Baseline study on ODeL in Rwanda

Evode Mukama
Baseline Study of the Status of Open and Distance Learning in Rwanda

Evode Mukama
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Abbreviations

CMHS: College of Medicine and Health Sciences
COL: Commonwealth of Learning
ESSP: Education Sector Strategic Plan
HLI: higher learning institution
ICT: information and communication technologies
KIE: Kigali Institute of Education
LMS: Learning Management System
MINEDUC: Ministry of Education
MoH: Ministry of Health
MOOCs: Massive Open Online Courses
ODeL: open, distance and eLearning
ODEL: open and distance learning
OERs: open educational resources
RwEdNet: Rwanda Education and Research Network
TVET: technical and vocational education and training
UR: University of Rwanda
UR-CE: University of Rwanda–College of Education
1. **Purpose**

The purpose of the study was to gather current baseline data on the status of open, distance and eLearning (ODeL) in Rwanda. This data is vital to the planning of projects and initiatives that support the use of ODeL in the country. Having a deep and clear picture of the current developments is also critical for the success of engagement by the Commonwealth of Learning (COL), and will ensure that the proposed projects are conceptualised based on an accurate picture of the country context and what is available.

2. **Statement of Work**

This baseline study was conducted to capture and critically analyse the ODeL practice in Rwanda. This report results from a consultancy that addressed the following:

2.1. a brief country educational context, including the development of ODeL, national and institutional policies in ODeL, and national ODeL associations/networks;

2.2. access to and success in higher education including reaching the disadvantaged in rural and urban slums – This included an assessment of institutional missions and mandates and of the extent higher education has, and is being, achieved through ODeL.

2.3. an analysis of issues related to standards of open and distance learning (ODL), recognition, accreditation and quality assurance – This included an analysis of national and institutional quality assurance policies for ODeL course and materials development, of the offering/delivery of ODeL, of research in ODeL, and of perceptions on quality and credibility of ODeL.

2.4. a critique of institutional preparedness and availability of infrastructure that meets the changing needs of the learner of the 21st century at country and institutional levels – This included a critique of the current use of information and communications technology (ICT) to support distance learning.
2.5. adoption and use of open educational resources (OERs), Massive Open Online Courses (MOOCs) and mobile devices for delivery of courses and services to learners.

2.6. expertise in ODL, such as instructional designers, course writers, learner support and the expertise in the use of technology to support ODL offerings

2.7. types of institutions using ODL as a delivery mode, their staffing, enrolments, etc.; and individual institutional progress/achievements, challenges and ways/strategies of overcoming challenges

2.8. integration of sustainable development issues in ODeL/through ODeL

2.9. gender mainstreaming in ODeL, including extent of mainstreaming in institutions and the types and quality of learning materials used for ODeL

2.10. recommendations that will enable the taking of concrete steps to strengthen credibility and improve the learning outcomes for employability and entrepreneurship through ODeL

3. Data Collection and Analysis

This baseline study consisted of:

- desk research – This means that data already available in print or published mainly online were collected and analysed. Sources included government and higher learning institutions reports, policies, plans and strategies related to ODeL.

- a questionnaire to collect information for the five-year period 2012–2016 – The questionnaire was distributed to the heads of the institutions that had ODeL programmes.

- phone interviews with technical staff having ODeL under their remit – This was done as a follow-up strategy to supplement the desk research and questionnaire. Quantitative data that were mainly collected through the questionnaire were analysed.
4. Analysis of Existing Policies and Strategic Plans

Different policies and strategic plans reflect the use of ODeL for accelerating socio-economic development of the country. Some ODeL policy orientations are defined at the national level while others are detailed at the educational sector level by the Ministry of Education (MINEDUC).

4.1. Vision 2020

In 2001, Rwanda defined its Vision 2020, a plan aimed at transforming the country from an agrarian-based to a knowledge-based economy and an ICT-led middle-income society by 2020. As the main resource of Rwanda is its people, education and ICT have to play a central role in changing Rwandan citizens into skilled individuals able to bring about the socio-economic development of the country. Accordingly, Vision 2020 states that: “To promote efficiency and continuous upgrading of skills, appropriate programs will be launched in the national institutions aimed at on-the-job training, in-service training and distant learning” (MINECOFIN, 2000, p. 13).

4.2. National Information and Communication Infrastructure (NICI) Plans and SMART Rwanda Master Plan

4.2.1. Open, Distance and eLearning

As a strategy to achieve Vision 2020, Rwanda set up four five-year rolling National Information and Communication Infrastructure (NICI) plans (Government of Rwanda, 2011). The first five-year plan (NICI–2005 Plan, 2001–2005) put emphasis on establishing the ICT necessary to enable, for example, setting up of an appropriate institutional, legal and regulatory framework and effective implementation and coordination mechanism. NICI II (NICI II–2010 Plan, 2006–2010) focused on creating a world-class ICT infrastructure (telecommunication networks, a multipurpose and high-capacity national optic fibre backbone network, and a national data centre) to fast-track the socio-economic development across different sectors of the country, including education. NICI III (NICI–2015 Plan, 2011–2015) and SMART Rwanda Master Plan (2016–2020) placed emphasis on service delivery (Government of Rwanda, 2001, 2005, 2010). The education sector strategised skills development through six main projects (Government of Rwanda, 2011):

- ICT Professional Certification Programmes: developing a competent and relevant ICT professional base
- SchoolNet: increasing the penetration and usage of ICT in 9- and 12-year basic education
Both NICI III and the SMART Rwanda Master Plan aimed to provide a second chance to all citizens through ODeL programmes while improving the quality of education. It was planned that, by 2013, five regional provinces would be created, and that around 100 trained and qualified ODeL instructors would be ready for the service. The target was to produce an annual output of 10,000 ODeL graduates by 2013. The plan did not happen like this, not only because of the budget constraints but also (and mainly) because the country did not set up a strong institutional framework to implement the plan.

### 4.2.2. Digital library

NICI III recognises the importance of digital library in increasing access to information for educational institutions and the general public. The same project was taken forward by the SMART Rwanda Master Plan. According to the latter, the digital library would have been fully operational by 2013. It was planned that 100% of education content would be uploaded to the national digital library and all learning institutions would be connected to this library by 2013.

Again, this project remained a plan mainly because, as mentioned above, there was no institutional framework to implement it. Consequently, it was not possible to mobilise required competence and allocate a budget to the project.

### 4.2.3. Rwanda Education and Research Network

Another project that was planned in NICI III and which had the potential to energise ODeL was the Rwanda Education and Research Network (RwEdNet). Its purpose was to interconnect Rwanda’s institutions of higher learning and to link them to global education and research networks. Among other things, the project objectives were to deploy appropriate infrastructure in all research institutions, to increase broadband connectivity to all institutions, and to strengthen industry, government and academia collaboration, particularly Research & Development. RwEdNet was established as a project under MINEDUC. A pilot project connecting King Faisal Hospital, the University Teaching Hospital of Kigali (CHUK) and the former Kigali Institute of Science and Technology (KIST) to the network was successfully implemented. RwEdNet became part of the development of the regional grouping of Research and Education Networks (NRENs) through UbuntuNet.
However, rolling out of the project to other higher learning institutions was hindered by budgetary constraints. The project suffered also from poor coordination and lack of ownership.

4.3. The 7-Year Government Plan

The period of the 7-Year Government Plan coincides with the second term of the president Paul Kagame (2010–2017). During this period, the government planned to reform the delivery mode in the education system: 30% of subjects in secondary schools and 50% of modules in higher education would be delivered through ODeL. The same challenges mentioned above were encountered, namely lack of a strong institutional framework for ODeL implementation and lack of ownership.

4.4. Recommendations from the high-level leadership retreat and task force on ODeL

During the 2009 National Leadership Retreat in Kivu, ODeL was discussed as a priority to meet the challenges of improving access, equity and quality in education. A consultancy report and consultative meetings in 2010 reached a public-sector consensus that ODeL would be an effective way to achieve a massive expansion of higher education, given central support and facilitation.

The Task Force on Higher Education Financing, established in January 2012 by MINEDUC, recommended the creation of Rwanda Open University (ROU), within the framework of the University of Rwanda (UR) unifying the public higher education sector. This was seen as one of the mechanisms that could contribute to addressing higher demand, equity and quality in higher education while responding to government financial constraints.

MINEDUC set up a task force in March 2012 to assess the feasibility of adding a College of Open and Distance Learning. The goal was to provide mass higher education for Rwanda while maintaining and indeed exceeding the quality standards that were adopted in 2007. The task force produced a report in April 2012 that suggested this would be feasible and of benefit to Rwanda. In 2013, a working group on ODeL was put in place and produced an ODeL operational framework and a related business plan. Once UR was established, the recommendations of the task force and working group on ODeL were filed.
4.5. **MINEDUC policies and strategies**

4.5.1. **Education Sector Strategic Plan 2013/14–2017/18**

Increasing access to affordable, relevant and academically excellent higher education is one of the pillars of the Education Sector Strategic Plan (ESSP) 2013/14–2017/18 to allow the country to become globally competitive (MINEDUC, 2013). In this connection, the seven public higher learning institutions merged in 2013 to form UR, with the aim of improving the quality and relevance of higher education via improved coordination, governance and strengthened capacity under the one university structure. The ESSP identified ODeL as one of the innovative strategies that can contribute to meeting increased demand in higher education while maintaining and improving the quality of education.

4.5.2. **ICT in Education policy**

ODeL is one of the key components of the ICT in education policy. The fifth strategic objective of the ICT in Education strategic plan relates to the use of ODeL as a delivery mode. Accordingly, the policy proposes that ODeL be used to increase access to education at all levels, including basic, secondary, higher education, teacher education, technical and vocational education and training (TVET), and non-formal education. The policy highlights the need to build capacity in ODeL delivery mode, develop appropriate content, including OERs and MOOCs, and adopt quality assurance to meet local and international standards.

4.5.3. **Rwanda National ODeL Policy**

The MINEDUC developed the Rwanda National Open, Distance and e-Learning Policy, intended to expand access and provide quality education to all learners who may be unable, for any reason, to join the conventional delivery modes. A validation workshop with different stakeholders took place at the Nobleza Hotel in Kigali on 3 February 2016. The development of this policy and its strategic plan was sponsored by the Commonwealth of Learning.

The vision of this national ODeL policy is to make Rwanda a world-class learning system where learners have equitable access to lifelong learning through the provision of quality and relevant ODeL programmes. The purpose of this policy is not only to bring about a shared understanding and vision among ODeL stakeholders, but also to raise ODeL awareness among stakeholders, and to provide guidelines that can assist ODeL institutional providers with the development of their own internal ODeL policies in terms of implementation, harmonisation and standardisation.
4.5.4. ICT in Education Master Plan

The ICT in Education Master Plan provides details regarding the deployment and integration of ICTs across the education system over the five years, 2015–2019 (MINEDUC, 2015b). As far as ODeL is concerned, the plan acknowledges that ICT will help Rwanda to build an ODeL system that will allow increasing access to higher education at an affordable cost. The plan target is to double the number of students in higher education by 2017 through ODeL. The percentage of young people achieving higher education qualifications in the country was estimated to be 3% in 2013.

5. Levels of Intervention in ODeL

There are different levels of intervention in ODeL in Rwanda, ranging from policy development and monitoring & evaluation to regulation and implementation.

Table 1 summarises key players in ODeL in Rwanda, their roles and responsibilities.

Table 1: Levels of intervention in ODeL in Rwanda

<table>
<thead>
<tr>
<th>Institution</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Education (MINEDUC)</td>
<td>Has jurisdiction in primary, secondary, professional, technical education, and higher education. It has oversight responsibility for policy development, and monitoring &amp; evaluation. It has the power to delegate responsibility, and to review roles and responsibilities of supporting institutions or organisations that have a stake in ODeL initiatives in Rwanda.</td>
</tr>
<tr>
<td>Rwanda Education Board (REB)</td>
<td>Has the Department of ICT in Education and Open and Distance e-Learning (ODeL), responsible for the overall implementation and supervision of ICT in education and ODeL activities, including coordination of provision of infrastructure and technical support, capacity development, teacher training relating to ICT and ODeL, and oversight of ODeL provision in basic education. REB’s jurisdiction is limited to the 12-Year Basic Education (pre-primary, primary and secondary education). Thus, REB plays an oversight role in improving the quality of education through curriculum development, setting of quality standards, development and management of teachers, assessment, and promotion of the use of ICT and ODeL in 12-Year Basic Education.</td>
</tr>
<tr>
<td>Workforce Development Authority (WDA)</td>
<td>Has a mission to promote, facilitate and guide the development and upgrading of skills and competencies of the national workforce in order to enhance competitiveness and employability. Thus, WDA is responsible for the overall implementation and supervision of ODeL activities, including regulation and accreditation, coordination of provision of infrastructure and technical support, capacity development, teacher training relating to ODeL, and oversight of ODeL activities.</td>
</tr>
</tbody>
</table>
provision in TVET schools and centres. This responsibility includes ICT professional certification and skills-based ICT development initiatives.

<table>
<thead>
<tr>
<th>University of Rwanda (UR) and other higher learning institutions</th>
<th>Created the School of Open and Distance Learning. UR is responsible for the overall implementation and supervision of ODeL initiatives, including coordination of provision of infrastructure and technical support, capacity development, and teacher training relating to ODeL, and oversight of ODeL provision at UR.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Youth and ICT (MYICT)</td>
<td>Has the responsibility to deal with national priorities for economic growth and poverty reduction through the development, coordination, and monitoring &amp; evaluation of national policies and strategies and legal and regulatory frameworks related to ICT development in Rwanda.</td>
</tr>
<tr>
<td>Rwanda Development Board/ IT (RDB/IT)</td>
<td>A statutory and autonomous national agency that essentially acts as an implementing and coordinating agency for the formation of national ICT policies and strategies and national ICT infrastructure plans. It also helps public and private agencies solve their ICT problems. RDB plays the lead role in investment mobilisation and promotion for the ICT sector, acting as a gateway and facilitator. It promotes private investor participation in this sector.</td>
</tr>
<tr>
<td>Ministry of Health (MoH)</td>
<td>Established the Department of e-Health, which is in charge of setting up an effective infrastructure, applications and information systems supporting efficient delivery of health care services in Rwanda. MoH has initiated a number of projects, including telemedicine and eLearning information systems.</td>
</tr>
</tbody>
</table>

As Table 1 shows, Rwanda does not have an independent body in charge of ODeL. Different learning institutions develop ODeL programmes as they see fit alongside other conventional programmes. This issue is discussed in Section 7, Status of ODeL in Rwanda.

6. Structure of Education System

The mission of MINEDUC is to transform Rwandan citizens into skilled individuals (human capital) to support the socio-economic development of the country. The ministry aims to do this by ensuring equitable access to quality education, focused on combating illiteracy and on promoting science and technology, critical thinking and positive values. The structure of the education system in Rwanda is as follows:

**Pre-primary education** is organised in nursery schools for a period of three years for children between the ages of 3 and 6.

**Primary education lasts six years:** The official school age at this level is from 7 years to 12 years. Primary education ends with a national examination that yields eligibility for lower secondary education studies. According to the 2014 Education Statistical Yearbook,
the gross enrolment rate in primary was 138.5% in 2013 and 134.3% in 2014. The student-to-qualified-teacher ratio was 63:1 in 2013 and 61:1 in 2014.

**Secondary education lasts six years:** The official age for this level is from 13 years to 18 years. It is composed of lower secondary (the first three years) and upper secondary (the second three years) and is sometimes called 12 Years Basic Education (12YBE). Compulsory education lasts 9 years (age 7 to 15), and it covers primary and lower secondary education in what is commonly known as Nine-Year Basic Education (9YBE). At the end of 9YBE and 12YBE, students sit for a national examination that yields eligibility for upper secondary education and tertiary education studies, respectively. On completion of lower secondary (also known as 9YBE), students enter different fields of study such as sciences, humanities, languages, teacher training, or technical and vocational studies.

The secondary school gross enrolment rate and net enrolment rate have decreased, respectively from 41.5% in 2013 to 40.7% in 2014, and from 36.4% in 2013 to 35.7% in 2014. The transition rate from lower secondary to upper secondary has dropped significantly, from 95.3% in 2012 to 85.4% in 2013 (a decline of nearly 9.9%). However, the drop-out rate in lower secondary education improved, declining from 17.7% in 2012 to 14.7% in 2013. The student-to-teacher ratio also improved in secondary schools, increasing from 32:1 in 2013 to 30:1 in 2014.

As mentioned above, the Government of Rwanda aspires to reach 30% of secondary school subjects offered through ODeL by 2017.

**Technical and vocational education and training (TVET)** is taught in Technical Secondary Schools (TSS), Vocational Training Centres (VTCs) and Technical Tertiary institutions (awarding Diploma and Advanced Diploma). TVET provides both young and unemployed people with the skills to gain productive employment. It also provides those already in employment with an opportunity to upgrade their skills, and includes entrepreneurs and those wishing to be self-employed. In TVET, the number of training centres increased from 306 in 2013 to 365 in 2014, as did the number of trainers, going from 3,020 in 2013 to 3,595 in 2014. The number of TVET trainees increased by 10.8%, going from 83,893 in 2013 to 93,024 in 2014. This shift shows an increasing interest in TVET in Rwanda.

**Tertiary education** is based on a credit accumulation and modular scheme system. The qualifications awarded at different higher learning institution (HLI) levels are set out in the Rwandan Higher Education Qualifications Framework. It has seven levels of exit awards:

- Level 1 with a Certificate of education
- Level 2 with a Diploma in higher education
- Level 3 with an Advanced Diploma in higher education
• Level 4 with an Ordinary Degree
• Level 5 with a Bachelor’s Degree with Honours
• Level 6 with a Master’s Degree
• Level 7 with a Doctorate

Students’ enrolment in HLIs increased from 84,448 in 2013 to 87,013 in 2014. However, the number of students in public HLIs decreased from 40,731 in 2013 to 37,759 in 2014. About 44% of students in HLIs were enrolled in the field of Social Sciences, Business and Law. The fewest number were in the field of Services (3%). According to statistics from Higher Education Council (HEC, 2015), the majority of students in HLIs are enrolled in day programmes (62%). Evening and weekend programmes represent 36%, while students in eLearning programmes account for 2%. In fact, the Higher Education Council’s (HEC, 2008) policy recognises that ODeL should be used in higher education in order to offer a second chance to those who have been unable to benefit from conventional higher education, and to increase access to students in the under-served remote areas.

7. Status of ODeL in Rwanda

As noted above, the number of students wishing to pursue their studies in higher education has increased sharply over the last few decades. This is due mainly to the success of basic education programmes. For example, the demand for higher education in Rwanda rapidly rose from 4,001 in 1994 to 62,734 in 2010 and then to 87,164 in 2014. The demand for higher education was expected to rise even higher with the implementation of 12YBE. Different policies and strategies have recognised ODeL as one of the strategies that can address this growing demand for higher education.

One of the first initiatives in ODeL was called the Distance Training Programme (DTP), translated in Kinyarwanda as IYAKURE (literally meaning “offered from distance”).

7.1. Distance Training Programme – IYAKURE

The DTP was introduced in Rwanda in 2001 through the former Kigali Institute of Education (KIE), currently the College of Education within UR. At the beginning, the programme aimed at upgrading in-service secondary school teachers in pedagogical skills and alleviating the shortage of teachers at this level both in quality and quantity.

The programme was initiated in the aftermath of the genocide against the Tutsi that was perpetrated in 1994. From 2000 to 2006, the DTP at KIE was funded by the UK Department
for International Development. Afterwards, the DTP became one of the regular programmes offered by KIE.

When public HLIs merged in 2013, KIE and Rukara College of Education merged and formed a College of Education (CE) under the UR. Thus, the School of ODL was created within the UR-CE to coordinate UR ODeL initiatives. The School is composed of three departments inherited from the former constituent institutions:

- Tele-Education
- Blended Learning Programmes at UR
- Centre of African Virtual University (AVU)

The School of ODL inherited the mode of delivery of DTP that was actually a print-based programme. As part of the DTP, lecturers write modules that are compiled and sent to Regional/Provincial Centres for distribution to in-service teachers enrolled in the programme. One module costs RWF10,000.

Some secondary schools have been selected and equipped to serve as study centres known as Regional or Provincial Centres in DTP. There are 10 in all.

- **4 Regional Centres**: Kigali, Rwamagana, Nyundo, Butare
- **6 Provincial Centres**: Byumba, Nyamagabe, Gihundwe, Kabgayi, Musanze, Rubengera

In-service teachers enrolled in the DTP are supported by a network of part-time subject tutors who are located in the study centres. At a regional centre, there is a DTP coordinator who manages the distribution of modules and takes stock of reference textbooks, laboratories, computer labs and other resources. Twice a year, in-service teachers (students) attend residential training sessions during school holidays (face-to-face) and twice a month they attend alternating weekend tutorials.

Assessments in the DTP are print-based. Continuous assessment tests take place during weekends and at the centres. They are supervised by regional coordinators. In-service teachers (students in DTP) sit for final exams during school holidays at UR-CE or at any other secondary school chosen by the UR-CE.

To date, the School of ODL offers six diploma programmes in the DTP. These programmes are as shown in Table 2 and Figure 1.

*Table 2: In-service teacher enrolments in the Distance Training Programme, 2012–2016*
Since the creation of UR in 2013, the DTP number of enrolled in-service teachers has decreased, as shown in Figure 1.

Figure 1: In-service teacher enrolments in the Distance Training Programme, 2012–2016.

Figure 1 shows sharp variations in in-service teacher enrolments across different years: the highest enrolment took place in 2012 with 2,263 in-service teachers who registered in the programme. The year 2013 coincides with the launch of the UR as one state university; it seems there was no in-take during that year.

The figure shows also that in-service teacher enrolments increased again in 2014, up to 2,209, and sharply decreased to 313 before it rose again to 1,274. It is not clear why this sudden change in in-service teacher enrolment occurred. It may be that this DTP is expensive to the UR-CE and that enrolling more learners would increase costs.
Constraints of the DTP

1. Clash of priorities vis-à-vis traditional conventional programmes – Mukamusoni (2006) put it in this way: “Faculty members involved in both in-service and pre-service programs face challenges associated with heavy workload. Moreover, the pre-service program is typically prioritized at the expense of the distance learning. Academic relationships between faculty members and tutors also need to be reinforced.” The School of ODeL does not have its own academic staff working within the School to develop programmes and teaching materials and deliver them. The School relies on other schools’ academic staff for which they have no influence. DTP courses are most of the time an extra workload to the lecturers. Therefore, experience has shown that at the UR-CE, priority has been given to conventional programmes to the detriment to DTP programmes.

2. There are few economies of scale to be achieved by combining ODeL with conventional programmes when ODeL is integrated in a dual mode. In fact, the ODeL mode requires different regulatory frameworks, management and administrative processes. For example ODL students register by module throughout the year rather than annually as in conventional programmes. This provides flexibility for ODeL students, but also ODeL requires different student support systems, and students work to a different timetable.

3. So far, the DTP focuses exclusively on upgrading the educational level of under-qualified in-service secondary school teachers and it has not been able to serve more potential students from other programmes.

4. The DTP relies on a print-based distance learning model and face-to-face sessions. This model sounds to be very expensive. Thus, the DTP suffers from the high cost of textbook production and printing, and the challenge of updating old texts (or errors).

5. In their study conducted on the practices and challenges of the DTP at the former KIE, Ndayambarje, Bimenyimana and Ndahayo (2013) summarise the challenges of the DTP in the following points: failure of using ICTs’ modern technologies, limited resources such as library access and textbooks, poor record and learner support systems, inadequate number of staff and used facilities, and high drop-out and failure rates by the students.

7.2. Tele-Education

The School of ODL at the UR has inherited a Pan-African e-Network project known as Tele-Education. This project started at the former KIE.

The Pan-African e-Network project operates through software modules that allow:
- Virtual Tele-ED LIVE: a Synchronous Learning Environment
- Virtual Tele-ED LMS: an Asynchronous Learning Environment
- Virtual Tele-CON: a Collaborative Conferencing Environment

India, as the leading and coordinating country of the Pan-African e-Network project, hosts a Tele-Education Learning Management System (LMS) portal. This portal includes university Tele-Education delivery system software that incorporates an eLearning system, a Content Management System, and digital library solutions.

Though a project, Tele-Education is currently a department within the School of ODL at the UR-CE. It is a project in its second phase that was initially sponsored by the Government of India.

The five Indian awarding participating universities in Tele-Education are:
- Amity University (Uttar-Pradesh)
- Indira Gandhi National Open University (IGNOU)
- University of Madras
- Delhi University
- Birla Institute of Science and Technology (BITS)- Pilani

The programmes offered by the Department of Tele-Education, School of ODL at the UC-CE are shown in Table 3.

Table 3: Student enrolments in Department of Tele-Education, 2012–2016

<table>
<thead>
<tr>
<th>#</th>
<th>Programmes offered in Tele-Education</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Awarding institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Postgraduate Diploma in Information Technology (PGD IT)</td>
<td>63</td>
<td>53</td>
<td>12</td>
<td>5</td>
<td>293</td>
<td>Amity University</td>
</tr>
<tr>
<td>2</td>
<td>Postgraduate Diploma in French and Language (PGDFL)</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Diploma in Information Technology (DIT)</td>
<td>32</td>
<td>40</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Diploma in Business Management (DBM)</td>
<td>40</td>
<td>79</td>
<td>38</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Master of Finance and Control (MFC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>MBA in International Business (MBA-IB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Certificate in Nutrition and Child Care (CNCC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>Indira Gandhi National</td>
</tr>
<tr>
<td>8</td>
<td>Certificate in Environmental Studies (CES)</td>
<td></td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3 shows that the highest student enrolment in Tele-Education from 2012 to 2016 has been in 2016: 293 students. The lowest enrolment happened in 2012 and 2015 (159 in each of those years). Figure 2 shows this variation.

Figure 2: Student enrolment in Department of Tele-Education, 2012–2016.

Given the Government of Rwanda’s aspiration for having at least 50% of programmes offered through ODeL by 2017 in higher education, Figure 2 demonstrates that a lot needs
to be done to empower ODeL programmes at UR and to increase intake. This issue is more explored in the constraints below:

**Constraints of Tele-Education**

1. The project depends on the capacity of Indian universities in terms of ICT infrastructure, programme delivery, technology competences and awarding power. All of these issues point to a serious problem of ownership and knowledge transfer. If the core business of the project is in the hands of Indian universities, this means that local staff in Tele-Education play a role of technical support, such as managing registration and attendance, supervising exams and tests, and maintaining ICT facilities.

2. The high demand has resulted in limited capacity at the learning centres (in terms of seats, rooms and ICT infrastructure).

3. Students lack basic computer skills.

4. There is a lack of local staff who are highly trained and capable of dealing with run Tele-Education technical issues alone without the assistance of project engineers.

5. It is a challenge for students to be connected anytime and everywhere in order to be active in their learning and keep updated about the regular incoming communication from India and from the coordination of Tele-Education.

6. Some students have insufficient knowledge and capacity to communicate in English (the medium of instruction).

7. Many students have poor reading and information seeking skills.

8. The small local Internet bandwidth narrows the capacity to upload the Pan-African teaching-learning materials for many students at the same time.

9. Internet connectivity is irregular and unreliable.

10. Few staff at the learning centre can deal with daily academic, administrative and technical aspects.

11. There is a dependence on foreign programmes. Students tend to choose the programmes offered, not necessarily because those align with the country’s priority but because those are the only ones available.

**7.3. Blended Learning Programmes at UR**

The Blended Learning Programme started in 2012 as a Ministry of Health (MoH) initiative aimed at upgrading Associate/Enrolled Nurses working in the national health system (A2 Nurses) to registered nurses with a university diploma (A1 Level). The programme started in the five Schools of Nursing and Midwifery that were then reporting to the MoH. These schools were:
Kabgayi School of Nursing and Midwifery
Rwamagana School of Nursing and Midwifery
Nyagatare School of Nursing and Midwifery
Byumba School of Nursing and Midwifery
Kibungo School of Nursing and Midwifery

By launching the Blended Learning Programme in the five Schools of Nursing, the MoH had the following objectives:

- To promote the quality of nursing and midwifery health services in Rwanda.
- To improve nurses’ and midwives’ knowledge and skills using modern methods of teaching and learning.
- To equip different health settings with well-trained and qualified nurses and midwives.
- To contribute to the reduction of infant and maternal mortality rates (MDG 4 & 5).
- To produce upgraded and qualified nurses and midwives — about 1,500 — by 2020 using eLearning.

In 2011, the former National University of Rwanda (one of the constituent of the current UR), through the Centre for Instructional Technology (CIT), won a consultancy at the MoH to put in place an operational eLearning Moodle platform for upgrading A2 nurses and midwives to A1 level in Schools of Nursing and Midwifery in Rwanda. This consultancy consisted in the following tasks:

- To develop an eLearning platform with the objective of training enrolled nurses to graduate as registered nurses.
- To train the client’s IT personnel, teachers and students on using Moodle.
- To advise the client on appropriate technologies to be used in its eLearning programme.
- To provide two years of technical support to the client on the eLearning programme according to the timeframe agreed upon by both parties.

The formation of UR as a single state university in 2013 coincided with the transfer of the five Schools of Nursing and Midwifery from the MoH to the MINEDUC. Three of these schools then became part of the College of Medicine and Health Sciences (CMHS) at UR:

- Nyagatare School of Nursing and Midwifery
- Byumba School of Nursing and Midwifery
- Kibungo School of Nursing and Midwifery
Currently, the Blended Learning Programme at these three public Schools of Nursing and Midwifery is not under the supervision of the School of ODL, though the letter is supposed to coordinate ODeL initiatives within UR. This reveals a discrepancy within the coordination and governance of ODeL activities at UR.

The other two schools continued their status of being government-subsidised schools:

- Kabgayi School of Nursing and Midwifery
- Rwamagana School of Nursing and Midwifery

In practice, the five schools follow a blended learning mode: 60% of programmes are offered at distance through Moodle; 40% are dedicated to face-to-face sessions. The students meet at the above-mentioned schools for lectures and supervised practice.

Students registered in blended learning in the five Schools of Nursing and Midwifery from 2012 to 2015 are illustrated in Table 4.

**Table 4. Student enrolments in the five Schools of Nursing and Midwifery**

<table>
<thead>
<tr>
<th>School of Nursing and Midwifery</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byumba</td>
<td>65</td>
<td>124</td>
<td>173</td>
<td>112</td>
<td>96</td>
<td>570</td>
</tr>
<tr>
<td>Nyagatare</td>
<td>46</td>
<td>106</td>
<td>165</td>
<td>108</td>
<td>-</td>
<td>425</td>
</tr>
<tr>
<td>Kibungo</td>
<td>57</td>
<td>110</td>
<td>152</td>
<td>99</td>
<td>-</td>
<td>418</td>
</tr>
<tr>
<td>Kabgayi</td>
<td>65</td>
<td>108</td>
<td>158</td>
<td>143</td>
<td>125</td>
<td>599</td>
</tr>
<tr>
<td>Rwamagana</td>
<td>55</td>
<td>99</td>
<td>132</td>
<td>116</td>
<td>128</td>
<td>530</td>
</tr>
<tr>
<td>Total</td>
<td>288</td>
<td>547</td>
<td>780</td>
<td>578</td>
<td>349</td>
<td>2,542</td>
</tr>
</tbody>
</table>

Table 4 shows that 2,542 students have been enrolled in the Blended Learning Programme in nursing since it started in 2012. Nyagatare and Kibungo Schools of Nursing and Midwifery were not able to register a new intake during the academic year 2016.

Both Table 5 and Figure 3 illustrate that student enrolment increased gradually from 168 in 2012 to 490 in 2014. It then decreased sharply to 319 in 2015 and to 96 in 2016. This decline corresponds to the launch of UR. It might be possible that focus was put on face-to-face conventional programmes in the Schools of Nursing and Midwifery rather than on programmes offered at distance.
Table 5: Student enrolments in the three public Schools of Nursing and Midwifery

<table>
<thead>
<tr>
<th>School</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byumba</td>
<td>65</td>
<td>124</td>
<td>173</td>
<td>112</td>
<td>96</td>
<td>570</td>
</tr>
<tr>
<td>Nyagatare</td>
<td>46</td>
<td>106</td>
<td>165</td>
<td>108</td>
<td>-</td>
<td>425</td>
</tr>
<tr>
<td>Kibungo</td>
<td>57</td>
<td>110</td>
<td>152</td>
<td>99</td>
<td>-</td>
<td>418</td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>340</td>
<td>490</td>
<td>319</td>
<td>96</td>
<td>1,413</td>
</tr>
</tbody>
</table>

Figure 3: Variation in student enrolments in the three public Schools of Nursing and Midwifery.

In the two government-subsidised Schools of Nursing and Midwifery, the situation was a little different. There was a slight decrease in student enrolments from 290 students in 2014, to 259 in 2015, and then 253 in 2016 (Table 6 and Figure 4).

Table 6: Student enrolment in three government-subsidised Schools of Nursing and Midwifery

<table>
<thead>
<tr>
<th>School</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kabgayi</td>
<td>65</td>
<td>108</td>
<td>158</td>
<td>143</td>
<td>125</td>
<td>599</td>
</tr>
<tr>
<td>Rwamagana</td>
<td>55</td>
<td>99</td>
<td>132</td>
<td>116</td>
<td>128</td>
<td>530</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>207</td>
<td>290</td>
<td>259</td>
<td>253</td>
<td>1,129</td>
</tr>
</tbody>
</table>
Altogether, the highest enrolment was observed in 2014 with 2,971 students, while the lowest number of students was reported in 2012 with 327 students.

Table 7 indicates that the DTP is the most populated programme at UR as far as distance learning programmes are concerned. For example, in 2016, the total number of students in ODeL programmes was 1,663. The DTP was represented by 1,274 students (77%) and Tele-Education by 293 students (18%), while the Blended Learning Programme for the Schools of Nursing and Midwifery in the UR-CMHS enrolled 96 students only (6%).

Table 7: Student enrolled in UR ODeL programmes per year, 2012–2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance Training Programme</td>
<td>2,263</td>
<td>0</td>
<td>2,209</td>
<td>313</td>
<td>1,274</td>
</tr>
<tr>
<td>Tele-Education</td>
<td>159</td>
<td>186</td>
<td>272</td>
<td>159</td>
<td>293</td>
</tr>
<tr>
<td>Blended Learning Programme</td>
<td>168</td>
<td>340</td>
<td>490</td>
<td>319</td>
<td>96</td>
</tr>
<tr>
<td>Total</td>
<td>2,590</td>
<td>526</td>
<td>2,971</td>
<td>791</td>
<td>1,663</td>
</tr>
</tbody>
</table>

To date, the ODeL at UR does not seem to be a solution to reach disadvantaged rural students and students from under-resourced families, nor a solution to double the number of students by 2017 as expressed in the ICT in Education Master Plan (2015–2019). For example, during the academic year 2014/2015, more than 19,024 eligible candidates applied to study at UR. Only 9,443 applicants (49.6%) were admitted. These top
performers added to a huge number of secondary education graduates who qualify and wish to attend higher education but have not been included. For example, during the same academic year, secondary school graduates numbered 37,558 (51.9% were women; 48.1% were men). A quick-win solution might be for the government to create a dedicated Open University in order to reach its targets as indicated its various strategic plans. Similar institutions exist in the region: Open University of Tanzania, Open University of Zimbabwe, Open University of Namibia, Open University of Nigeria, University of South Africa, and Open University of Mauritius.

7.4. **African Virtual University (AVU)**

The AVU is a Pan-African Intergovernmental Organization established in 1997 with a mandate to significantly increase access to quality higher education and training through the innovative use of ICTs. Phase 1 of AVU (2005–2010) had set up two learning ODeL centres in Rwanda, one in the former National University of Rwanda, the other in the former Kigali Institute of Science and Technology. Although a total of four ICT-integrated Bachelor of Education in Math and Science degrees were developed through AVU, and 73 modules of Mathematics, Physics, Chemistry, Biology, ICT Basic Skills, and ICT Integration in Education and Professional Courses were created in Phase 1, statistics showing enrolments of students in AVU programmes in Rwanda were not available.

In the AVU multinational Phase 2 Project, the ODeL centre of the UR–College of Science and Technology was renovated and rehabilitated. A Diploma/Bachelor’s degree in Applied Computer Science has been validated by the UR–College of Science and Technology. A school fee-free Certificate Programme in Peace Management and Conflict Resolution is under development. UR and other HLIs in Rwanda should increase their capacity to maximise the exploitation of the AVU Open Education Resources (www.oer.avu.org), where a total of 219 modules have been released.

7.5. **ICT support services and infrastructure**

UR uses different Learning Management Systems (LMSs) hosted in different locations: Huye Campus as a general platform (http://elearning.ur.ac.rw), Remera Campus for UR-CE courses hosted at RDB-BSC (www.urceconnect.rw), and the platform dedicated to the CMHS courses hosted in the U.S. (http://cmhs.tulanerw.org/md/login/index.php). At the time of writing this report, UR-CE IT technicians were planning to migrate UR-CE courses to the UR main LMS hosted in Huye Campus and to close down the one hosted in RDB-BSC. The three systems are managed by different organisations. Tulane University’s LMS is more professionally customised and more dynamic than the other two. Table 8 shows the number of courses created on these LMSs.
Table 8: Courses created on different the Learning Management Systems used by UR

<table>
<thead>
<tr>
<th>UR Colleges</th>
<th>Number of courses</th>
<th>Proportion of the total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Animal Sciences and Veterinary Medicine – CAVM</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td>College of Arts and Social Sciences – CASS</td>
<td>21</td>
<td>4.4</td>
</tr>
<tr>
<td>College of Business and Economic – CBE</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>College of Education – CE</td>
<td>47</td>
<td>12.6</td>
</tr>
<tr>
<td>College of Medicine and Health Sciences – CMHS (Tulane University–Rwanda LMS)</td>
<td>225</td>
<td>21.7</td>
</tr>
<tr>
<td>College of Sciences and Technology – CST</td>
<td>23</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>349</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 8 indicates that the CMHS accumulates more online courses than other colleges do. The CMHS created 225 online courses representing 21.7%, followed by the CE with 47 online courses — adding up to 12.6% of all UR online courses. However, some of these courses were just generated as part of a training exercise. This means that some of them are not actively used in learning and teaching practice. Though these courses are online, they continue to be taught in a traditional mode of face-to-face. For this reason, they can be considered as part of the UR move to integrate technology in education.

### 7.6. Digital library

UR has subscribed to 62 online databases with a total of 33,000 electronic journals. However, this survey was not able to identify to what extent these e-journals were used across different UR colleges and campuses. UR and some other HLIs have access to a number of OERs, but the extent to which they are used is not known.

### 7.7. ICT infrastructure

Table 9 summarises key aspects of the ICT infrastructure at UR.

Table 9: Summary of ICT infrastructure at UR

<table>
<thead>
<tr>
<th>UR Campuses</th>
<th>Campus with fibre backbone</th>
<th>Bandwidth in Mbps</th>
<th>Campuses LAN</th>
<th>Campuses Wi-Fi</th>
<th>Anti-virus</th>
<th>Number of PCs</th>
<th>Number of compute r labs</th>
<th>Number of PCs in compute r labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huye Campus</td>
<td>yes</td>
<td>83</td>
<td>yes</td>
<td>65%</td>
<td>UR</td>
<td>1,500</td>
<td>19</td>
<td>838</td>
</tr>
<tr>
<td>Busogo Campus</td>
<td>yes</td>
<td>20</td>
<td>yes</td>
<td>50%</td>
<td>UR</td>
<td>250</td>
<td>3</td>
<td>90</td>
</tr>
<tr>
<td>Gikondo Campus</td>
<td>yes</td>
<td>30</td>
<td>yes</td>
<td>20%</td>
<td>UR</td>
<td>600</td>
<td>6</td>
<td>360</td>
</tr>
</tbody>
</table>
Table 9 shows that all UR campuses are connected to a fibre backbone. The total Internet bandwidth is 318 Mbps, which cost UR RWF15,433,266 per month. The average Wi-Fi coverage is estimated to be 48%. The student-to-computer ratio is 9:1. This ratio is almost double the UNESCO standard student-to-computer ratio of 5:1.

In partnership with the Ministry of Youth and ICT, Intel, Africa Smart Investments Distribution (ASI-D), Positivo BGH, MTN, Microsoft and Bank of Kigali, the MINEDUC launched a laptop purchase programme for university students on 18 March 2016. This programme is part of an initiative called Viziyo, or Vision, aimed at accelerating penetration of smart devices in Rwanda and increasing the countrywide broadband penetration. University students, starting with government-sponsored students, will acquire laptops and Internet on a loan scheme to be recovered by installments. The laptops are equipped with free Microsoft Windows 8.1 (upgradeable to Windows 10), a free Microsoft Office licence for three years, 3-GB modem and 1-GB monthly data bundle for a full year. The student will pay back RWF17,288 per month for a period of three to eight months.

### 7.8. Capacity-building

Several workshops have been organised at UR to support academic staff in creating courses on the UR LMS. The facilitators came from the UR-CE Department of Instructional Technology, except for the CMHS, which benefited from the expertise of Tulane University–
Rwanda. For example, from 2012 to 2015, Tulane University–Rwanda trained 432 staff in learning technologies. In 2013, they also trained 51 staff in Open Education, including in the usage of MOOCs and OERs.

The Department of Instructional Technology trained some students and staff in the creation of online courses in Moodle as shown in Table 10.

**Table 10: Training of UR staff by the Department of Instructional Technology, 2014–2015**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity / Training</th>
<th>Participants</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-18 Nov 2014</td>
<td>Introduction to SciPro (online supervision tool) + Turnitin (Anti-plagiarism tool) + Thesis support</td>
<td>Technical Staff</td>
<td>7</td>
</tr>
<tr>
<td>19 Nov 2014</td>
<td>Introduction to SciPro + Turnitin + Computer skills</td>
<td>MSc Students</td>
<td>19</td>
</tr>
<tr>
<td>20 Nov 2014</td>
<td>Introduction to SciPro + Turnitin + Computer skills</td>
<td>MSc Supervisors (from CASS)</td>
<td>33</td>
</tr>
<tr>
<td>19 Jan 2015</td>
<td>Introduction to SciPro Supervisor functions</td>
<td>Supervisors (CBE)</td>
<td>51</td>
</tr>
<tr>
<td>23 Jan 2015</td>
<td>Creating and editing educational videos</td>
<td>Technical staff</td>
<td>7</td>
</tr>
<tr>
<td>11–13 May 2015</td>
<td>Design and development of an online course with Moodle</td>
<td>Lecturers of the PGCTLHE Programme / CE</td>
<td>12</td>
</tr>
<tr>
<td>10–13 June 2015</td>
<td>Design and development of an online course with Moodle</td>
<td>Academic staff (CST+CAVM)</td>
<td>33</td>
</tr>
<tr>
<td>24–26 June 2015</td>
<td>Design and development of an online course with Moodle</td>
<td>Academic staff (CE+CMHS)</td>
<td>28</td>
</tr>
<tr>
<td>5–7 August 2015</td>
<td>Design and development of an online course with Moodle</td>
<td>Academic staff (CASS+CBE)</td>
<td>34</td>
</tr>
<tr>
<td>16 Oct 2015</td>
<td>Access an online course + Introduction to Online Supervision with SciPro</td>
<td>MSc Students (Center for Gender Studies)</td>
<td>28</td>
</tr>
<tr>
<td>20 Oct 2015</td>
<td>Introduction to Online Supervision with SciPro + Designing an online course with Moodle</td>
<td>Lecturers (Center for Gender Studies)</td>
<td>10</td>
</tr>
</tbody>
</table>

The training programmes as they are organised need more impetus, especially from the academic side. The 12 eLearning officers in the School of ODeL are all just IT technicians (see Table 11). The team needs to be supported by experienced academic staff in ODeL to bring about aspects of learning, teaching and research in ODeL. On the other hand, the training workshops seem to be sporadic and not systematic. Table 11 captures current capacity and needs in capacity-building expressed by the management of the School of ODeL.
Table 11: Current status and some needs in capacity-building in the School of ODeL

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Qualification/Function</th>
<th>Capacity-building needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTP Regional Centers (UR-CE)</td>
<td>4</td>
<td>Administration of the Regional Centres and DTP student support</td>
<td>Administration and student support in ODeL programs, as those DTP centres will be part of the new ODeL system.</td>
</tr>
<tr>
<td>eLearning Officers</td>
<td>12</td>
<td>IT Specialists/Technicians</td>
<td>Guidance in instructional design of eLearning content design and development. This will help them during their work with the lecturers.</td>
</tr>
<tr>
<td>UR lecturers</td>
<td></td>
<td>Most lecturers from all UR Colleges need to be trained in instructional design, as far as the skills to create their courses in LMS are concerned</td>
<td></td>
</tr>
</tbody>
</table>

UR would need to develop capacity for a dedicated team in ODeL management, techniques and strategies, and student support services. This should include a research unit whose findings should inform implementation and development of ODeL at UR and in Rwanda at large.

7.9. Partnership vis-à-vis capacity-building in ODeL

Different international organisations have proposed to partner with UR and/or with MINEDUC in different initiatives that can support ODeL:

**UNESCO** – Under the UNESCO Korean Funds-in-Trust Project aimed at ICT transforming education in Africa, including Rwanda, some initiatives have been identified as a priority. These include:

- Data collection using UNESCO’s Media and Information Literacy (MIL) Assessment Framework for 13 teacher training institutions and UR.
- Incorporation of training materials into selected teacher training institutions based on the MIL Assessment.
- Capacity-building training programmes for training of trainers.
- Implementation and expansion of ODeL modules.
- Expansion of capacity-building training programmes and operation of ODeL facilities.
- Design and development of modules in ODeL in education and of another college.
- Development and adaptation of country-specific OERs for ODeL delivery mode.
- Piloting Training of Education and another College to assess the ODeL courses.
COL – From 1 to 4 November 2015, an education specialist in COL’s Higher Education section, Dr Godson Gatsha, was in Rwanda to discuss with UR top management a roadmap to implement the Higher Education 2015/2016 COL–Rwanda Action Plan. There was consensus that COL will support and facilitate the development of ODL systems at UR with respect to the following frameworks and strategies:

- UR ODeL institutional framework
- UR institutional ODL policy and strategic plan
- ODeL Monitoring & Evaluation Framework
- Information, Education & Communication Strategy for ODeL Advocacy
- capacity-building in ODeL course design, development and delivery, including learner support systems
- a framework for MOOCs and OERs
- Institutional Digital Library Framework
- an ODeL Quality Assurance policy and implementation strategy focusing on COL’s Review and Improvement Model

USAID – The Literacy Language and Learning programme (Education Development Centre Project) is supporting primary 1 to senior 3 schools and mentors in the roll-out of solar panels, netbooks, small projectors, smartphones, tablets, and training.

Department for International Development (UK) – The department is supporting innovation pilots and has agreed to support the ICT in Education planning process, and monitoring & evaluation.

Carnegie Mellon University–Rwanda (CMU-R) – The institution has proposed to support challenges in ICT in Education, including skills development for TVET trainers, through its student research projects.

World Bank – Through the skills development fund for TVET, the World Bank supports various schools for capacity-building and has also built some ICT labs for TVET schools.

Intel – The company is proposing to support teacher training using its customised training programme IntelTeach programme.

Korea Exim Bank – The bank will support the ICT Centre within UR Headquarters, plus four ODeL study centres.

Facebook – In partnership with EdX, Nokia and Airtel, Facebook is proposing to launch a pilot programme for MOOCs using mobile learning.

Pixel Corps – In partnership with the MINEDUC, Pixel Corps has established an Africa Digital Media Academy. This includes training in interactive multimedia content development.

SolidWorks – A Memorandum of Understanding has been signed between the MINEDUC and SolidWorks to support development of graphic design software skills in Rwanda.
**I-Labs** – An initiative was established through the Massachusetts Institute of Technology (MIT) to set up iLabs in Rwanda.

**CERN** – The organization has proposed to support Rwanda in digitising all theses and making them available online for research purposes.

### 7.10. ODeL in private HLIs in Rwanda

The findings show that in 2014/2015, Rwanda counted 44 HLIs, of which 32 (72.7%) were private institutions, 10 (22.7%) were state-owned institutions and 2 (4.5%) were government-subsidised institutions — a move that coincides with impressive increment in students’ enrolments as referred to above.

So far, local private HLIs have not invested a lot in ODeL programmes. During this study, it was observed that the University of Technology and Arts of Byumba developed a strategy to implement ODeL, but it was still a draft. In Kibogora Polytechnic, all courses (i.e., 274 courses) were uploaded on their LMS (Moodle). As part of their contract with Kibogora Polytechnic, all academic staff members had to commit to creating their courses on Moodle. Using Moodle at the institutional level helps to increase Kibogora Polytechnic’s visibility, saves ink and sheets of papers, and is an environmentally friendly initiative.

Although assignments were dealt with through Moodle, the exams were print-based. Classroom-based face-to-face sessions continued normally as in any other traditional learning institutions. Moodle was just used as a repository of courses. Management did not even consider this mode of delivery as blended learning, but rather one of the ways of integrating ICT in teaching and learning. Kibogora Polytechnic LMS was hosted in the UK at Blackburn University (http://kibogora.blackburn.ac.uk/).

Some ODeL private universities operating in Rwanda seemed to have been more interested in ODeL than local universities are. The Open University of Tanzania and Mahatma Gandhi University created their campuses in Rwanda (Table 12) and successfully registered some students.

**Table 12: Student enrolments in private higher learning institutions by gender, 2015**

<table>
<thead>
<tr>
<th>Private higher learning institutions</th>
<th>Level of education</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open University of Tanzania</td>
<td>Masters</td>
<td>11</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td>20</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Mahatma Gandhi University–Rwanda</td>
<td>Diploma</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Bachelors</td>
<td>79</td>
<td>97</td>
<td>176</td>
</tr>
</tbody>
</table>
Table 12 shows that 926 students were registered in ODeL programmes at the Open University of Tanzania and the Mahatma Gandhi University–Rwanda by 2015. The majority of students were men (60%).

### 7.11. ODeL standards, recognition, accreditation and quality assurance

The Higher Education Council (nd) developed a code of practice for distance learning provision to ensure that the quality and standards of programmes and other awards taught and supported on a distance learning basis conform to the requirements of the Higher Education Qualifications Framework for Rwanda and are comparable with programmes of a similar nature delivered on-campus.

The main points of this code of practice are summarised as follows:

- The establishment of distance learning programmes must be in line with the institute’s mission and strategic plan.
- Responsibility for the academic standards and quality of all programmes leading to an award of the institute lies with Senate.
- All programmes are subject to the requirements of the Higher Education Qualifications Framework and the Code of Practice as required by the National Council for Higher Education.
- A programme development team must be established and is responsible for considering all the learning materials produced and for taking, where necessary, external advice on their suitability.
- All programmes of study/learning are subject to the prevailing institute requirements for annual monitoring & evaluation and periodic review.
- Any major changes to the programmes are subject to approval through the normal institute procedures before those changes can be implemented.
- The appointment of all staff employed to teach on distance learning programmes must be approved through the normal institute procedures.
- All students must be issued with a student handbook that provides details of the programme, including assessment requirements and student entitlements and expectations with regard to learning resources.
- Students must receive information on the support mechanisms available to them, including information on the personal tutoring system, appropriate feedback mechanisms, access to tutors, and appropriate communication methods.
• Procedures for and interactions with students registered in the programme must conform to the institute’s Equal Opportunities Policy.

• Assessment must be undertaken in line with the institute’s regulations and guidelines. When marking is undertaken at a distance, mechanisms must be in place for the effective moderation of work within the institute to ensure comparability of standards with on-campus provision.

• All external examiners must be appointed in accordance with the institute’s procedures. Where possible, the same external examiners should be appointed for programmes that are offered on a distance learning basis and on campus.

• Appropriate mechanisms must be in place for obtaining student feedback.

• Staff development should be provided in the development and delivery of distance learning.

8. Conclusions and Recommendations

The purpose of this study was to gather current baseline data on the status of ODeL in Rwanda vital to the planning of projects and initiatives that support the use of ODeL within the country.

From the policy perspective, ODeL in Rwanda is a high priority in terms of transforming Rwandan citizens into human capital to boost the socio-economic development of the country. National policies and strategies, including Vision 2020, NICI plans, SMART Rwanda Master Plan and the 7-Year Government Plan, identify ODeL as one of the innovative strategies that will contribute to capacity development at all levels. The MINEDUC policies and strategic plan align with the national policies and point to ODeL as becoming a key to meeting increased demand in higher education while maintaining and improving quality of education.

The question is how these policies are being translated in action as far as ODeL is concerned. A number of initiatives have been introduced. The School of ODL has been created to coordinate ODeL initiatives within UR. The School inherited the existing programmes of the DTP, Tele-Education and Blended Learning. It seems that there was no serious investment in ODeL despite the target of the 7-Year Government Plan to offer at least 50% of courses using ODeL by 2017.

The highest student enrolment in ODeL at UR was 2,971 in 2014. In 2016, the total enrolment of students declined to 1,663 in a population of more than 11 million. Additionally, the target of the Government of Rwanda, according to the ICT in Education Master Plan, is not to upload courses on LMS per se. Rather, it is to double the number of students enrolled in higher education by 2017. As discussed in this report, some
institutions put their courses online to increase institutional visibility and to be environmentally friendly and not necessarily to implement ODeL.

This report has revealed that the ODeL institutional framework could play a central role in transforming policies and strategic plans into concrete activities. The eLearning officers in the School of ODL are just IT technicians. There is no ODeL expertise at the School: it does not have an academic team dedicated, committed and specialised in supporting ODeL practices or developing research that can inform ODeL implementation — for student support services, digital content development, interactive multimedia design and development, ODeL module delivery, and so on. This has created a clash of priority between the ODL and ordinary workload of academic staff belonging to other schools. In a professional organisation such as UR, it would be very difficult for the School of ODeL, which is located in the UR-CE, to coordinate ODeL initiatives located at a higher level or at the same horizontal level (that is, in other UR colleges or other schools and centres. Without a strong ODeL institution, most initiatives will remain sporadic despite any partnership with other collaborators.

The following recommendations are proposed to enable concrete steps to be taken to strengthen credibility and improve the learning outcomes for employability and entrepreneurship through ODeL in Rwanda:

1. **To effect the sustainable implementation of ODeL in Rwanda, aligning with the government’s policies and strategic plans, create an institution dedicated to ODeL** – This would help overcome the problems of clashing priorities in institutions implementing dual-mode education delivery. This institution could focus on strategic and systematic prioritisation and implementation of ODeL initiatives. It would also serve as a one-stop centre for ODeL initiatives, making it clear to ODeL partners and stakeholders who is responsible for what. The new institution would also be able to develop working practices that are different from those of the existing institutions.

Writing, administering and examining open material and/or supporting students while they work is a very different thing from the conventional academic role. It requires different kinds of commitments, different working practices and a different kind of self-discipline. The conventional academic’s structures are built around face-to-face events: lectures, classes and practical work. The Open Learning academic’s structures are built around conducting the occasional student class at distance, probably in programmed sessions where the instructor can interact with students online, overseeing work and student discussions done online, and producing the material in the first place. Some of these have bigger consequences than the academics may be used to. If, for example, a lecturer fails to turn up for a lecture, the
students miss the lecture. On the other hand, if a lecturer in ODeL fails to produce a module in time for it to be printed, televised or broadcast, the students are unable to do the module at all and lose a long period of potential work.

2. **Have the new ODeL institution establish the courses to offer** – Choice of subjects would be determined by (a) government policy and how the institution’s work is to complement what the conventional institutions offer, (b) what is easiest to mount as distance learning and what is more difficult and more expensive, (c) what skills shortages are identified in Rwanda at the time, and (d) what new jobs and professions the country expects to need to fill with newly graduates from this form of mass education. Other considerations:

- The new institution could also explore the possibility of introducing a flexible combination of modules into degree, diploma or certificate programmes. For example, it would make sense to develop some modules that can accommodate students enrolled in very different programmes. The more module-sharing the institution can have between programmes, the economies of scale can be achieved for a larger output of students.
- Because some subject areas change rapidly, it would be good if some programmes could be free to live in a continual process of discarding old modules and replacing them with updated ones and adding modules on new important topics while removing the ones that are unpopular and no longer seen as essential for the students.
- Rwanda’s need for skilled professionals and other employees are always changing. Once the institution has trained enough for Rwanda’s current needs, it would be advantageous to be able to put together the next qualification out of the existing modules.

3. **Develop a capacity-building strategy for ODeL staff** – ODeL is not just a mode of delivery. It requires expertise in management, eLearning courses design and development, interactive multimedia learning materials, student support service, online interaction, course development, use of MOOCs and OERs, delivery and assessment, and so on. Capacity building should identify the roles, responsibilities and know-how expected of management, academic staff, technical staff and students.

4. **Have ODeL institutions make detailed plans for how modules will be produced and how MOOCs and OERs will be used and customised** (in terms of academic
content, editing and presentation, enhancement with ICT, etc.) – ODeL institutions should also calculate the staff and other resources needed to do these jobs in one year, with a plan for subsequent years as well.

5. **Have ODeL institutions explore, as a matter of urgency, how access to private computers could be financed** – It might be possible for the institutions to include a computer in the first year's fees, with payment by installments. This initiative has already started with government-sponsored students.

6. **Give experienced academic staff responsibility for the LMS and develop a strategy to ensure that ODeL systems and related teaching/learning practice support each other for the long term** – The most important aspects in any learning platform are teaching and learning, and research. If Rwanda really wants to make a move toward ODeL as a mode of education delivery, qualified staff should be assigned to manage the LMS in a new ODeL institution and to plan for future needs. There should also be a research team, whose findings inform ODeL practice and development.
References


