucy Alexander; Mr Ehi Igumbor; Ms Nandipha Matshanda.

University of Cape Town (13 November)

Professor Athol Kent and Dr Jason Marcus (Obstetrics and Gynaecology); Professor Leslie London (Public Health and Family Medicine); Professor Johnny Myers (Public Health and Family Medicine); Professor Ed Rybicki (Molecular Biology); Ms Michelle Wilmers and Professor Cheryl Hodgkinson-Williams (Centre for Educational Technology).

Telephonic interview, 18 November: Mr Gregory Doyle (Educational Development Unit) University of Michigan

Telephonic interview, 9 November: Dr Cary Engleberg (Professor, Division of Infectious Diseases)