

The African Virtual University

By Peter Watson

The AVU (<http://www.avu.org/>) was created by the World Bank in 1997, following an idea by Etienne Baranshanaje. The concept was to bring Western post-secondary education to the poorest nations in the world. The idea is simple and elegant: use TV lectures, broadcast to ground stations by satellite, to reach a large number of universities in Africa, and supplement this by tutorials and labs at the local sites and live tutorials from the originating sites. As someone who has taught in Africa, I found the idea particularly attractive.

During the AVU's pilot stage, the organization searched for existing university-level television courses. Carleton, with a long history of Instructional Television, was able to provide two of these: a first year Physics course, taught by Fred Carter and myself, and the corresponding Chemistry course, taught by Bob Burke. Since we knew the lectures were to be re-used, we took more care over them, and, of course, the great advantage of TV lectures is that one can edit out the more embarrassing gaffes. Experiments always work, unlike live Physics lectures!

Our collaborators in the pilot stage were Laurentian, Mount Saint Vincent, and 18 universities and colleges in the US and Ireland. In all, the AVU provided over 12,000 students in 15 African countries with over 2500 hours of interactive instruction in both English and French. The courses were predominantly in engineering and sciences, but the AVU also provided executive and professional management seminars on topics such as Strategy and Innovation, Entrepreneurship, Global Competencies, E-commerce and Y2K.

From our point of view, the results can be described as a partial success: a proof of concept as far as the technology was concerned, but hampered by the differing formats of education in the various countries. We started with 12 universities, but only 5 (Dar Es Salaam, Kenyatta, Addis Ababa, Kumasi, Makere) made it to the end of the first season, and only Kenyatta lasted to the end of the 3 year trial. Problems included mismatched university terms, technical breakdowns on the ground, and - a perpetual problem in Africa - power cuts.

When the technology worked, it was a great success. The live tutorials demonstrated this. We would get questions by FAX, Email or phone. We would be answering them in a studio with two cameras and an overhead camera, which allowed us to work through examples on paper. The picture would travel by phone to Teleglobe Canada, by landline to New York, by radio to a satellite, across the Atlantic to a second satellite over Africa and be broadcast to the ground stations. It gives one an incredible feeling of a shrinking world to be able to say "Thanks very much, Kumasi: now does Addis Ababa have any questions?"!

Emails from individual students and local instructors showed how much they valued the lectures.

It is clear, as well, what does not work. Lectures must be designed for the clientele even at the trivial level: ice is a lousy example of a frictionless surface and the standard explanation of the greenhouse effect is meaningless for people who live in a land with neither greenhouses nor ice! Accents form a barrier, especially for students who are all learning in their second language. The course must be designed around an affordable textbook, and the local instructors, who provide the essential first line of contact, need training in how to interact most effectively.

Most importantly, the technology is not being used as effectively as it might. When we survey how students use ITV lectures here, it is obvious that the biggest attraction is control over time and space: they can watch the lectures when and where they want. To revert to a system where the whole class must watch a broadcast in a lecture hall almost defeats the purpose. PCs and CD-ROMs or even VCR's provide a better experience without the complicated overhead of the satellite system. This would at least overcome the vagaries of scheduling.

Having said this, the experiment is a very brave one. With a billion people and the worst poverty in

the world, Africa cannot afford a Western-style higher education system. No African nation has the means to "mass-produce" engineers and scientists. This is not through lack of ability, but through lack of money. Typical Western nations have university participation rates of 20-40%: in Nigeria it is less than half of one percent.

The World Bank is often criticized for mega-projects which fail to take the needs of the country into account; the AVU shows both imagination and cost-effectiveness, and it has now been spun-off to be an independent non-profit organization. Providing support for concepts like this is an obligation on the richest countries in the world. In a recent BBC panel, the AVU web-site was selected as one of the 10 most likely to change the world. Like everyone associated with it, I would very much like this to be true. 

Peter Watson is Dean of Science at Carleton University.

RECAP

L'Université virtuelle africaine a été créée par la Banque mondiale en 1997 afin de donner accès à un enseignement postsecondaire occidental, par l'entremise de conférences télédiffusées, aux pays les plus pauvres. Même si le programme a obtenu jusqu'à maintenant des résultats mitigés, un récent panel de la BBC a sélectionné le site Internet de l'UVA comme l'un des dix qui a le plus de chances de changer le monde.

With a billion people and the worst poverty in the world, Africa cannot afford a Western-style higher education system.