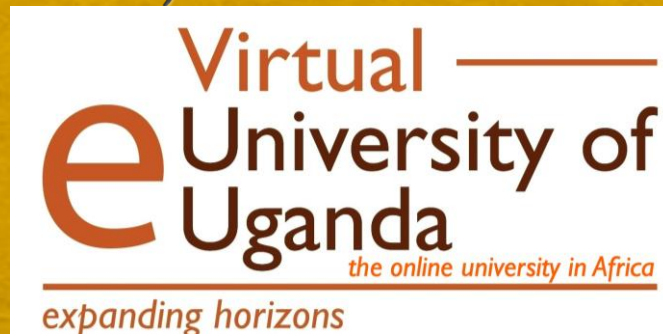


UbuntuNet-Connect 2016



“How ICTs and Collaboration with NRENs can Change the Face of Higher Education”

Deirdre Carabine, Virtual University of Uganda



“Research and education networks (RENs) have been designed to meet the needs of some of the most demanding internet users in the country: scientists, academics and researchers in the nation's leading academic institutions. These networks are engineered to support high-quality services that remain consistent regardless of the number of users on the network.”

DiMaria: 2016.

Academic peering can:
save human-power hours
cut costs
enhance content quality
expand audiences
... and has other non-tangible social benefits



The importance of NRENs

The importance of RENs for academic research and teaching is indisputable. According to Tusubira (2011), RENs not only provide “dedicated high speed networks that enable access to online resources for students and researchers”, but also “support content-level collaboration in research and education.”
“Support content-level collaboration”.

This is our starting point: content-level collaboration. This shifts the burden of responsibility from the provider and enabler, the REN, to the end users who are the content creators: the academics and researchers.

Changing Models

Plato – not very long ago:

blackboard-based rote learning

The Intermediate model of the eighties/nineties:

problem-based learning and group work

The mixed-mode model of the noughties:

blended learning, part Internet based

The revolutionary model of today:

Internet as the medium for teaching/learning



Student learning:

Podcasts, encyclopedias, online lectures ...



Cooperation is cheap!

Individual academic peering and inter-university peering yields exponential results.

African countries are resource constrained; we need to forge smaller, non-donor funded research and teaching communities and research groups.

And these need not be local or even regional. We can think big: they can be global. Moving a mouse is cheaper and easier than moving house! Guest lectures from other universities are easily achieved using the video-conferencing facilities provided by our RENs.

Advanced RENs

Louis Fox (2011): “a major challenge confronting African nations today is how to ensure that all colleges and universities, including those that have not traditionally benefited from expensive research infrastructure, can participate seamlessly in national and multinational e-science efforts that are cyber-infrastructure-enabled. The challenge begins with the need for ubiquitous deployment of advanced research and education networks.”



RENU



“The third level envisaged is where transformation mostly happens and we shall refer to it as the level of deeper sharing of resources. The resources to be shared include: highly skilled human resource (such as academic staff, researchers & other specialists); high value research facilities (such as expensive lab equipment, high performance computer (HPC) facilities, massive research data); jointly utilised education content hosted by shared repositories which then facilitate multiple colleges collaborating to offer new or widely needed special programmes and regionally or globally distributed collaborating research teams.”

Conclusion

Physical classrooms, lecturer's offices, and student residences are not an integral part of a university infrastructure today. Investment in appropriate technology is the key priority in setting up the programmes of tomorrow. Academic institutions need to rely on their REN and work to make it happen. Our RENs have done a wonderful job in enabling university peering. The future is a joint initiative.

