

**OPEN EDUCATIONAL RESOURCES INITIATIVE AT THE OPEN
UNIVERSITY OF TANZANIA: CHALLENGES AND LESSONS
LEARNED**

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Abstract: This paper is one of the six series of studies that describes the process of designing and development of an OER based course titled “*Academic Digital Fluency for 21st Century Lecturers*” at the Open University of Tanzania. Through a *descriptive* research design approach, the study employed *documentary analysis* (particularly of the proceedings and records from the course development workshops and planning meetings) and *review of literature* to systematically describe the process of designing and development of the OER course on “*Academic Digital Fluency*”. The study has demonstrated that, given the institutional commitment at OUT and the critical role that OER will play in the university, it was feasible to produce five (5) initial drafts of the modules of the OER course on “*Academic Digital Fluency*” within the shortest time possible. All course designers worked tirelessly to ensure that the drafts were ready in time for review. On the other hand, the reviewers also played their part very well by providing timely and constructive comments which enabled further refining of the contents and improvement of the courses in order to produce high quality OER course materials before being uploaded into the MOODLE Learning Management System (LMS) of the OUT. However, despite being interesting, the process of designing and development of an OER course is often quite challenging because it is an “added load” to the lecturers. Furthermore, it demands team work and also to

undertake a comprehensive review of literature and the available course materials. The experience from OUT was shared with the ACDE member institutions during the meeting of the Technical Committee on Collaboration (TCC) of the African Council for Distance Education (ACDE) as well as the ACDE Executive Board meeting, held in 14th July, 2014 in Nairobi-Kenya.

Keywords: *Open Educational Resources, Massive Open Online Course, African Council for Distance Education, Technical Committee on Collaboration, Open University of Tanzania.*

BACKGROUND

Integration of Open Education Resources (OERs) in Open and Distance Learning (ODL) delivery is a growing phenomenon not only in the developed world but also in the developing countries. Recent developments indicate that OERs are used in ODL not only as a strategy to address challenges of limited learning resources (Atkins, Brown & Hammond, 2007; World Bank, 2006; Vest, 2006; OECD, 2007) but also as a strategy to save cost, improve teaching and learning practices, enhance academic performance of learners and policy change (roer4d.org/sp-10-impact-of-oer-case-studies). Several initiatives are reflected in the literature including the famous project called *Bringing Educational Resources to Africa* (BERTA) by UNESCO in collaboration with the South Africa Institute for Distance Education (SAIDE) (www.saide.org.za) and International Council for Distance Education ICDE (<http://www.ieee-icde2014.org>), *Research on Open and Educational Resources for Development* (ROER4D) (<http://roer4d.org>) and *OpenUpEd* programme by UNESCO (www.unesco.org). This indicates the critical role and potential that OERs have in terms of contributing to the enhanced quality of education globally.

Given this trend, the integration of OER in ODL institution in the African higher education sector becomes critical as emphasized in the African Council for Distance Education (ACDE) Policy on Collaboration (ACDE-TCC, 2011). In the African context, OERs are necessary because they prevent duplication of efforts in the areas of design of programmes and development of materials amongst ACDE member institutions, thereby enhancing learning flexibility in Open and Distance Learning (ODL). In recognizing this, ACDE in its 8th Technical Committee on Collaboration (TCC) meeting of contact persons held in 13th July, 2014 made a firm recommendation to develop and mainstream OER in ODL delivery with a possibility of evolving them into Massive Open Online Courses (MOOCs) in future

whenever possible ACDE believes in having a high quality MOOC useable by all its members.

It is on the basis of this background that, the current study on development of an OER based course was conducted so as to systematically describe the approach that when used to design the course, to chart out the processes involved, analyze challenges that the team and the OUT faced during the entire process of designing and developing the course. Furthermore, this study has been clearly pointed out some lessons learned for other ACDE member institutions or any other institution of higher learning to borrow leaf from when designing and developing OER/ MOOCS based courses which will ultimately be adopted. It is important to stress at this juncture that, this paper is one of the six studies which describes the process of design and development of the *Academic Digital Fluency* OER course that OUT developed with the technical support from SAIDE (Southern African Institution for Distance Education) through OER Africa programme.

APPROACH USED IN THE DESIGN AND DEVELOPMENT OF THE COURSE

The initiative to design and develop the OER course on “*Academic Digital Fluency*” involved three major approaches that included *preliminary meetings of stakeholders, capacity building workshops for course developers and reviewers and workshops for actual course design and development.*

Preliminary Meetings of Stakeholders

A total of three preliminary meetings of stakeholders were conducted. The first meeting was held in April, 2013 which involved stakeholders from OUT and SAIDE/OER Africa team which in its part was lead by the Director of OER Africa and the learning technologies specialist. The meeting aimed at planning and discussing the content of the subsequent workshop. Similar meetings were conducted in August and October, 2013. The last meeting was conducted in April, 2014 which aimed at kick starting the design and development of the OER course on “*Academic Digital Fluency*”.

Capacity Building Workshop

Two capacity building workshops were conducted in April, 2013 and October, 2013. Both workshops were facilitated by a staff member from OER Africa/SAIDE, Ms. Brenda Mallinson. The capacity building workshops focused on promoting capacity in the areas of

OER and Instructional Design (ID), promote knowledge of MOODLE using the Leicester University “Learning Design in the Open” methodology and the 7Cs OER template resources. Both workshops took place at the Open University of Tanzania's Kinondoni Regional Centre.

Actual Course Design and Development Workshop

A total of two workshops were conducted to provide a conducive environment for actual design and development of the “*Academic Digital Fluency*” OER course. These were hosted between May and June, 2014. Both workshops were conducted at Tanga Regional Centre of the Open University of Tanzania to ensure maximum concentration of the staff members and away from their process.

However, in order to achieve a lot during these workshops, an electronic survey on Academic Digital Fluency course was conducted so as to solicit inputs from OER Academic staff regarding the expected content of the course. Findings from the survey and insights from literature reviewed as well as experience from previous course designs in other courses not being part of the OER were useful in identifying five modules for the course, namely *Digital Literacy, Academic Integrity, Storage and Access of Digital Resources, Working with OERs and Learning Design.*

DESIGN OF THE OER COURSE ON “ACADEMIC DIGITAL FLUENCY”

The design of the course was guided by the 7Cs of learning design framework (Armellini, 2012; Canole, 2012). The framework guided design through 7 stages that included: conceptualize, capture, create, communicate, collaborate, consider and consolidate (Canole, 2012; Canole, 2013) as illustrated in Figure 4.1.

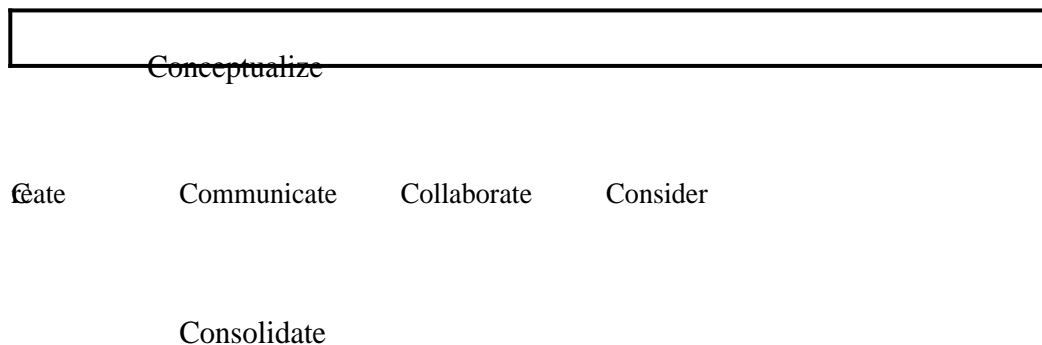


Figure 4.1: *The 7Cs of learning design framework (Canole, 2012)*

According to Canole (2012), Conceptualization stage, involves initiation of the design process by deciding about the vision for the course and the essence of the course designed for lectures and learners as agreed, for the current course the vision of the course was and still is *to increase academic digital literacy of lecturers*.

According to Blois (2013) digital literacy is important because it promotes high order thought skills, breaks down the walls of learning and information and prepares lecturers for the digital world in general. The essence of the current OER course in this study focused on increasing the lecturers' digital literacy in order to help them take full advantage of what the digital age can offer and particularly when it comes to teaching, learning, research as well as administrative responsibilities.

The *Capturing* stage of the 7Cs of learning design framework involves establishing what OERs are being used for and what other resources need to be developed. This involved retrieving literature, materials and courses that are already available under OER. At this stage, lecturers identified existing courses that in one way or the other were related to the OER course being developed. The courses include OCP 100 (Introduction to Micro-Computer I), OCP 200 (Introduction to Micro-Computer II), ODL 601 (Development Studies) amongst others. Furthermore, lecturers retrieved additional physical and electronic resources that could be included in the OER course.

The *Creation* stage covered both the creation of the content and of the activities for the course. Lecturers at this stage as mentioned earlier on, were able to identify five (5) modules for the course that included: digital literacy, academic integrity, storage and access of digital resources, working with OERs and learning design. Each module covered a variety of issues in that particular module and these ranged from 5 - 6 lectures and each lecture was organized in such way that it contained introduction, learning objectives, activities, text (body), summary, review questions and references. Furthermore, all modules had variation in the number and range of activities depending on the nature of the module and the specific purpose for such a module.

The Communication stage made lecturers reflect on the types of communication that the students will be using. As for the “*Academic Digital Fluency*” OER course, lecturers

agreed to deliver the course through the MOODLE Learning Management System (LMS) that provides options for asynchronous and synchronous forums (where necessary).

At the Collaboration stage, lecturers considered and thought about which technologies will be used to foster collaboration and how to work in virtual teams. Ultimately lecturers identified technologies such as wikis, e-portfolios and blogs as critical for the course in order to foster enhanced collaboration with all stakeholders.

The Consideration stage covered an analysis of the ways in which learning technologies can be effectively exploited to promote reflection and assessment. At this stage, lecturers opted for e-portfolios, blogs and wikis as appropriate for promoting reflection and assessment during the course delivery.

The last stage of the 7Cs of learning design framework is “consolidate”. This stage involves taking stock of what has been learned so as to create an action plan for taking things forward. At this stage, lecturers agreed to finalize course development within a week before uploading it on the MOODLE LMS and piloting of the course is undertaken. The design process culminated in an OER course design as presented in Figure4.2

Digital Literacy
Topics:

Academic Integrity

Storage and Access of Digital Resources

Learning Design

Contents:

Topic: Title
Introduction
Learning Objectives
Text (Body)
Activity
Summary
Review questions
References

Outline:

Figure 4.2: *Design of the course*

THE OER COURSE DEVELOPMENT PROCESS

The OER course on “*Academic Digital Literacy*” was eventually developed based on the 7Cs of learning design framework (Canote, 2012; Canole, 2013; Armellini2012). The Course development involved activities split in three phases namely phase I (i.e. pre-workshop activities), phase II (i.e. activities during the workshop) and phase III (i.e. after the workshop). Activities for the three phases are summarized in Table 1.

Table 1: *Activities done during course development process*

II

~~Phase I: Pre-Workshop~~

~~Phase II: During Workshop~~

~~Phase III: Post-Workshop~~

~~Phase III: Post-Workshop~~

Review of modules

~~Incorporation of feedback~~

Editing and proof reading UM ~~Uploading of module in MOODLE~~

During phase I i.e. at the pre - workshop activities, the writers drafted the five (5) modules of the “Academic Digital Fluency” course each of which consisted of several contents as presented in previous section (see figure 4.2).

In addition, all writers were required to retrieve existing resources in whatever form for possible inclusion in their respective modules. These materials included (i) OUT study materials of existing courses such as OCP 100 (Introduction to Micro-computer I), OCP 200 (Introduction to Micro-computer II) and ODL 610 (Development Studies) (ii) Relevant Literature for specific modules from different search engines and print - based journals.

In order to convene the writers for phase II, the coordinator for this new course sent out invitation letters to a total of ten (10) writers all from the Institute of Educational and Management Technologies (IEMT) to participate in the workshop. The writers worked in pairs and the distribution of the modules among the writers was as shown in Table 2.

Table 2: *Distribution of modules amongst writers*

Writers/Lecturer(s)	Academic Unit	Module
L1 & L2	IEMT	Digital Literacy
L3 & L4	IEMT	Academic Integrity
L5 & L6	IEMT	Storage and Access of Digital Resources
L7 & L8	IEMT	Working with OERs
L9 & L10	IEMT	Learning Design

Note: *L1-L10 = The 10 writers involved in the writing of the OER course*

During phase II i.e. at the workshop in Tanga, each writer within the pair worked on a particular topic of the module from morning until lunch-time when the team convened for plenary presentation. During plenary session, each individual member of the team presented what she/he had worked on which was later followed by discussions. The discussion session helped to further shape the retrieve modules as presented in Table 3.

THE NEW OER COURSE ON “ACADEMIC DIGITAL FLUENCY”

Contents of the Course

The contents of the new OER course are presented in Table 1. The course consists of five (5) modules. The contents include: *Digital Literacy, Academic Integrity, Storage and Access of Digital Resources, Working with OERs* and *Learning Design*. Each of the modules has several topics.

Table 3: Contents of the “Academic Digital Fluency” course developed by OUT

S/No	Module	Course Contents	
		Before the Workshop	After the Workshop
1.	Digital Literacy	<ul style="list-style-type: none"> • Internet searching, secure use, online behaviour. • Virtual Learning Environment “(Moodle) & Learning Analytics Fundamentals • Use of multimedia • Office Suite (Word, PowerPoint) Information Literacy 	<ul style="list-style-type: none"> • Basic computer concepts and operations • Internet fundamentals • Multimedia fundamentals • Virtual learning environments
2.	Academic Integrity	<ul style="list-style-type: none"> • Intellectual property • correct referencing & styles • Plagiarism detection software (Viper-OSS)-formative not punitive 	<ul style="list-style-type: none"> • Academic integrity • Academic work and adherence to academic integrity • Intellectual property practices in academics • Referencing of academic work and referencing styles • Causes of academic integrity • Reducing misconduct in academic work • Academic integrity and types of academic dishonesty • Ways to prevent plagiarism

3.	Storage and Access of Digital Resources	<ul style="list-style-type: none"> • OUT digital library & website & external resources • General file management (personal, and institutional) • File sharing - using Dropbox etc 	<ul style="list-style-type: none"> • Web 2.0 technologies • Digital storage • Cloud storage • Digital library
4.	Working with OERs	<ul style="list-style-type: none"> • Understanding Creative Commons licensing • OER-mixing, adapting, re-using, producing • Production work flow process for OUT 	<ul style="list-style-type: none"> • OER concepts • Understanding Creative Commons licensing • OER mixing, adapting, re-using, and reproducing • Production workflow process for an institution
5.	Learning Design	<ul style="list-style-type: none"> • Using the 7Cs process model and OER templates • Incorporating digital technologies (including social media) 	<ul style="list-style-type: none"> • Models, frameworks and elements of learning design and development • Design for learning • Matching the tool to the pedagogical purpose • Assessing and evaluating of online course

Structure of the Modules

Table 4 presents the common structure of the modules in the new OER course. Each module consists of a course code (to be determined later), course title, course description and learning objectives / outcomes. This is followed by extensive text which addresses respective objectives / outcomes in a module. The text is well elaborated by the use of images, figures and other relevant illustrations including video clips (wherever possible).

Table 4: *Structure of the modules of the new OER course*

S/No	Structure
.	

1	Course code
2	Course title
3	Course description
4	Learning objectives / outcomes
5	Topics / Contents

5.1 Topic title

5.2 Introduction

5.3 Learning objectives

5.4 Text (body) (which addresses the learning objectives)

5.5 Activity (ranging from 2-6)

5.6 Summary of the topic / content

5.7 Review questions

5.8 References

Between the texts of each learning objective, there is an activity for learners to practice and explore more knowledge in relation to the content in the module. The activities range between 2-to 6 per topic in each module.

At the end of the last activity, a summary of the topic / content is presented. This provides an overview of the topic / content for effective comprehension by learners. The summary is followed by review questions which help learners to make critical self-reflection of the topic and references are provided at the end of the topic.

CHALLENGES

The idea and plan to come out with an OER course accustomed to OUT was a mammoth task from then very conception stage simply because, not so many institutions especially in the Southern hemisphere which have not only achieved this task but also dared to do. It follows therefore by OUT being one of the early developer, required a lot of courage, support and management buy-in which is lacking in most institutions. It must be kept in mind that OUT was

somehow walking in uncharted territory due to its determination to ultimately develop a MOOC out of the developed OER.

The second challenge which faced this exercise was the fact that all course writers are members of staff at the Institute of Educational and Management Technologies (IEMT) with full responsibilities hence finding spare time to attend the training, writers workshop and sit down to write was equally challenging because it meant compromising with either quality of this OER course or leave some of their daily cores unattended which could also affect the work of IEMT which has support function to the OUT academic and administrative units apart from the consulting and research.

The other challenge worth mentioning at this juncture is the fact that this task was to be accomplished within a very short time to enable the decision making bodies within OUT approve the course prior to the meeting of the ACDE Board in July, 2014 that was to assess the potential of developing a quality MOOC for ACDE.

Similarly this task did not have a specific budget line within OUT, hence the management had to mobilize funds internally in order to accomplish this very important task in record time.

Lastly each module was to be prepared in pairs and that presented a challenge in several ways from agreeing who does what and why to being able to inculcate team spirit and team work which at times was hard to achieve given the fact that each writer had several other commitments to do.

LESSONS LEARNED

The design and development of the OER course on Academic Digital Fluency at OUT has taught staff several lessons worth sharing. One of the lessons is that we have been able to learn is that commitment is the mother of all and dedication to purpose is key in whatever one seeks to achieve. This has always been the secret behind OUT being able to pioneer in several fronts and development of the OER course is only one of them.

The second lesson worth of sharing is that management support played a very key role from the very beginning to the end of the process. The OUT management was always in the driving seat and whenever things seemed to be not moving or going slow, the top management would either convene meetings or require an immediate explanation or clarifications.

It is also important to stress that the choice of the right team of writers and reviewers played a strategic role too in ensuring that the task is not only finished but also finished in record time without compromise to its quality.

Similarly the role of the coordinating unit namely the Institute of Educational and Management Technologies and the individual coordinator cannot be under-estimated as they were the ones who made sure that regular meetings are convened, management is kept informed of the progress, writers are taken to the workshop when required, reviewers are kept informed when drafts are ready and reminded reviewers when to submit their comments but more important, partners and trainers are also well informed and when required are invited for training or progress review meetings.

In the same vein partners such as SAIDE played a very critical role in the success of the preparation of the OER course material on Academic Digital Fluency at OUT. Without their support, may be OUT would not have reached this far and at this pace we were able to move.

CONCLUSION

The study described in this paper is one among a series of six sub-studies in relation to OER course development in ODL at the Open University of Tanzania. This particular study aimed to systematically describe the process of designing and developing the “Academic Digital Fluency” OER course at the Open University of Tanzania.

It has been demonstrated that, the process of design and development of an OER besides being challenging but also is very interesting. It was challenging because it was an “added workload”

to writers whose plates are already full. Since each module was written in pairs it required a very strong teamwork and team spirit else the task could not be accomplished.

The process was interesting because it was rewarding realizing that OUT is one of the pioneering institution in Tanzania to develop an OER on “Academic Digital Fluency”. Furthermore, it was challenging to meet the deadline of designing five modules within a span of very short time. However, it is interesting to note that all writers were able to deliver the drafts for review within the time allocated. It was even more interesting as all reviewers were able to work on the drafts and submit their review reports and comments in record time.

As a way forward, a workshop to orient writers on how they can upload their modules in OUT's MOODLE Learning Management System (LMS) has been scheduled to take place at the end of August, 2014 before a piloting phase of the course with a group of students is implemented in the beginning of September, 2014. Two institutions have so far volunteered to participate, ie. Open University of Tanzania (OUT) and Catholic University of Mozambique (UCM). Other institutions such as Tumaini University-Dar es Salaam College (TUDARCO) and Dar es Salaam University College of Education (DUCE) shall be invited to also participate in the piloting phase.

It is our expectation that the experiences from this endeavour (i.e design, development and implementation / piloting of OER course) shall be a recipe and catalyst for other institutions not only to adapt and adapt OER course from OUT but also to design and develop OER materials that appeal to their local circumstances and needs.

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