

### **Unit 3: More About Open Approaches**

**Objective:** This unit briefly discusses alternative innovative approaches to openness that you as a library professional should be aware of besides open access journals and open access repositories.

"Open" encompasses the following open approaches:

Open Access research literature, Open data, Open educational resources, Open Source software, Open infrastructure, Open Standards, Open development, Open education, Open Peer Review, Open research, & Open innovation.

#### **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

#### **Open Educational Resources (OERs)**

Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license by UNESCO, <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/openeducational-resources/what-are-open-educational-resources-oers/>

#### **Open Data**

- Open Data is defined as research data (across different disciplines) that can be freely used, reused and redistributed by anyone – subject only, at most to the requirements to attribute and share-alike (OpenDefinition.org).
- Open Data can be made available through an institutional repository or linked to a journal article published in an Open Access journal, and can take on various forms such as data sets, maps, charts/graphs, video clips, calculations, sound recordings and many more.
- Types of Open Data: Geodata, Culture, Science, Financial, Statistics, Weather, Environmenta, Transport according to Open Knowledge Foundation - <http://okfn.org/opendata/>
- The Open Data Handbook, or visit a list of Open Data repositories listed by the Open Access Directory, <http://opendatahandbook.org/>

#### **Open Science**

- Open Knowledge Foundation Open Science Group <http://science.okfn.org/about-us/open-science-overview/> describes Open Science primarily as science that includes scientific knowledge that people are free to use, re-use and distribute without legal, technological or social restrictions.
- They build tools, apps, datasets and guidelines to facilitate all aspects of open science.

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- The Open Knowledge Foundation movement is trying to make it easier to publish and communicate scientific knowledge.
- A few Open Science projects include the Allen Brain Atlas <http://www.brain-map.org/>, Galaxy Zoo <http://www.galaxyzoo.org/> and The Encyclopaedia of Life <http://eol.org/>.
- Organisations practising or promoting Open Science include amongst others
- the Open Knowledge Foundation <http://okfn.org/> and the Public Library of Science <http://www.plos.org/>.

### **Linked Open Data (LOD)**

- Linked Data is simply about using the Web to create typed links between data from different sources
- Linked Data refers to data published on the Web in such a way that it is machine-readable, its meaning is explicitly defined, it is linked to other external data sets, and can in turn be linked to from external data sets” (Bizer, Heath & Berners-Lee, 2009:104).  
<http://tomheath.com/papers/bizer-heath-berners-lee-ijswis-linked-data.pdf>

### **Data Mining**

- Data (Digital) curation - Digital Curation Centre- <http://www.dcc.ac.uk/digital-curation/what-digital-curation>
- Data Mining - knowledge discovery in databases - involves the process of discovering interesting and useful patterns and relationships in large volumes of data (Clifton, 2010 - <http://www.britannica.com/EBchecked/topic/1056150/data-mining>)

**Activity:** Review final unit questions – check progress pp. 92

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