What are Open Educational Resources?

Open Educational Resources (OER) are educational resources that are openly licensed, so that they can be used, adapted, integrated, and shared any time and place. OER are distributed electronically via the Internet or removable media (e.g., CDs) and can include lecture materials (presentation slides, syllabi, etc.), photographic or microscopic images, animations, videos, textbooks, research papers, and quizzes. Offline access is particularly important in Africa, where bandwidth and other infrastructure issues make downloading materials online difficult, if not impossible, in some instances.

Why Health OER?

The inadequate density and distribution of healthcare providers negatively affects health outcomes around the globe. In particular, Sub-Saharan Africa has too few healthcare professionals being trained to meet local needs. We believe OER can advance the delivery of health education by increasing the availability of relevant learning materials, reducing the cost of accessing educational materials, and stimulating the active engagement of teaching staff and students in creating materials.

The African Health OER Network

The African Health OER Network fosters co-creation of resources, enabling institutions to share knowledge, address curriculum gaps, and use OER for improving the delivery of health education in Africa. The Network is building the socio-technical infrastructure to draw in more African and, eventually, global participants, while also developing models of collaboration and sustainability that can be replicated in other regions of the world.

The role of the Network is to:

- Aggregate the results of multiple health education initiatives by collecting, classifying, indexing, and then actively distributing African-initiated resources with the global health community
- Facilitate discussion of how those resources can best be used
- Share best practices, e.g., OER production and advocacy
- Aggregate content to develop and deliver a critical mass of learning materials
- Work through institutions and associations to advocate the principles of openness and of sharing educational materials. This includes helping institutions create an enabling policy environment for OER production and use

Midwifery students at Kamuzu College of Nursing show off OER course materials on CD-ROM.

"African universities struggle to have access to information. If we have information, why do we not also share it as part of a pool of universities? Using OER, our institutions are prepared to exchange information for the purpose of improved learning."
Prof. Peter Donkor
Pro Vice-Chancellor, KNUST

The Audience for the Network

Participation in the African Health OER Network is open to all. The primary contributors and audience are African health academics, faculty and students, first focusing on those whose language of operation is English. Individuals and organizations are encouraged to contribute OER and to add their electronic signatures to a jointly developed Declaration of Support (entitled "Vision for a Health OER Network in Africa").

African Health OER Network Services

The potential of OER is best achieved through a collaborative partnership of people working in communities of health educators and practitioners. Collaborative OER processes, built by networks of educators, can lead to increased availability of relevant, need-targeted learning materials by facilitating sustainability, achieving a better understanding of learners' needs, and motivating contributions from participating institutions.

African Health OER Network efforts in 2010 and 2011 will continue to focus on network building, including:

- Fostering growth and awareness of the Network
- Identifying generalizable lessons in community building
- Promoting policies, practices, and tools
- Aggregating content to develop and deliver a critical mass of learning materials
- Sustaining a community of OER providers and users

Depending on need, Network participants provide the following services to each other and new joiners:

- Training and workshops
- Mentoring and consulting
- Reference services for finding OER on a given health topic
- Reviewing content for copyright, privacy, and endorsement considerations
- Materials production and distribution
- Assessment

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*"We have limited resources, but because of the Internet, we can share. The South has diseases [the North] knows nothing about. Our OER materials are relevant to us **and** in the North."*
A Network Participant

Examples of OER
- **Caesarean section**
- **Buruli Ulcer**
- **Severly Malnourished Children**
- **Introduction to Problem-Based Methodologies**

Go to www.oerafrica.org/healthoer/ to view and download all of the resources.

OER in Action (Results as of February 2011)

Network Participants Representing 14 Institutions
- **OER Africa**
- **University of Michigan**
- **Kwame Nkrumah University of Science and Technology**
- **University of Ghana**
- **University of Cape Town**
- **University of the Western Cape**
- **University of Malawi**
- **University of Botswana**
- **Health Education and Training in Africa Project of the Open University**
- **University of Nairobi**
- **Makarere University**
- **EBW Healthcare**
- **Global Health Informatics Partnership**
- **MedEd PORTAL**

150 New OER Created and Shared Online

78 Individuals, 16 Organizations Signed Declaration of Support

2 Institutions Adapting New Policies to Support OER

11 Training Workshops Held

8 Advocacy Workshops Held

130 Individuals Trained in OER Production

17 Conference Presentations

12 Invited Presentations

5 Papers Published in Scholarly Journals

www.oerafrica.org/healthoer

Health Sciences Disciplines Represented in the Network

- Internal Medicine
- Nursing
- Dentistry
- Public and Community Health
- Pharmacology
- Clinical and Social Pharmacy
- Pharmaceutical Chemistry
- Sports and Exercise Science
- Obstetrics and Gynecology
- Herbal Medicine
- Pharmaceutics
- Surgery
- Medical Laboratory Technology

"OER offers a new paradigm in teaching and training, allowing combinations of access by both users and producers of learning materials. OER brings together resources that exist outside of a traditional course structure and makes them available for instruction."

Prof. Ohene Opare-Sem
OER Coordinator, KNUST

Crowded conditions during rounds can interfere with students' ability to learn. OER enables students to review materials before and after each session to reinforce learning.

Enhancing Student Learning

A professor from the University of Cape Town, frustrated by the "horrifically expensive" cost of textbooks, designed a comprehensive web-based course on occupational health. This OER module is now used by educators and self-learners on three continents (Africa, Europe and South America, where it has been translated into Spanish).

Others are similarly motivated to create materials that can be used locally and disseminated globally. Two Network participants spoke of how OER can facilitate a more intimate learning experience for students, especially in large class sizes:

"We teach 250 students in batches of 15. We repeat procedures over and over again. OER can greatly help."

"We have to perform certain demonstrations in front of large groups of students. It's a challenge trying to crowd around a patient and learn how to examine a lump properly. Through OER we can show them how it's done. Then they can go back, watch the video, and review on their own."

Inspired by a lack of relevant existing materials and crowded ward rounds at the university hospital, one professor from the University of Ghana (UG) created an interactive OER about Caesarean section procedure. The learning module includes narrated surgery videos broken down into the seven main steps of the procedure, interactive case studies, and a self-assessment quiz. This module has already been shared with over 70 students at UG. Students have responded positively, with one student commenting that the ease of accessibility of OER allowed for "a more effective use of the three hours in the theatre" observing the procedure in person.

Caesarean Section — Dr. Adanu explains the programme (1:07)

Surgery videos (video size can be adjusted by enlarging the window)
Introduction to the case (0:48)
1. Induction of anaesthesia (0:58)
2. Cleansing and draping the patient (1:53)
3. Making the abdominal incision (2:10)
4. Division of the uterovesical peritoneum and incision into the lower uterine segment (1:02)
5. Delivery of the baby and placenta and cleaning the uterine cavity (2:32)
6. Closing the uterine incision (5:45)
7. Closure of the abdomen (8:23)

Self-assessment quiz

Presentation of the Case

Interactive modules are a key supplement to the classroom and clinical experience, offering students a self-paced review of learning materials.
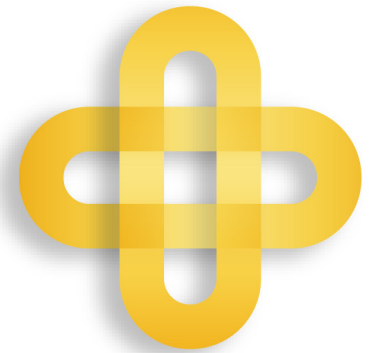
African Health OER Network

Addressing Global Health Education Needs through

Open Educational Resources

OER Africa

University of Michigan Medical School

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