

DataCite & Open Scholarship Cadres for Uganda (DOSCU)

At Busitema University, Busitema Campus, Faculty of Engineering and Technology, Engineering Library, E-Learning Center, 2nd Floor – 27th – 31st May 2024

Curriculum Outline Version 0.3 - Final

Introduction

This document serves as a planning framework for the DOSCU workshop to identify the milestone for a successful event in May 2024. As we progress, adjustments and refinements will be made to ensure alignment with the agreed-upon schedule and content by the organizing committee.

- 1. Project Title:** Building a cohort of open scholarship trainers to boost adoption of DataCite open infrastructure services among the Consortium of Uganda University Libraries
- 2. Project Type:** Outreach Activities
- 3. Funder:** DataCite – under Global Access Fund (GAF) – Euros 10,425
- 4. PI:** Dr. Fredrick Kiuwa Lugya
- 5. Beneficiaries:** 35 Participants (librarians, ICT professionals, and research administrators) selected among Consortium of Uganda University Librarians (CUUL) membership
- 6. Project Goal:** Over the course of two (2) months, a team of librarians at Busitema University plan to develop and deliver a five-day training of trainers' workshop to a cohort of librarians, ICT professionals, and research administrators selected out of 76 institutional members of the Consortium of Uganda University Libraries (CUUL). This work will ignite a countrywide conversation on the benefits of open scholarship and open science and to increase awareness of integrating DataCite infrastructure services to make research discoverable.
- 7. Project Outcome:** DOSCU participants will exhibit mastery skills to plan, prepare and deliver training on how to make research outputs open and discoverable using open infrastructure and services.
- 8. Project Objectives:**

Objective 1: Within the first (1) month, the librarians will create a publically available educational resource kit consisting of training curriculum, guidelines for facilitating the training, training materials, and assessments on open scholarship, open science and DataCite open infrastructure services. The training materials shall be added on the learning management system and participants enrolled into the workshop.

Objective 2: By the end of the two (2) months, deliver a five-day training to 35 trainees (librarians, ICT professionals, and research administrators) selected out of 76 institutional members of the Consortium of Uganda University Libraries.

9. Workshop Learning Outcomes: The the end of the DOSCU workshop, the trainees should be able to:

- a) Communicate to their institutional administrators why libraries and their institutions cannot afford to ignore implementing institutional repositories to make their research outputs open;
- b) Explain how to go about using open infrastructure and services like Dspace and DataCite tools to make their research outputs open and discoverable;
- c) Understand how to teach and train librarians, ICT professionals, and research administrators to implement DataCite research discovery and exploration tools and services like DOIs, metadata, APIs in their institutional repositories;
- d) Become confident and have the knowledge to deal with difficult questions about making research outputs open and discoverable;
- e) Be able to plan institutional repository and DataCite training activities and be aware of the best practices in training design for online, face-to-face and hybrid events;
- f) Understand how to work with diverse audiences especially institutional administrators to attract funding towards DataCite activities;
- g) Know how to evaluate the impact of the training and implementing institutional repositories and DataCite open infrastructure and services.

WORKSHOP CURRICULUM – TOPICS AND CONTENT

Module 1: Introduction to Open Access

At the end of this module, participants are expected to be able to:

- Define scholarly communication and open access, and promote and differentiate between the various forms of Open Access;
- Explain issues related to rights management, incl. copyright, copy-left, authors' rights and related intellectual property rights;
- Demonstrate the impact of Open Access within a scholarly communication environment.

Topics:

a) Scholarly Communication Process

Duration: 10:30 am – 01:00 pm - 2½ Hours

Date: 27th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI



Objective: This topic introduces the concept of research lifecycle and scholarly communication discussing its history and evolution. It further looks in to the changes in the scholarly communication process with advent of web 2.0 & 3.0 tools and other ICT applications, and explores the changing role of the stakeholders in the process.

Learning Outcomes

After going through this topic the participants are expected to be able to:

- Describe the historical evolution of scholarly communication process;
- Explain the lifecycle of research in socio economic context;
- Understand the roles of different stakeholders, specially the role of librarians.

Areas of focus

- Research lifecycle
- History and evolution of scholarly communication
- Status and trends
- Role of stakeholders (Researchers/ authors, publishers, & libraries/ librarians)

Source: UNESCO’s Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

b) Open Access: History and Developments

Duration: 01:00 pm – 04:00 pm – 2 hours

Date: 27th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: In this topic, the genesis of OA publishing is briefly discussed; highlights different benefits OA publishing promises, different approaches and business models of OA; and finally, this gives participants an overview of long-term preservation models available for OA and other scholarly electronic contents.

Learning Outcomes

After going through this topic, the participants are expected to be able to:

- Define and explain OA from the perspective of its historical developments;
- Distinguish between Green and Gold OA, and also understand emerging approaches to OA;
- Explain the OA advantages, and argue for promoting OA to scientific information;
- Identify business models for promoting OA; and

- Understand long-term digital preservation models available to OA knowledge resources.

Areas of focus

- Open access - definitions, Philosophy, Evolution
- Approaches to open access
- Benefits of open access
- Arguments against open access and responses
- Open access business models
- Long-term preservation models

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

c) Rights and Licenses

Duration: 09:00 am – 10:00 am, 1 hour

Date: 28th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: In this topic various author rights, licenses and rights assessment tools are discussed in details to help the librarians in strengthening their efforts in enhancing researchers' level of awareness.

Learning Outcomes

After going through the topic, the participants are expected to be able to:

- Understand the legal basis of copyrights and intellectual property;
- Explain the meaning of rights and restrictions associated with copyright;
- Understand the bases of open licensing;
- Analyse the different types of Creative Commons licensing; and
- Identify different support services available to understand adoption of OA.

Areas of focus

- Intellectual property rights
- Open licenses
- Support tools and services

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:
Task 1:1
Deliverables

d) Advocacy for Open Access

Duration: 10:30 am – 01:00 pm, 2½ Hours

Date: 28th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: In this topic, various global advocacy initiatives are briefly discussed to help trainees in strengthening their efforts in sensitizing, awareness raising and promoting the concept of open access to knowledge at their institutions and participant in national activities.

Learning Outcomes

After going through the topic, the participants are expected to be able to:

- Identify key advocacy organizations and their initiatives to promote open access to various stakeholders;
- Identify key stakeholders to promote Open Access, and identify their needs; and
- Prepare appropriate advocacy campaign and training programmes for the stakeholders.

Areas of focus

- Open access advocacy
- OA advocacy-based strategies - international open access week - global celebrations, what librarians can do to promote open access, what universities and administrators can do to promote open access
- OA blogs for OA advocacy
- OA advocacy organizations and initiatives - SPARC, EIFL.net, INASP, EOS;
- Training and development – FOSTER

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:
Task 1:1
Deliverables

e) Open Access Research Impacts

Duration: 02:00 pm – 04:00 pm, 2 Hours

Date: 28th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: This topic briefly discusses the emergence of the open citation databases for text mining and data mining of open access literature.

Learning Outcomes

After going through the topic, the participants are expected to be able to:

- Describe the process of evaluation of research in national and international contexts;
- Identify the tools used for evaluation of research;
- Explain the advantages and disadvantages of different evaluation metrics;
- Use emerging evaluation metrics to explain OA research impact..

Areas of focus -

- Metrics, concepts of bibliometrics, scientometrics and webometrics
- Commonly Used Terms for Assessing Research Impacts
- Applications of Scientometrics and Bibliometrics in Research Assessment
- Common Bibliometric Indicators
- Webometric Ranking of Institutional Repositories
- Article Level Metrics (Altmetrics)
- Open citation databases

Source: UNESCO’s Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

Module 2: Open Access Infrastructure

This module deals with open access resources of all types, their definition, nature, features, planning, executing, choosing appropriate technical standards and following set procedures and later maintenance for all parties involved i.e. host, sponsors, users and prospective content creators. Emphasis is on e - journals and e-repositories and of course emerging trends in the open access movement.

Topics:

a) Open Access Repositories

Duration: 09:00 am – 01:00 pm, 4 Hours

Date: 29th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI



Objective: This This topic introduces the concept of the two routes to open access, namely the green and the gold routes - specifically how they apply to open access repositories. The discussion will focus on the three main categories of repositories are: Institutional repositories, Subject/discipline specific repositories, and Data repositories.

Learning Outcomes

At the end of this topic, participants are expected to be able to:

- Explain the concept of repositories;
- Identify the types of OA repositories;
- List Open Source repository software;
- Compare the features of some open source repository software;
- Carryout needs analysis for OA repository and list the features of OA repository software;
- Prepare a business plan for deployment of repository software; and
- Take appropriate steps to install and manage repositories.

Areas of focus

- Open access publishing routes – green Vs gold - Institutional repositories, Subject/discipline specific repositories, and Data repositories
- Open Source Repository Software - Repository software, Criteria for the evaluation of an institutional repository, Comparison of repository software;
- Deployment and Implementation - Needs assessment (analysis), Business Case (Plan), Software Installation, Management and Services

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

b) Open Journals

Duration: 02:00 pm – 04:00 pm, 2 Hours

Date: 29th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: In this topic, the focus will be on discussing the different types of Open Access journals and their contribution to improving access to peer reviewed information; and on how librarians can start OA journals to assist their library users.

Learning Outcomes

After going through this topic, the participants are expected to be able to:



- Explain the concept of open access journals;
- Identify the types of OA journals;
- List different types of software available for hosting open journal system;
- List the criteria for choosing open journal system;
- Carryout needs analysis for OA journal and prepare a business plan for deployment of appropriate software; and
- Take appropriate steps to install and manage OA Journal system.

Areas of focus

- What is Open Access Journal?
- Types of Open Access Journals
- Open Source Journal Software - Open Source Journal Systems, Criteria for the evaluation of Open Journal Software, and Open Access Journal Business Models
- Deployment and Implementation - Business Plan: Open Access Journal Service, Business Plan: Individual Open Access Journal Title
- Software installation, management and services -Setting up a journal hosting service, and Setting up an individual journal title

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

c) More About Open Approaches

Duration: 08:30 am – 09:30 am, 1 Hour

Date: 30th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: In this topic, we make an attempt to list some open access initiatives to assist the participants understand and articulate the developments in the area of open access to education and research. Open Access institutional repositories and Open Access journals are just two approaches to ‘openness’. This topic will go beyond these two initiatives.

Learning Outcomes

After going through this topic, the participants are expected to be able to:

- Explain terms related to open access and openness in education and research;

Areas of focus

- Open Educational Resources (OERs)
- Open Data

- Open Science
- Linked Open Data (LOD)
- Data (Digital) Curation
- Data Mining

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

Module 3: Interoperability and Retrieval

At the end of this module, participants are expected to be able to:

- Understand interoperability issues, perpetual access, importance of standards, and the integration of different products in building institutional repositories.

Topics:

a) Resource Description for OA Resources

Duration: 10:30 am – 01:00 pm

Date: 30th May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: This topic will help the participants to learn and appreciate the application of standard metadata schemas in organizing OA resources.

Learning Outcomes

After going through this topic the participants are expected to be able to:

- Define metadata;
- Identify and describe the elements of some important metadata description formats;
- Understand policies related to metadata applications;
- Critically examine the scopes of generic and domain-specific metadata schemas for organizing OA resources;
- Explain the roles of models, crosswalks and interoperability standards in metadata applications including the scope of emerging initiatives in OA metadata landscape; and
- Explore the software-level application of metadata in organizing OA resources.

Areas of focus

- Resource Description

- Open Access and Metadata - Policy Framework, Application Framework, Usage Metadata
- Generic Metadata Schema
- Domain-specific Metadata Schemas - Learning Objects Domain, Theses and Dissertations, Other Domains
- Metadata Modeling - Bibliographic Data Models, Applications of RDF and XML
- Application of Metadata in Open Access - Guidelines and Initiatives, Software-level applications, Authority Control in Gold OA and Green OA
- Metadata: Crosswalks and Interoperability Standards

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

b) Interoperability Issues for Open Access

Duration: 02:00 pm – 04:00 pm, 2 Hours

Date: 2 Hours

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: This topic attempts to provide the participants an overview on i) needs, requirements, types and technical issues related to interoperability in open access contents dissemination; ii) present interoperability initiatives; iii) metadata interoperability and harvesting and iv) trends and future possibilities in interoperability

Learning Outcomes

After going through this topic, the participants are expected to be able to:

- Assess the need of interoperability in developing open access infrastructure at global scale;
- Understand different areas of interoperability and related interoperability standards;
- Critically examine the technical issues and initiatives related to achieving interoperability;
- Apply metadata harvesting software to develop single-window search interface; and
- Realize the trends and future course of development in interoperability.

Areas of focus

- Interoperability - Types of Interoperability, Technical Issues

- Interoperability Initiatives - Metadata-level Interoperability Initiatives, Content-level Interoperability Initiatives, Network-level Interoperability Initiatives, Statistics and usage data-level Interoperability Initiatives, Identifier-level Interoperability Initiatives, Object-level Interoperability Initiatives
- Major Interoperability Standards - Z 39.50, OAI/PMH, ORE, and Others
- Application of Interoperability: Metadata Harvesting
- Interoperability: Trends and Future

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

c) Retrieval of Information for OA Resources

Duration: 08:30 am – 10:00 am & 10:30 am – 12:00 Noon = Total 3Hours

Date: 31st May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: This topic provides the participants an insight to the intricacies of information retrieval for open access literature.

Learning Outcomes

After going through this topic the participants are expected to be able to:

- Describe the evolution of retrieval processes from traditional to Web enabled IR;
- Understand basic concepts related to retrieval techniques, retrieval approach and retrieval models in OA retrieval systems as Web-enabled IR;
- Critically examine problems, prospects and services related to OA retrieval;
- Explain the role of text retrieval engines in OA retrieval; and
- Explore the use of support tools in OA retrieval including multilingual retrieval.

Areas of focus

- Information Representation and Retrieval in OA Context - Retrieval: From Conventional to Neo-conventional System, Retrieval Approaches, Retrieval Techniques, Retrieval Models, and Evaluating Retrieval Systems
- Retrieval of Open Contents: A State-of-the Art Report - Organization of Open Contents, Retrieving Open Contents: Problems and Prospects, Retrieval facilities in Gold OA and Green OA

- Text-retrieval Engines and Open Contents - Apache-Solr, Lucene, MGPP, Zebra, Other Retrieval Engines, Comparison of Search Features
- Retrieval of Open Contents: Support Tools - Vocabulary Control Devices, Subject Access Systems, Ontology Support, and Statistical and Other Tools
- Retrieval of Specialized Open Contents - Multimedia Contents Retrieval, and Multilingual Contents Retrieval

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

Module 4: Resource Optimization

Duration: 12:00 Noon – 01:00 pm, 1 Hour

Date: 31st May 2024

Facilitator: Dr. Fredrick Kiwuwa Lugya – Project PI

Objective: The objective of this module is to portraint a clear picture of Open Access Mandates/Policies and related issues. The recommendations widely adopted by the open access movement may be summarized as ‘*deposit immediately, and make open access as soon as legally possible*’. This is an excellent piece of advice for any university or funding agency which is considering adopting a mandatory OA

Learning Outcomes

At the end of this module, participants are expected to be able to:

- Explore the importance of OA mandate and policies;
- Identify sources of OA mandates and policies;
- Analyze the features of some of the important OA policies in use; and
- Frame draft OA policies for your institution.

Areas of focus:

- Policies and Mandates for Open Access
- Types of Policies
- Issues Related to Open Access Policies
- Importance of Open Access Mandates
- Implementing Open Access Policies
- Countries with OA Legislation
- Towards OA Policy Framework

Source: UNESCO's Open Access (OA) Curriculum: <https://www.unesco.org/en/articles/unescos-open-access-oa-curriculum-now-online>

Scenario:

Task 1:1

Deliverables

Module 5: DataCite Open Infrastructure

Duration: 02:00 pm – 03:00 pm, 1 Hour

Date: 31st May 2024

Facilitator – Mr. Bosun Obileye – DataCite Expert

Objective:

- a) To
- b) To

Learning Outcomes

Topics – Outline and details

Scenario:

Task 1:1

Deliverables

Topic 8: Training and Train-the-Trainer

Objectives:

- a) Participants should become skilled in preparing and delivering training on open science, open access, and all related concepts

Duration: 03:00 pm – 04:00 pm, 1 Hour

Date: 31st May 2024

Facilitator: Dr. Fredrick Kiuwa Lugya – Project PI

Learning Outcomes

- Be able to plan training activities
- Know how to find and choose free tools that can help create high-quality interactive training materials
- Be aware of best practices in training design for online, face to face and hybrid events.
- Understand how to work with diverse audiences.
- Understand the difference between free, freemium and open source software tools

- Be able to explain how to find visuals under an open licence
- Know how to evaluate the impact of training
- Practice open science training

Topics – Outline and details

Free and open source tools for interactive training, Training tips, design your training in easy steps: initial training analysis, design your training in easy steps: learner's journey, learning types and learning activities, and design your training, etc

Sources: The Open Science Training handbook - An open, living handbook on open science training: a first step towards developing open access and open science curricula and andragogies; an open knowledge and educational resource oriented to practical teaching:

https://open-science-training-handbook.github.io/Open-Science-Training-Handbook_EN/

Scenario:

Task 1:1

Deliverables