Case Study:

OER Africa and International Association for Digital
Publications (IADP)

The Use of Open Education Resources at the University of Malawi (UNIMA)

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Background and Context

The idea that Malawi should have a University was first conceived after the country obtained its independence in 1964. The result was the founding of the University of Malawi (UNIMA) only a few months after independence, although teaching did not start for another year. Today UNIMA is the nation's principal state university, comprising four colleges and a polytechnic, with campuses located around the country.

In 2007 UNIMA had a total of 6,257 students enrolled in various under- and post-graduate courses and employed an academic staff contingent of 676.

Rectorate Building, Zomba

- Chancellor College, the largest of the constituent colleges of the University of Malawi, is located in the southern region of Malawi, in the small town Zomba. The college houses five faculties: Faculty of Humanities, Faculty of Science, Faculty of Law, Faculty of Social Science, and Faculty of Education, as well as the Rectorate's central office.
- The College of Medicine has modern facilities located in Blantyre, the country's largest city, a few kilometres away from Queen Elizabeth Central Hospital, which is the main teaching hospital.
- Kamuzu College of Nursing has two campuses. The Blantyre campus is situated in the City of Blantyre within the premises of Queen Elizabeth Central Hospital and the Lilongwe campus is situated in the capital of Lilongwe, overlooking the Lilongwe Central Hospital.
- Bunda College is situated outside Lilongwe in the Central Region of the country, 35.2 km from the Capital City of Lilongwe.
- The Polytechnic is situated in the heart of the City of Blantyre. The Polytechnic comprises of the Faculties of Applied Sciences, Commerce, Engineering, Education and Media Studies, and the Built Environment.

Challenge of Resources

Like most African tertiary institutions, the University of Malawi is confronted by ongoing challenges as demands for tertiary education continue to grow but access to both physical and human resources remains fixed.

In 2009, a total of 5,600 Malawians sat the entrance exam to compete for a mere 1,152 UNIMA places.

The legality of this quota system is being fought in the country's law courts, and government is under constant pressure to allow more places.

Meanwhile teaching staff face the daily challenge of providing quality education to those fortunate enough to have places. Prescribing relevant textbooks, for example, is often considered a basic strategy when designing an academic course in developed countries.

In many parts of Africa, however, copyrighted textbooks are difficult to acquire and considered too expensive by students and their families.

UNIMA has experienced situations where very few students have access to approved textbooks and readings, nullifying prescribed book lists. Resources in the reserve section of College libraries are in great demand and popular books are rebound many times in their life cycle.

It was against this background that UNIMA embarked on a strategy to exploit Open Education Resources (OER).

OER are teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open Education Resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge.

ICT Policy

Dr Emmanuel Fabiano

The newly appointed Vice Chancellor, **Dr Emmanuel Fabiano**, has a passion for Information & Communication Technologies (ICT). Dr Fabiano believes that, if deployed with insight, ICT can assist the university to overcome a number of institutional challenges. To this end, a draft ICT policy has been formulated and is being refined by senior management. The aim is to establish an infrastructure that will ensure the centralization of all aspects of administration at the various Colleges and Polytechnic. The Rectorate also wants staff trained to exploit e-learning strategies to assist in overcoming problems related to large class sizes as well as provide students access to affordable quality learning resources.

- Dr. Emmanuel Fabiano, the eighth Vice Chancellor of UNIMA was appointed in February 2010.
- Dr. Fabiano is not new to the University of Malawi . He first joined UNIMA in 1977 as a Teaching Assistant and through the years has climbed the ranks to his current role as Vice-Chancellor.
- Dr. Fabiano has a B. Ed obtained in 1977 from the University of Malawi; an MSc (1980) from the University of Warwick and a PhD (1986) from the University of Newcastle Upon Tyne.

UNIMA OER Proof-of-Concept Projects

When considering the challenge of providing quality, cost-effective learning resources, it made sense that UNIMA should experiment with using **Open Education Resources** (OER).

During 2009, UNIMA embarked on two exciting and innovative OER projects. These projects were co-funded by the Open Society Initiative for Southern Africa (OSISA) and the William and Flora Hewlett Foundation, and facilitated jointly by OER Africa and the International Association for Digital Publications (IADP).

- The first project conducted at Kamuzu College of Nursing (KCN) aimed at training staff to source, evaluate, and adapt OER for an e-learning Certificate Midwifery Course.
- The second OER project conducted at Bunda College of Agriculture (BCA) called for the use of OER to compile a first year communication skills textbook.

Kamuzu College of Nursing's OER Project

Perceived Needs & Project Design

This project was shaped through a series of needs identified by the Kamuzu College of Nursing (KCN) staff. Through this project, KCN staff sought to:

- Develop a course that would move students away from having a purely theoretical knowledge to being able to apply skills and knowledge clinically. At most, any support material developed needed to be one third theory and two thirds practical skills.
- Introduce 5th year nurses to electronic media where colour photos and contextually relevant video clips could be integrated with text resources.
- Achieve all of this in a cost-effective way by adapting materials that had been released as OER rather than developing materials from scratch. Support came primarily from Michigan State University, which helped to identify relevant OER for the project.

Midwifery students in the pilot show off their course materials CD ROM, Lilongwe.

As lecturers lacked the expertise to assess practical skills or to determine proficiencies, they too would need to be supported in teaching in a different way. The project therefore sought to build capacity amongst the KCN staff to develop a set of materials to support both students and staff in the use of Problem Based Learning (PBL) using OER. This methodology contrasted with the traditional didactic mode of instruction and was seen as a concrete way to introduce a new way of teaching and learning to both staff and students.

In an attempt to minimize a dependency on connectivity, this collection of digital support materials was to be distributed by CD-ROM. The whole course was organised according to a 'Problem Solving' approach to Nursing education, in which the focus was on 'Antenatal', 'Labour and Delivery' and 'Postpartum' content.

KCN Staff in 2nd Workshop, Blantyre.

KCN Pilot project midwifery students, Lilongwe.

Sisters! An older sister holds her younger at clinic attached to KCN.

Project Implementation & Processes

Prior to supporting and training staff, it was necessary to source quality OER. This project's need for materials relating to birth, delivery, and post-natal mother care benefited from the sourcing of OER from private institutions rather than openly available, online OER repositories. Michigan State University (MSU) was one of the universities contacted by IADP/OER Africa, and kindly provided a set of useful materials on which to start adaptation. These materials formed the core of a series of OER workshops held for a selection of nurses and course designers.

During the first workshop, participants were introduced to the concepts of OER and Problem Based Learning (PBL), as well as starting a process of adaptation to the materials to make them better fit the PBL educational approach and the Malawian context. Between the first and second workshops, the academics focused on reworking the materials. During the second workshop, the concept of packaging the materials integrated as a PBL learning pathway on a CD ROM was refined and the structure of the course and its various components was clearly identified and mapped.

After the second workshop, work by the KCN team continued and was supported by the IADP. The IADP team developed the HTML interface for the CD ROM and collated the draft materials submitted by the Nursing team. A further meeting was scheduled to finalise the course and finish creation and adaptation of the resources.

Products & Outcomes

The KCN OER project included training of KCN staff to source, analyse and adapt OER, and, with the support of OER Africa / IADP, devise an interface to hold the digital resources together in a manner that promoted the use of PBL. Contextually relevant photographs and video clips were integrated into the materials. The final product included an Orientation section, which introduced the PBL methodology and spelled out how student involvement was different from traditional learning methods and sections on Antenatal, Labour and Delivery, and Postpartum Care.

The courseware has been offered back to the OER Community from the OER Africa platform and is licensed as: Creative Commons, by-attribution, non-commercial, share alike (CC: BY-NC-SA).
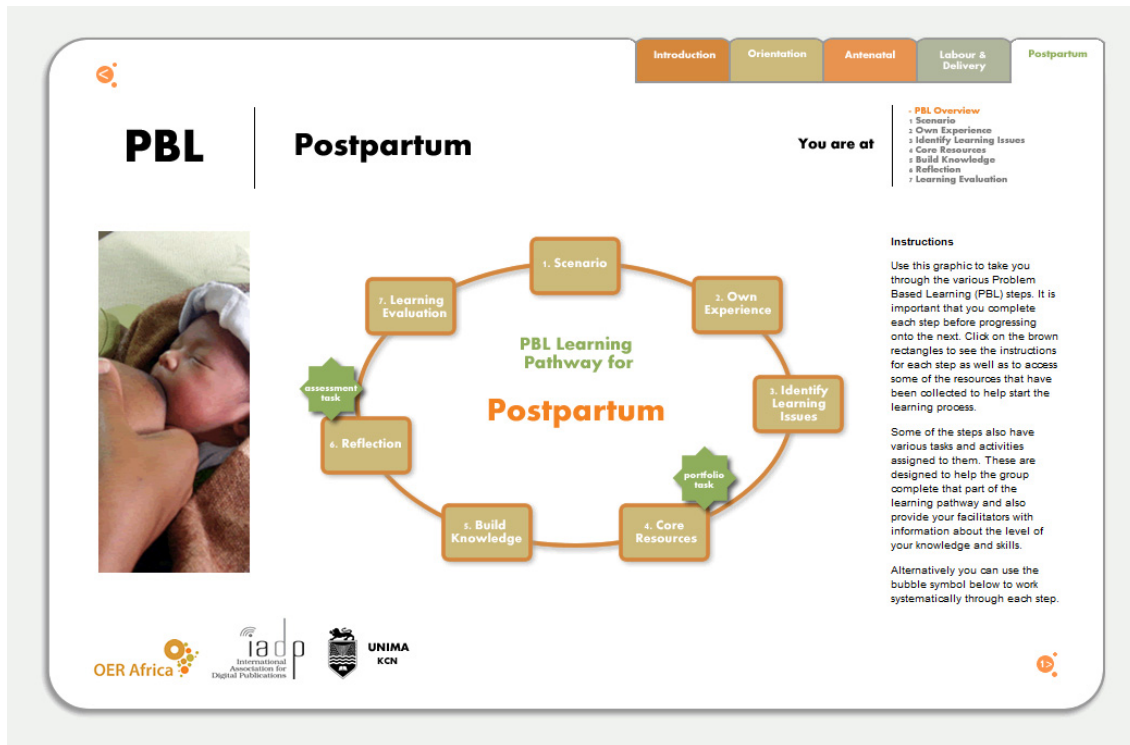
Opening screen for Postpartum materials clearly outlining the seven learning steps required by Problem Based Learning.

Each step in the learning pathway hyperlinked directly to a set of activities. Step four, entitled Core Resources, for example, required students to review a set of OER in order to acquire in-depth knowledge that would help them to solve a particular midwifery problem. The KCN staff also devised portfolio and assessment activities to compliment the use of the OER.

First piloted with students in February 2010, the Midwifery learning environment generated high levels of interest amongst students.

Pilot students at KCN.

Uptake in using the materials, however, was slow because both staff and students had to adapt to a different way of teaching and learning. In terms of integrating PBL, this might take some time but, in terms of using OER, there is growing consensus amongst staff that this is a cost-effective way of creating high quality teaching and learning materials. Additional OER projects are consequently now being proposed by KCN Staff. Some faculty have suggested that this model be used as a basis for other e-learning programs, while other departments have expressed a need for similar CD based materials for their courses.

> *"... Because the materials are already there you don't need to invent the wheel and they shorten the time needed to prepare new teaching materials. With OER it is easy to adapt them to your needs. Reusing quality OER also assists staff grow in confidence in teaching the content of the materials."*
>
> Rebecca Ngalande, coordinator of the KCN project.

Evaluation Findings & Lesson Learned

The KCN team provided monitoring and evaluation input on two occasions. During the first workshop, team members completed a baseline study that gauged the extent of their use of computers and also their awareness of OER. A follow-up questionnaire that monitored changes in behaviours and perceptions was used during the third meeting.

The KCN team were unanimous in their support for the use of OER in tertiary education. Of interest from the results was the comment made by one respondent who said that,

> **"While OER have a considerable role to play there needs to be efforts to sensitize students and management to their significance".**

The KCN team has affirmed the quality of the resources they adapted and believes the materials were cost effective because they could be accessed for free. However, 'internet failure' often made access difficult.

When asked, 'Do you believe technology and e-learning in particular can play a role in enhancing the courses you design for the students in the future?', the KCN team responded;

> **"Yes, because of the demand for and [increased] use of technology [by students] and also because we are faced with bigger groups with fewer resources".**
>
> **"Yes as they can be used as learning materials which enhance learning of the students even when they graduate".**

When asked to identify 'future challenges' in acquiring and adapting OER the following issues were identified:

- Time to source and adapt materials
- Capacity building of additional staff
- General sensitization of faculty and staff to benefits of using and adapting OER
- Access to the internet.

Feedback

The project has generated much interest amongst other University of Malawi faculty members, some of whom have suggested that this model be used as a basis for other e-learning programs. Some departments within the College have asked for similar CD based materials for their courses. As

a consequence of this type of feedback the UNIMA project coordinator has asked OSISA/IADP/OER Africa to consider new OER projects that include:

- An expansion of the existing Midwifery course so that it incorporates genuine Malawian case studies and scenarios including clinical skills for midwives, i.e. *Complicated* antenatal, labour and delivery and postnatal. (This was omitted from the existing course) .

- Production of a DVD of common competencies and procedures, which would include both video and audio lecture material so that students can learn without having to *attend lectures*. Students would supplement these materials with a shorter audience with the lecturer at a set time for clarifications and discussion. Included would be additional materials that would show common competencies and procedures, and how these are done in both ideal situations and in areas where resources are not adequate, but without compromising quality.

Bunda College of Agriculture's OER Project

Perceived Needs & Project Design

Through this project, the staff of Bunda College of Agriculture's (BCA) Language and Communication for Development Department intended to use OER to address specific problems:

- The most relevant of these being that neither staff nor students had access to the same set of textbooks despite their **Communication Skills** classes being a core course taken by all first years. There was no set textbook for the Communication Skills syllabus. Lecturers tended to use more than one text to teach the syllabus and students generally did not have access to these titles.
- Students could not always access the 'Recommended Readings' that accompany the syllabus outline as the College Library did not have or had an insufficient number of these texts.

It was decided, therefore, to create a paper textbook from freely available OER that would cover at least 75% of the 1ᵗ semester course content and that would be easily replicable for up to 200 students and staff per annum.

A series of writing workshops facilitated by OER Africa/IADP assisted BCA staff to source, analyse, and adapt a variety of existing OER to help craft the textbook.

The workshops were also to act as a model for expansion into other departments in the College facing similar needs. The process involved would also help the initial group develop a second textbook for the 2ⁿᵈ Semester Communication Skills course at a later date.

BCA staff at 1ˢᵗ OER Workshop.

Project Implementation & Processes

Prior to the first workshop, during February and March 2009, a search was conducted by IADP/OER Africa for OER associated with language teaching. A CD was compiled with samples and associated web addresses that linked to these language resources. This resource list/sampler was part of the materials that formed the basis of the first OER workshop. This workshop included a theoretical component that introduced the OER movement and a 'hands-on' approach to searching digital repositories and adapting the materials.

As part of the workshop, an attempt was made to insert the participants into a wider network of OER practitioners. An OER Africa Facebook group had been set up with a membership of over 100 international members and the participants were signed up during the workshop. Between the first and second workshops, the Bunda team re-worked the sourced OER and adapted them to suit the Bunda context. The focus of the second workshop was on the writing process and identification of gaps that still existed. The third workshop focused on quality control, provided an opportunity for further writing, and also identified omissions in the text and set activities.

Products & Outcomes

While it initially proved difficult to wean the writing team off their preferred copyrighted texts, the Bunda team now feels that there is a role for OER in the production of university texts.
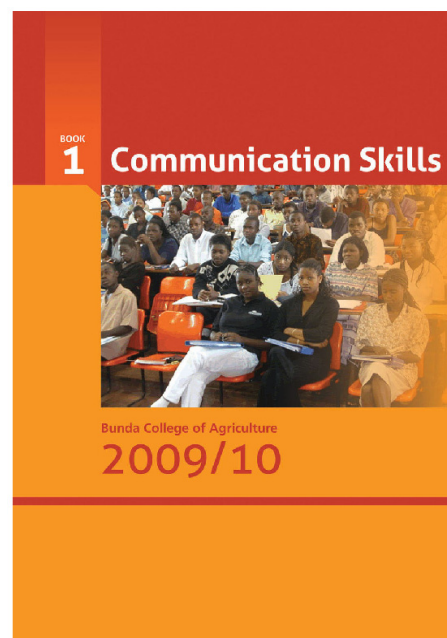
Staff were encouraged to enhance the materials by adapting them so that they contained contextually relevant examples, included enrichment activities and assignments and in some instances rephrasing them so as to be more familiar to Malawian 1st year students.

These adaptations and improvements were only made possible because the original OER's licensing conditions allowed derivative works.

The 102 page *Communication Skills* textbook, which was created exclusively from OER, was released in early 2010 and has been offered back to the OER community. It is available from both the Bunda College website and the OER Africa website. The main text and the individual

Completed OER textbook cover, Communication Skills.

chapters have been licensed as: Creative Commons, by-attribution, non-commercial, share alike (CC: BY-NC-SA).

Evaluation Findings & Lesson Learned

The Bunda team provided monitoring and evaluation input on two occasions. During the first workshop, team members completed a baseline study that gauged the extent of their use of computers for their work and also their awareness of OER. A follow up questionnaire was used during the third meeting that monitored changes in behaviours and perceptions.

The project cannot claim full credit, but access to computers improved and use of computers broadened amongst the team during the course of the project.

Unsurprisingly, awareness of OER also improved amongst the group. All were in favour of using OER in the future. One respondent claimed they were 'fantastic' and 'helpful in coming up with customised teaching material.'

A more cautious attitude prevailed when asked to consider suitability, cost and availability of OER. On the issue of suitability, one respondent claimed that it 'depended on the subject matter'. On the issues of cost, a member of the team claimed that while OER are free there are hidden costs in the time taken to search for appropriate OER as well as time needed to do the adaptations. There are also costs in production. Comments on availability focused on issues of technology. Bunda College has poor bandwidth and the two workshops on campus revealed a slow connection. Consequently searching for resources was a protracted affair.

In terms of using OERs in future, the following potential pitfalls were identified:

- Potential lack of interest in stakeholders (Senior Management)
- Lack of adequate resources for the courses held at Bunda College of Agriculture
- Lack of funding for the time required to do the searching and adaptations .

BCA Staff on 1st OER Workshop.

BCA Communication Skills Students.

Perceived Benefits of using OER

In the wake of these two successful OER projects, other UNIMA staff members have expressed interest in additional OER projects in other Colleges. This interest is in part due to the praises sung by the recipients of the 1st round of OER training. Rebecca Ngalande, coordinator of the KCN project comments;

> *"... the first project was an eye opener and we had a number of issues we had to deal with. However, we have seen how the adapted materials were received by the students and are aware of the processes we should follow now. Adaptation in the future will be even easier."*

The Vice Chancellor, who envisages ICT playing a greater role in supporting the teaching and learning processes in the future, believes exposure to and use of OER by his staff is an important component in their growth towards developing more sophisticated e-learning platforms. He endorses their use and appreciates their contribution.

Project Funders

The Open Society Initiative for Southern Africa (OSISA)

The Open Society Initiative for Southern Africa (OSISA) is a leading Johannesburg-based foundation established in 1997, working in 10 Southern Africa countries: Angola, Botswana, DRC, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe. OSISA works differently in each of these 10 countries, according to local conditions. There are specialised programme managers in Angola, DRC, Swaziland and Zimbabwe - these being the four countries in which significant structural governance questions still obtain.

OSISA is part of a network of autonomous foundations, established by George Soros, located in Eastern and Central Europe, the former Soviet Union, Africa, Latin America, the Caribbean, the Middle East, Southeast Asia and the US.

OSISA's vision is to promote and sustain the ideals, values, institutions and practice of open society, with the aim of establishing a vibrant Southern African society in which people, free from material and other deprivation, understand their rights and responsibilities and participate democratically in all spheres of life.

In pursuance of this vision, OSISA's mission is to initiate and support programmes working towards open society ideals, and to advocate for these ideals in Southern Africa. This approach involves looking beyond immediate symptoms, in order to address the deeper problems - focusing on changing underlying policy, legislation and practice, rather than on short-term welfarist interventions.

Given the enormity of the needs and challenges in the region it operates in - and acknowledging that it cannot possibly meet all of these needs - OSISA, where appropriate, supports advocacy work by its partners in the respective countries, or joins partners in advocacy on shared objectives and goals. In other situations, OSISA directly initiates and leads in advocacy interventions, along the key thematic programmes that guide its work. OSISA also intervenes through the facilitation of new and innovative initiatives and partnerships, through capacity-building initiatives as well as through grant making.

The William and Flora Hewlett Foundation

The William and Flora Hewlett Foundation has been making grants since 1967 to solve social and environmental problems at home and around the world.

The Foundation's programs have ambitious goals that include: helping to reduce global poverty, limiting the risk of climate change, improving education for students in California and elsewhere, improving reproductive health and rights worldwide, supporting vibrant performing arts in our community, advancing the field of philanthropy, and supporting disadvantaged communities.

Project Facilitators

International Association for Digital Publications (IADP)

The IADP provides university students and academic staff in developing countries with: (1) affordable access to e-books, and (2) support for the identification, development, and effective use of open access e-learning resources.

The IADP commenced operations in March 2006 with a pilot program that provided e-books to small groups of students at four South African universities. The e-books were made available off-line as well as on-line on a pro bono basis by a growing number of publishers. The purpose was to develop and test the necessary systems and processes in a relatively favorable operating environment, and to identify a sustainable Business Model that in future would bring low cost e-books to large numbers of students in developing countries. The IADP also developed an open access platform, which it has started to populate with relevant, e-learning resources.

Following a positive external evaluation by the British Council in March 2008, the IADP is now preparing to add scale in South Africa and extend the Programs into other Countries.

In order to implement the Programs, the IADP has added to its direct staff by in-sourcing specialist consultants on a time and expenses basis from the South African Institute of Distance Education ("SAIDE") and Neil Butcher Associates.

OER Africa

OER Africa is an innovative initiative established by the South African Institute for Distance Education (Saide) to play a leading role in driving the development and use of Open Educational Resources (OER) across all education sectors on the African continent.

Established in 1992, *Saide* anticipated how distance education methods could assist in meeting the mammoth educational challenges facing post-Apartheid South Africa: in redressing the inequalities of the past; in vastly increasing access and quality; and in developing a future education system where education is no longer seen as a once off preparation for life but rather as a lifelong process to meet ever-changing demands.

Saide's mission is to increase equitable and meaningful access to knowledge, skills and learning across the African continent, through the adoption of open learning principles and distance education strategies. *Saide*'s recently launched *OER Africa* initiativebrings together all of its OER-related activities under a common conceptual framework.

With seed funding from the Hewlett Foundation and a wide variety of projects and partnerships running across Africa, *Saide* is – through its *OER Africa* initiative – providing a unique opportunity to deploy African expertise to harness the concept of OER to the benefit of education systems on the continent and around the world.