Briefing Note

RUFORUM Board Executive Committee Meeting

6th November 2020

Progress towards Facilitating Universities to innovatively use Information and Communication Technologies to improve Teaching and Learning in the Network

Overview

This Briefing Note highlights progress the Secretariat has made under the Knowledge Hub (K-Hub) Flagship towards Facilitating Universities to innovatively use Information Technologies to improve teaching and learning. It demonstrates how Information and Communication Technology (ICT) tools can help the RUFORUM network improve service provision whether during disruptions due to global emergencies such as the Corona virus disease of 2019 (COVID-19) pandemic and other natural environmental crises. The RUFORUM Vision 2030 mandates the Secretariat to *facilitate universities to innovatively use ICT to improve teaching and learning* through the K-hub flagship programme. Through the K-Hub, RUFORUM is expected to support and facilitate universities in acquiring relevant and practical solutions for adoption of ICT in teaching, learning and research. By doing so, the network universities are able to train through innovative and creative ICT enabled techniques that deliver and enhance the student learning experience. The K-Hub flagship programme aims at facilitating the establishment of customised user-friendly Virtual Learning Environments built on open source technologies and Moodle framework including other Learning Platforms - for students to attend real-time lectures, access learning materials, post assignments, enter discussions with their peers, check their university email accounts, search, download, and read in the RUFORUM and various universities e-libraries, and keep in constant contact with their course tutors. The RUFORUM based virtual learning environment will provide free content resources developed at the secretariat to support network university staff capacity building and enhance teaching and learning. Further support from the K-Hub will be to facilitate the process of network universities in the acquisition of their own e-learning solutions. The RUFORUM institutional repository (e-library) will be integrated into an extensive collection of resources that can be accessed by staff, students, and the general public. The Secretariat has made consultations

with various stakeholders including members of RUFORUM International Advisory Panel (IAP) and carried out studies in regards to the ICT capacities of the network universities to try and understand the best approach of executing the mandate of facilitating universities to innovatively use ICT to improve teaching and learning amidst the capacity challenge.

ICT Capacity Challenge in the RUFORUM Network

Several attempts to adopt ICT to support university service delivery, more specifically teaching and learning has often faced challenges because of a number of reasons. The main obstacle to effective integration of ICT into university teaching and learning is lack of capacity in terms of ICT infrastructure, ICT skills, and policy environment, among others.

In 2008, FARA and ASARECA did a gap analysis of the network in terms of agricultural information management and sharing. The analysis revealed limited capacity and it led to the development of Agricultural Information and Communication Management (AICM) Programme, which was launched in Ethiopia, Kenya and Tanzania (details can be found in this link). It was meant also to boost the capacity of the network in running ICT supported delivery of education. Therefore the design of the programme incorporated e-modules and blended delivery for wider access. The Secretariat later secured a Learning Management Platform based on Moodle for this purpose. However, the platform was not effectively supported and it was deactivated.

RUFORUM Secretariat undertook an analysis of ICT readiness of RUFORUM Member Universities (first ICT gap analysis by RUFORUM) in 2009. This was to mobilize member institutions to strengthen efforts towards e-Learning and other uses of ICT integration. This report is accessible through this link. This led to the development of a number of online courses including a blended MSc Programme in Monitoring and Evaluation at UTAMU. It also led to the development of Learning Management Platform (based on Moodle) at RUFORUM Secretariat (referred to in the previous paragraph).

A second ICT gap analysis study was done by the Secretariat in 2019/2020. This study aimed at examining the capacity gap within the RUFORUM network to guide decision making. It thus assessed progress made since the 2009 study to integrate e-learning. Secondly, the study assessed the capacity of new member university in terms of ICT readiness, use and capability. Specifically, the study aimed to:

  i.   Examine the state of ICT infrastructure within the member universities
  ii. Determine the level of integration of ICT in the universities' core business activities
  iii. Establish the impact of ICT use within the member universities

iv. Examine the factors influencing the adoption and integration of ICT
v. Make recommendation for needed actions for ICT integration

The report which can be accessed through this link brings out a number of issues including the following:

a) 45% of the institutions do not have an e-learning policy in place
b) Majority of the institutions have established e-learning systems to enhance teaching and learning
c) Only 37% of the institutions provide incentives for staff using ICT in teaching, learning or research
d) Only 47% of the institutions have a total bandwidth of at least 100Mbps
e) Shortage of basic ICT skills among non-ICT staff
f) There are fewer computers in comparison to the number of students and staff

One of the key recommendations in the report is that RUFORUM Secretariat should reach out to Development Partners to mobilise funding to promote use of ICTs within its network member universities. Pursuant to this, the Secretariat has come up with a plan to strengthen its capacity to facilitate universities to innovatively use ICT to improve teaching and learning amidst the capacity challenge.

Plan to strengthen Secretariat Capacity to facilitate the Network in promoting online learning

At the beginning of 2020, the Secretariat intensified efforts to towards integration of ICT in teaching and learning within the Network. As part of the plan to promote online learning in the Network, the Secretariat undertook a survey to identify Masters-level courses to be developed or redesigned for online delivery across the RUFORUM Network. This was in line with the discussions with Mohamed VI Polytechnic University (UM6P) for support in building capacity for Massive Open Online Courses (MOOCs) in the RUFORUM Network. As a result of this survey, initial eight (8) Masters Programmes were identified for delivery as MOOCs. These courses are: *Masters in Research Methods, Masters in Agricultural Innovations and Entrepreneurship, Masters in Fertilizer Science and Technology, Masters in Food Systems and Policy Analysis, Masters in Agribusiness, Masters in Climate Smart Agriculture, Masters in Agro Informatics, and Masters in Monitoring and Evaluation.* Moving forward, the Secretariat will continue to engage UM6P and other stakeholders to build capacity in selected universities for these initial programmes to be delivered online in form of MOOCs.

The Secretariat supported the digitization of delivery of five (5) Masters Programmes at Egerton University: MSc Soil Science, MSc Horticulture, MSc Agricultural Extension, MSc Agri-Enterprise Development and MSc Natural Resources Management. Through mastercard funding, Zoom video conferencing platform was secured in May 2020 to support online (real-time) teaching and learning. If funding is identified, this could be scaled out to other member universities.

In consultation with a number of stakeholders, the Secretariat has come up with a number of activities to build its capacity in order to be able to effectively facilitate the use of ICT tools in teaching and learning in the Network. These are highlighted below:

a) **Development of modern e-learning system:** This will involve design and implementation of a customised e-learning system hosted at RUFORUM Secretariat, based on the open source technologies and Moodle framework. The decision to build a new learning management platform was arrived at after determining the previous e-learning platform was obsolete and deactivated. The new system will be based on known framework that is widely used across the world when developing systems of this nature. The system will be configured for RUFORUM and branded to suit the Network. It will be implemented with various features including the Big Blue Button for Synchronous learning (real-time teaching).

b) **Technical training for managing the use of the learning platform:** This activity will entail rolling out the e-learning system through a series of training that will be offered to different stakeholders of RUFORUM. These specifically designed technical trainings will be conducted on Zoom platform. A number of technical staff and subject experts will be selected to be trained on managing learning platform.

c) **Training of staff on content authoring and delivery:** There will be activities related to training of subject experts on content authoring using eXe software that course facilitators can use to develop SCORM courses for eLearning system.

d) **Monitoring and Evaluation of the learning platform:** A number of activities will be rolled out to continuously monitor and evaluate the system roll out throughout the piloting and scaling out. The Secretariat will use the opportunity to determine where support can be offered to the universities in order to effectively implement the system and any other aspects of ICT integration.

In doing the above the Secretariat will play its roll in brokerage and provision of platform for knowledge generation and sharing. This will also entail having a pool of technical experts and subject experts who can provide service to the network in terms of capacity building for e-learning

adoption on-demand basis. The Secretariat has planned to start with a pilot phase that will involve capacity building at the Secretariat and a few universities. After this phase, the project will be rolled out to the Network.

Pilot stage: This will involve building capacity of the Secretariat by:

1) Establishing e-learning platform at the Secretariat
2) Training of the technical staff to manage the platform
3) Training of staff from 3-6 pilot universities on online content authoring and delivery
4) Hosting short capacity building courses run by the Secretariat
5) Hosting of contents from universities participating in the pilot project
6) Evaluating the pilot project and providing technical advice

Roll out stage: This will involve identifying the needs within the Network and providing support towards:

1) Establishing e-learning platform at selected universities as needed
2) Training of the technical staff at the university to manage the platform
3) Training of subject experts (staff) on online content authoring and delivery
4) Supporting teams of experts to develop targeted courses for online delivery
5) Hosting of contents from universities
6) Developing and rolling out a certificate course on Pedagogical Integration of ICT in Education
7) Monitoring and evaluation of the initiative and technical advice

Actions requested from the Board Executive Committee

The Secretariat requests the Board Executive Committee to guide on the proposed activities aimed at strengthening the capacity of the RUFORUM Secretariat to facilitate the Network in the use of ICT tools in teaching and learning. Further, the Board Executive Committee is requested to advise on modalities of engagement with the member universities, and the strategic partners for learning resource sharing and technical support, and for scaling up support for online teaching and learning across the RUFORUM Network.