The African Virtual University

The AVU OER Architecture & Strategy

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1 Background

The AVU mission is “To facilitate the use of effective Open Distance and eLearning Methodologies in African Tertiary Education Institutions”. In line with this mission, the AVU sought to have a collaborative and coordinated strategy for the creation, organization, dissemination and utilization of OERs in order to resolve a problem that has affected learning, teaching, research and collaborative intellectual activities on the continent for many years.

The OER Movement at the AVU first gained momentum after the Massachusetts Institute of Technology (MIT) and AVU collaboratively conducted a pilot project in 2005, aimed at increasing the use of OpenCourseWare (OCW) materials in African institutions of higher learning. A conceptual framework and architecture, the “AVU OER Architecture”, was configured to support the creation, organization, dissemination and utilization of OERs. A strategy for collaborative partnerships for African higher education and training institutions was also developed. The strategy recognized the importance of raising awareness in order for those in the continent to familiarize with OERs. The scale and scope of existing OERs present a huge challenge to learners, educators and researchers in the developing world. OERs are not just about digitized information, but about developing methodological approaches and mechanisms that manage and ascribe meaning to them.

2 Why OERs?

In Africa only one in 50 people ever receive a tertiary education. In the West, it is close to one in four. According to UNESCO’s Educational Regional Overview, on average, Africa lags behind even among the poorest of other developing countries elsewhere in the world by a factor of nearly five. In an average Sub-Saharan African country, the participation rates in tertiary education are 4% of the age cohort. One of the contributing factors inhibiting access to tertiary education is the lack of information communications technology (ICTs) on the continent. Only 1.7% of Africa is online at any given time; and the percentage is even smaller for formal educational purposes. In an average Sub-Saharan African University, there are ten students per networked computer. Yet access to educational materials goes far beyond access to ICTs. Issues concerning intellectual property rights (IPR) and copyright standardization prevent access to education due to raising costs of educational materials.

Open Educational Resources are content/materials that assume an alternative form of copyright and therefore can become more widely available. These hold tremendous potential for the future of education, especially in Africa. Often, the copyright costs attributed to higher-learning resources soar far beyond the annual tuition rates for African tertiary educational institutions. Initially, the goal in establishing the current
global IPR structure (outlined in the WIPO TRIPS agreement) was an attempt to provide the legal context necessary to promote the development of entrepreneurial societies. However, it has done so almost exclusively in the Developed World and at the expense of the Developing World. Many developing countries, experience the IPR regime in terms of an increase in costs, rather than an increase in opportunities for learners and users of educational materials in general. The effects of this are clearly evident in the educational sector in Africa, where educational institutions suffer inequities in resource availability. OERs provide a partial solution to this inequality. The realization of the benefits of OERs, however, relies on a strategic and coordinated plan premised on a studious analysis of the gaps and challenges that exist. The AVU aims to achieve innovative solutions to the later problem through the expansion of OERs on the African continent and how these can contribute to the altering of perceptions of African Universities regarding the very nature of how teaching and learning can be undertaken at these institutions.

3 Context

The AVU believes that OERs are not just about having digitized information, but about having collaborative partnerships that develop methodological approaches and mechanisms for OERs that focuses on the four main elements of the OER evolutionary process: Creation, Organization, Dissemination and Utilization (Pence, 2005).

![Fig 1: The AVU OER Architecture](image)

The strategic combination of these elements which form the ‘AVU OER Architecture’ will lead to the development of a local, dynamic, rational, comprehensive and sustainable OER strategy for African education and training institutions.

For a long time, Africa has been receiving content from the developed economies. In most cases the content has had little or no relevance to the African context. The AVU recognized this and since it was evident that the OER movement was strong in more
technologically developed countries, decided to use its experience and developed competencies to bring together Partner Institutions and spearhead the OER Movement in Africa. The AVU’s experience and competencies include:

- The ability to work across borders and languages in Anglophone, Francophone and Lusophone Africa
- Fostering regional integration and mobility for education professionals in Sub-Saharan Africa
- Large network of Open Distance and eLearning institutions in Africa
- Presence in more than 27 countries with 53 Partner Institutions

It is evident that Africa enters the OER Movement with little or no experience at all in the OER Evolutionary process. This presents a real possibility that African Universities and other tertiary institutions may tend to participate as unequal recipients of content, with little or no control over its origination and appropriateness. The AVU decided to adopt a model in which African Institutions would be involved in the entire OER evolutionary process so as to reduce challenges, enable active participation and ensure the institutions drive and own the whole process. The key objectives of the AVU OER Architecture were set to:

- Facilitate increased participation in the creation, organization, dissemination and utilization of OERs
- Address issues pertaining to relevance of OERs to the African Context
- Reduce Technological challenges
- Enable institutions to participate actively, by driving and owning the process in terms of form, content, structure and orientation.

To achieve these objectives it was necessary to embark on activities that would demystify OERs through conference presentations, workshops and participating in global forums discussing OERs.

4 OER Architecture Strategy

The purpose of the AVU OER Architecture is to lay out the basic building blocks or elements of the OER movement within the AVU network and on the African continent. The architecture is grounded in two experiences: a thorough analysis of the existing theories and perspectives concerning the global Open Content movement and the AVU’s experiences in establishing processes, systems and frameworks of design, development, managing and sharing OER on the African continent. The combination of these components constitutes the empirical and theoretical ‘foundation’ on which the AVU OER Architecture is based.

The constituent parts (or ‘elements’) of the AVU OER Architecture (Creation, Organization, Dissemination and Utilization) are supported by ‘scaffolding’ in the form of the following activity sets: Capacity Enhancement, Sensitization, Technological Infrastructure support, Policy formation, Research, and Collaboration. From this basic framework, the dimensions of the AVU OER Architecture are formed to create ‘knowledge spaces,’ in which OER and ODeL practitioners can find meaning and information about ODeL initiatives and methodologies. The AVU targets policy makers and managers of the universities as the initial practitioners to be sensitized on the OERs.
Without their understanding of the merits of OERs in the African academy, it will be difficult for them to create an enabling policy environment for the practitioner to thrive in exploring the field of OERs.

5 Awareness Raising Activities

The AVU OER awareness raising strategy aimed to foster not only awareness of the potential benefits of OERs to enhancing access to education in Africa, but also to promote policy development and research in the creation of OERs. The development of formal (workshops, conferences and information sessions) and informal structures (virtual community of practices and research networks), to sensitize the academic institutions to the concept of OERs took priority. The AVU has so far spearheaded and participated in several OER activities:

**The MIT-OCW:** Since its formation in 2005 and in response to the findings of a Gap Analysis conducted in AVU Partner Institutions that ascertained, amongst other needs, a lack of familiarity and understanding of the concept and practice of OERs, the AVU in collaboration with MIT developed and implemented a pilot study of MIT OCW in two AVU Partner Institutions and presented its findings to the annual COSL Open Education Conference in 2005. Fig II: MITOCW Presentation at UON

**WSIS 2005:** A concept paper for the AVU OER Strategy was developed and presented at the OER Roundtable at the WSIS in November 2005. This roundtable served as a forum to introduce key stakeholders to the AVU OER Architecture and to solicit their input into the implementation of a strategy to make relevant OERs accessible in Africa.

**The TESSA Project:** The AVU in support of the Teacher Education for Sub Saharan Africa (TESSA) Project, also developed a working document entitled The AVU OER Architecture in support of TESSA, which served to clarify the project governance structure between the AVU and the OU (UK) for the Teacher Education project which is funded by the Hewlett Foundation and other donor partners. The TESSA project is aimed at developing an online portal for educational content that will be made freely available and without copyright restrictions. Once on the portal, the materials may be used as is or may be modified and/or adopted for both teaching and learning by anyone with access. The TESSA Project is currently managed by the BBC World Service Trust.

**Development Gateway – OER Topic Guide:** In 2005, the AVU undertook the role of OER Topic Guide for the Development Gateway. The page gained numerous active registered users, and the AVU received acclaim for its role and was invited by the Development Gateway and its key donor, the Hewlett Foundation, to continue with this activity in 2006.
The AVU OER Seminar: This was held at the first eLearning Africa Conference in May 2005 in Addis Ababa, Ethiopia: The main theme of this workshop was “Supporting Open Distance and eLearning in African Universities”. During this seminar, the participants got the opportunity to learn what OERs are and their benefits.

The AVU Vice Chancellors’ Conference: This Conference, organized by the AVU was held in November 2006 at the Hilton Hotel, Nairobi. The focus of the Conference was the launch of the AVU OER Sensitization Strategy with the theme “Open Educational Resources in support of Higher Education”.

Fig III: Prof. T. Karsenti introducing VCC participants to OERs in November 2006

The conference sought to present the potential that African universities ultimately have to participate as equal content developers in their own right, rather than as OER recipients. The participants also had the opportunity to actively participate in stimulating discussions about the potential of OERs to increase access to affordable tertiary education. In addition, the logistics of implementing OER Policies, licensing OER works and collaborating in the creation of OERs was discussed and led by some of the World’s leading practitioners in the field of OERs.

UNESCO IIEP OER Online Forum: The AVU had been continually and actively participating in this global online forum w organized by UNESCO.

2006 ICDE Conference: This conference was held in Rio de Janeiro and the AVU presented a paper on “Utilizing Open Educational Resources to support Higher Education in Africa”. The conference served as an opportunity to showcase the work that the AVU OER Strategy had so far accomplished.
The AVU AfDB Teacher Education (TE) Program: The AVU Teacher Education Program, funded by the African Development Bank (AfDB) has been developing 73 modules in Mathematics, Science and Basic ICT for secondary schools. In the development of the modules, the authors, drawn from across various institutions of higher learning in Africa were encouraged to use copyright free materials that are available as open content. It is anticipated that, the TE Materials will eventually be released as OERs. Discussions are also underway with Partner Institutions to release the developed modules to the OER Movement.

The AVU Sabbatical Fellowship: In 2006, the Hewlett Foundation approved and disbursed funding to the AVU to support research and awareness raising for OERs. A Sabbatical Fellow was appointed to carry out research and represent the AVU OER Activities in Africa, Europe and Asia.

The MIT Linc Symposium. In October 2007, the AVU was invited to the MIT Symposium in Jordan. A presentation “The African Virtual University: Working with 27 countries across boundaries and Language barriers in Anglophone, Lusophone and Francophone Africa”. The presentation showcased the AVU experience, current and future prospects particularly in the area of Open Educational Resources.

Merlot Africa Network (MAN): In October 2007, the AVU and the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) signed a Memorandum of Understanding with the aim of carrying out joint activities to improve the efficacy of teaching and learning by expanding the quantity and increasing the quality of online learning materials and services that can be easily incorporated into educational programs. MERLOT promotes the use of OERs within various communities of Practice in the higher Education Sector. This initiative will be part of the AVU OER Strategy.

6 Challenges
The AVU recognizes that there are issues that need to be addressed in order for the OER Movement to progress in Africa. The most crucial of the issues include the following:

OER Sensitization: OERs are still relatively new in Africa and in order for the movement to gain momentum, it is imperative that sensitization campaigns be carried out, to explain what they are and why institutions should join the movement. After the launch of the OER Sensitization Strategy at the AVU 2006 Vice Chancellors’ Conference, despite overwhelming support during the conference, only a few institutions ascribed to participate in the OER Movement afterwards.

Technological Infrastructure: In Africa, the availability of the necessary infrastructure is still a big challenge. For OERs to be used, access to computers and connectivity are a major requirement. Due to the fact that the infrastructure is wanting, it was not possible to reach out to many institutions as in some; telecommunications and internet are quite unreliable. It is anticipated that the laying down of the marine
fiber optic cable around the African continent will greatly benefit institutions through the provision of affordable connectivity and bandwidth (Jensen, 2006).

**Policies and Licensing of OERs** The proliferation of OERs in Africa has no concrete structure yet. Despite OERs being available for free and open use today, most of them are protected by different licenses and may require special clearances and acknowledgement of the original proprietor. It is necessary that institutional governing bodies articulate a broad reaching governance structure for OERs. The AVU has tried to convince institutions and academics to ascribe to the OER Movement, but there is a lot of unwillingness to give up intellectual work for free.

**Quality Assurance of OERs** The need to adopt stringent peer review for OERs in quality assurance is very crucial. This should be integrated throughout the processes from creation, development, dissemination and utilization. The quality of OERs is still questionable and this still ties up with the question of in country policies in education. Many countries have strict rules regarding transnational education which in most cases may not be relevant to the needs of countries in Africa.

**7 Next steps**
The activities initiated by the AVU are first steps towards full participation in Africa’s growing OER Movement. Despite the relative newness of the OER Movement, there is still need to mainstream the challenges in order to maximize the benefits that institutions stand to gain from OERs. The potential of the AVU in spearheading the OER Movement in Africa is huge, due to over 10 years experience and networking with over 50 Partner institutions.

The AVU OER Strategy has continued to advocate and lobby for OERs and has to date achieved incredible success for the OER movement in Africa. Through the AfDB/UNDP funded Teacher Education Program, 73 modules for 4 Bachelor of Education curricula in Mathematics, Science, Physics and Chemistry have been developed by African academics using Open Content and 52 of them have been released as OERs through the AVU Virtual Consortium Project. This is an exciting achievement for the AVU and indeed an exceptional success story for the Open Educational Resources movement in Africa. The developed modules will be used as university programs in 12 institutions across 10 countries in Africa.

The AVU is in the process of replicating this model in other subject areas, including Business Studies, environmental Studies and any other Community of Practice that may want to be part of the AVU Virtual Consortium. In addition, the AVU in partnership with MERLOT is currently working towards establishing an OER portal, the AVU Teaching Commons, where all content developed under the auspices of the AVU Virtual Consortium will be made accessible and available to the public.
8 References


iii http://www.tessa-programme.org/


Haji, M. (2005). *Educational Technology in sub-Saharan Africa with a focus on OpenCourseWare and iLabs*. Open Africa. Massachusetts Institute of Technology: Unpublished proposal for MIT Student [haji@MIT.EDU]

