AVU Multinational Project II: A collaborative approach to implementing an eLearning project in 21 countries

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Abstract

he African Virtual University (AVU) www.avu.org is currently implementing its Multinational Project II across borders and language barriers in 21 countries and 27 universities. Funded by the African Development Bank, the new project builds on the success of a first phase that was implemented in 10 countries and 12 universities. The Multinational project II has the following activities: installation/ upgrading of open distance and eLearning centres; review/development and delivery of 3 ICT integrated programs, teacher education, computer science and Peace and conflict resolution; open educational resources; training of training on eLearning skills; research & development with a focus on mobile learning; gender mainstreaming; technical advice on distance and eLearning policies and strategies.

This paper shares the success of the first phase of the project (2005-2011), the lessons learnt, and the collaborative approach and methodology used in the second phase to be implemented between 2012 and 2016.

Keywords

Capacity enhancement, e-learning, content development, open educational resources, infrastructure.

1. Introduction

The African Virtual University (AVU) is an intergovernmental organization whose mandate is to significantly contribute in increasing access to quality higher education through the innovative use of Information and Communication Technologies (ICTs). One of the strategic objective of the AVU is to increase access to higher quality Open, Distance and eLearning (ODeL) resources that are relevant to Africa. AVU acquired a large network of higher education institutions from 27 countries across Anglophone, Francophone and Portuguese speaking African countries.

The requirement for development of skills at tertiary level is a key driver for economic growth in developing countries; Educational economists have observed that at least 12-15% of African nation's workforce must have tertiary education if it is going to compete in the new global economy. For Sub-Saharan Africa, where higher education participation rate is as low as 6% , the quest to reverse this trend requires innovative strategies, including use of ICT in higher

education to increase access. The traditional residential university model currently adopted by most universities in Africa is unable to meet either current or projected demand. Therefore, there is a need to extend access outside the universities' physical campus by developing high quality E-Learning capacities within these Institutions, including those that make use of new technologies for e-Learning where appropriate. Access to E-Learning is inadequate in regard to quality and relevance.

To make in-roads in the alleviation of low participation in higher education, the AVU has been implementing project in African countries towards enhancement of capacity for use of ICT in in developing and delivering quality, relevant and affordable education and training programs in the African Continent

2. AVU Phase I Multinational Support Project

2.1 Introduction

This project was an initiative funded by the African Development Bank (AfDB) and partly by the United Nations Development Programme (UNDP) with the overall objective of strengthening the capacity of the African Virtual University (AVU) and a network of institutions coordinated by the AVU to deliver and manage quality ICT assisted education and training opportunities in selected African countries. The project had the following components: (i) Establishment of ODeL Centres and Connectivity Provision at AVU Partner Institutions; (ii) Teacher Training and Development Program; and (iii) Mainstreaming Gender Issues into AVU Operations.

Countries and institutions that benefited from the project were: Ethiopia, Jimma University; Kenya, University of Nairobi; Madagascar Université d'Antananarivo; Mozambique, Universidade Pedagogica; Senegal, Universite Chiek Anta Diop; Somalia, Amoud University, Eat African Univerity, University of Hargisa; Tanzania, Open University of Tanzania; Uganda, Kyambogo University; Zambia, University of Zambia; and Zimbabwe, University of Zimbabwe.

2.2 Project Outputs

- Ten Open distance and e-Learning (ODeL) Centres were established, one in each of the ten beneficiary countries. The centres are all fully operational and currently act as physical hubs for the creation, organization and sharing of knowledge and the development of local distance and eLearning programs. The centres' main functions include acting as: a training facilities for staff in the use of ICT in the development, delivery and management of educational programs; a delivery point for the current and future eLearning programs (e.g. the Teacher Education Program); a physical location where staff are able to conduct research and participate in collaborative work; and a income generating facility to ensure their long-term sustainability.

- The project trained 459 University academics: 133 in ACEP; 146 Subject Matter Experts trained in re-writing programs in ODeL formats; 60 course leaders trained in delivery and management of education programs; and more than 120 trained in ODeL Centre's equipment maintenance, upgrading and use of the learning management system.

- The development of 86 Modules: 13 of AVU capacity Enhancement Program; and 73 of Teacher Education Program (these modules consists: ICT Basic Skills – 4 modules; Biology – 8 modules; Chemistry - 13 modules; Mathematics - 13 modules; Physics – 16 modules; and Education Professional courses – 19 modules). The Teacher Education

Modules have three unique aspects: (i) gender responsive materials in order to promote the participation of female students in maths and science-based programs; (ii) Open Education Resources and can be accessed world-wide; and (iii) ICT-integrated and uploaded on a Moodle Learning Management System.

- The AVU OER Portal – AVU@OER: The AVU launched an online interactive OER Portal in January 2011. The portal hosts all the 73 modules developed for the Teacher Education programs in the 3 project languages of Portuguese, French and English. Through the portal, the resources are available to institutions beyond the 12 involved in the Multinational Project. In recognizing this effort, the OER@AVU initiative has won two consecutive awards of the Education-Portal.com's OpenCourseWare (OCW) People's Choice Awards namely: the "Best Emerging OCW Initiative" in 2011; and the "Most Progressive" in 2012. These AVU OERs have attracted visitors from around the world. Between January 2011 and June 2012, the portals attracted more than 1,000,000 users from 193 which means that through AVU, Africa is contributing to global knowledge.

- More than 4000 students enrolled in the teacher education program by end of project implementation.

- A total of 597 scholarships awarded to students: 413 to students taking up joint AVU/PI program; 115 to students taking PI's Teacher Education Programs; and 69 to Francophone Computer Science Programs

- Science and Technological impact: the project has contributed in reducing the digital divide within Africa and between Africa and the rest of the world through the establishment and provision of high speed connectivity to the 10 ODeL Centres. This has contributed to: a) improving, designing and delivering science and technology oriented; and b) building Higher Education, Science and Technology infrastructure and upgrading equipment. Furthermore, the development of math and science modules and the related capacity enhancement training have led to: a) access to the global knowledge resources, especially in science and technology; b) preparing teachers to the transition to the world of work through the program designed to upgrade the ICT skills of mathematics and science teacher and; c) promoting and supporting women's participation in science and technology through the gender component and especially the scholarship awards.

- Social Impact: Education being a collaborative process, this project enabled collaboration between Lusophone, Francophone and Anglophone academics by engaging them in the development and implementation of project activities. Additionally, the project reduced exclusivity in education by contributing towards gender parity in awarding scholarships to female students, especially in Mathematics and Sciences. The gender mainstreaming strategy has also encourage participating institutions to make progress towards a sustainable solution to gender inequalities in academia. Furthermore, the project enabled conflict/post-conflict countries like Somalia and Madagascar to increase the number of skilled academics in their countries.

- Regional Integration Impact: the collaborative methodology adopted with the establishment of the centres, the development of mathematics and science modules and the related capacity enhancement training led to an increased collaboration between participating universities and countries, thus contributing to regional integration beyond

languages and cultural divide (English, French, Portuguese). More formally, this collaboration in the project's implementation culminated in the formation of a Teacher Education Virtual Consortium consisting of all the institutions that participated in the project. This consortium's overall objective is to sustain the benefits of the project and continue to enhance the capacity of Consortium Members in developing, managing and implementing their own program using ODeL methodologies, beyond the Phase I project.

- Impact on teaching and learning mathematics and sciences: A pilot conducted in the University of Nairobi, (Kenya), Université Cheikh Anta Diop de Dakar, (Senegal), East Africa University and Amoud University, demonstrated clearly that the AVU Teacher Education Program has the capacity to: help more learners perform better in mathematics and sciences; eliminate the gender divide in science performance; and that the innovative use of Information and Communication Technologies allows more learners to access and benefit from the program.

- The project demonstrated the role of ICT enhanced education in enhancing access to Higher Education and the untapped potential among academic staff in Africa to develop and deliver programs in E-Learning format.

2.3 Lessons Learnt

A number of lessons were drawn from the implementation of this project, namely:

- The collaborative strategy to the implementation of the project that AVU adopted was perhaps the most valuable lesson learnt. This approach ensured a high degree of ownership of the project's activities within the network of institutions. The collaborative approach was exercised in all steps of the project implementation which included: the selection of the institutions in which to implement the project; welcomed input in the composition of the ODeL center equipment; the process of conceptualization and designing of the curriculum as well as the development of the modules for the teacher education program; and the development of the quality assurance framework. This collaboration also involved all stakeholders, from the ministry of education to the top management of the institutions and the academics.

- The implementation of such multinational, multi-faceted and technology-based project requires constant reassessment of the outputs so that they remain relevant and realistic. This is largely because ICT applications, software and hardware evolve constantly, and therefore, the project implementation team had to constantly keep abreast with the changing trends in the use of ICT in education being that it was a relatively new concept.

- The implementation of this project proved beyond doubt that it is possible to achieve regional integration through such initiatives. Although it was extremely challenging to overcome linguistics, political barriers and to implement key output beyond boundaries, the project has proven that Africa can speak to Africa while solving educational challenges. The project's teacher education component will continue to contribute greatly in facilitating the mobility of professionals and learners through recognition of prior learning and credit transfer. This was made possible by the harmonization of the curriculum for the teacher education program as well as shared modules for the same.

3. AVU Multinational Phase II Project

3.1 Introduction

Following the success of the Phase I, the AfDB is funding a second phase of the Multinational Project which will extend its benefits to more countries. The overall objective of the AVU Multinational Project II is to strengthen the capacity of the AVU and a network of 27 institutions to deliver and manage quality ICT integrated education and training opportunities in 21 African countries.

3.2 Project Activities

The project will have the following activities: (1) Establishment of new Open Distance and eLearning (ODeL) Centres and/or upgrading of exiting AVU Learning Centres as well as Internet connectivity provision at AVU Partner Institutions; (2) Development and/or improvement, and delivery of four ICT integrated Programs: AVU Capacity Enhancement Program (ACEP); Teacher Education (TE), Computer Science (CS), and Peace and Conflict Resolution; (3) Gender Mainstreaming (4) Research and Development; (5) Promotion and development of Open Education Resources (OERs); and (6) Enhancement of AVU Capacity.

3.3 Project Beneficiaries

Table 1: Project beneficiaries

COUNTRIES	PARTICIPATING INSTITUTIONS
1. Benin	1. Universite d'Abomey Calavi
2. Burkina Faso	2. Universite de Ougagadougou
	3. Institut des Sciences de Ouagadougou
3. Burundi	4. Universite Lumiere de Bujumbura
4. Cameroon	5. Universite de Douala
5. Democratic Republic of Congo	6. Institut Supérieur Pédagogique de Gombe
6. Mali	7. Université des Sciences, des Techniques et Technologies de Bamako (UTTB)
	8. Ecole Normale Supérieure de Bamako
7. Mauritania	9. Universite de Nouakchott
8. Niger	10. Universite Abdou Moumouni de Niamey
9. Senegal	11. Universite Cheikh Anta Diop
	12. Universite Gaston Berger
10. Cape Verde	13. Université du Cap-vert
11. Guinea Bissau	14. Unité d'Enseignement « Tchico Té »
12. Mozambique	15. Universidade Pedagogica
13. The Gambia	16. The University of the Gambia
14. Ghana	17. Ghana Institute of Management and Public Administration
	18. Kwame Nkrumah University of Science and Technology
	19. University of Education Winneba
15. Kenya	20. Kenyatta University

	21. Egerton University
16. Namibia	22. University of Namibia
17. Nigeria	23. University of Port Harcourt
18. Rwanda	24. Kigali Institute of Science and Technology
19. Sudan	25. Open University of Sudan
20. South Sudan	26. University of Juba
21. Tanzania	27. University of Dar es Salaam

3.4 Collaboration Framework

Borrowing from Phase I, the Phase II implementation adopted the collaborative model used. This framework defines the collaboration between stakeholders in the main stages of programs development and delivery and which include: Capacity Enhancement; Curriculum Design; Content Development; Content Production; Content Review; Quality Assurance; Accreditation; Program Delivery; Research & Development; Monitoring and Evaluation. This collaboration parameters will be formalised in agreements signed between the AVU and each participating institution regarding their specific activities in the project.

In terms of external collaborations, the AVU welcomes other partners who may include the local NRENs to not only benefit from the open education resources produced/to be produced, but to also take part in the various implementation activities as the project may accommodate. In particular, the AVU Phase II project has an infrastructure, training of trainers and research components that may be of interest to the local NRENs.

On ICT in Education Infrastructure, the project will establish 27 Open Distance and eLearning (ODeL) Centres across the beneficiary institutions. Fifteen (15) of these will be new centres while twelve (12) will be upgrade centres form previously existing AVU elearning centres. The establishment of these centres will build on the lessons, success and challenges of the ones installed during the first phase. Similar to Phase 1, the participating universities in each country are required to provide space to host and staff to run the centres. The project will support provision of the required ICT equipment and internet connectivity for a period of time. The main functions of these ODeL Centres are: to be a training facility for partner institution staff in the use of ICT in the development, delivery and management of Open, Distance and E-Learning (ODEL); to be a delivery point for the current and future ODeL programs; to be the physical location where staff are able to conduct research and participate in collaborative work in ODeL; to guarantee long-term sustainability by enabling PIs to generate revenue.

The AVU Training of Trainer activity is located in a program dubbed, AVU Capacity Enhancement Program (ACEP). This program was developed during the Phase I of the Multinational Project (2005-2011) and was delivered to 133 participants drawn from 24 participating institutions. The program was developed in three main streams that included: materials development for ODeL; delivery and technology for ODeL programs; and management, governance and financing of ODeL programs. It has 13 modules, all accessible in Portuguese, French and English languages. It was and will be delivered through four main activities: (i) a set of workshops at inception and at conclusion a; (ii) a year-long online professional development component; (iii) development of Institutional projects by each institution's team of 6; (iv) a cascade training program to ensure its sustainability. Successful trainees are awarded a certificate of professional development

In term of Research and Development in ICT in Education, the AVU's will include: curriculum design and content development; programs delivery; open distance and eLearning as mean to increase access to quality education science and technology education in Africa; educational policies; integration of ICT in education; mobile learning; and gender and education, especially in science and technology. In line with this will be the following activities that present opportunities for collaboration with NRENs:

- Publishing of an annual open online journal that will require peer reviewing

- Convening of an annual conference on ICT in Education in which partner Institutions, Virtual consortia, NRENs will be invited to join the conference.

- The establishment of a Mobile Learning Laboratory which will attract educationist to experiment usage of Mobile phone in education and proposed best practices.

4. Conclusion

In conclusion, this paper's purpose is to underscore the importance of working within networks to achieve what would otherwise be difficult to accomplish by lone organisation/institutions. Collaboration, while a long and possibly arduous process, is one with significant promise for a widely accepted education program since it promotes ownership among participants. It is also evident that significant time and member interaction are necessary to build the levels of trust for collaboration to function.

The factors that the AVU has found particularly important to the implementation process with a consortium approach included the following: inclusion of stakeholders integral to the local context and able to contribute to the collaboration's goals; the characteristics of and action by the collaboration leadership; the fostering of the collaborations legitimacy and reputation over time; the matching of goals to the local context especially technology in each country; the adept use of data to inform theories of action and activities; to alter strategies as necessary; early attention to a plan for institutionalizing systemic change including strategies for sustaining the collaboration as well as sustaining and scaling-up the reform in teacher education across the desired geographical area.

5. Further Reading

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6. Biographies

Dr. Bakary Diallo is the Rector of the AVU. He earned a PhD in Educational Administration from the University of Ottawa Canada, with a focus on the introduction of ICT in Higher Education Institutions. He has been working in the education sector for the last 19 years as a secondary school teacher, an academic, a consultant, a project administrator and a researcher. From July 2001 to July 2005, he worked at the University of Ottawa as part-time teacher at the Faculty of Education as well as a Consultant of Integration of ICT in Education at the Center for University Teaching. He taught at the Secondary Level in Senegal from 1988 to 1997 before joining the University of Ottawa in 1997.His latest research activities focus on the use of ICT in higher educational institutions. He is fully bilingual (French and English). Dr Diallo is a native of Senegal and a Canadian citizen.

Ms. Catherine Wangeci is an education specialist. She is the Project Manager of the AfDB-funded AVU Multinational Phase II Project. Prior to her current position, she was the Project Manager of the AfDB/UNDP-funded Multinational Phase I Project which was successfully implemented from 2005 to February 2011. Amongst her other literally contributions to academic citizenship, Catherine has co-authored a chapter; Quality Assurance in the African Virtual University: A Case Study in a Commonwealth of Learning book, Towards a Culture of Quality (2007) and has written a thesis, Investigating the Use of Information and Communication Technologies (ICTs) in Primary Teacher Training Colleges in Kenya (2006). Catherine is a Kenyan National.