The Research on Open Educational Resources for Development (ROER4D) project was a four-year (2013–2017), large-scale networked project which set out to contribute a Global South research perspective on how open educational resources can help to improve access, enhance quality and reduce the cost of education in the Global South. The project engaged a total of 103 researchers in 18 sub-projects across 21 countries from South America, Sub-Saharan Africa and Asia, coordinated by Network Hub teams at the University of Cape Town and Wawasan Open University.

This output forms part of an open research toolkit sharing the conceptual and other tools utilised to conduct the meta-synthesis of the sub-project research findings published in the edited volume, *Adoption and Impact of OER in the Global South*.

Bibliography

Rationale

The Research on Open Educational Resources for Development (ROER4D) project bibliography was conceived in 2014 as a means through which to curate a list of references relating to open educational resources (OER), particularly those authored by scholars in the Global South. Its intended purpose was to serve as a record of OER research in the Global South and of foundational literature on OER originating from the Global North. It was a live document kept current through frequent updates by the University of Cape Town (UCT) Network Hub Project Curator in order to keep apace with emerging OER literature throughout the project timeframe.

The contemporary reference management software evaluated for this purpose was either proprietary (and so not in line with the project's open research ambitions) or limited in the kinds of metadata that could be added. The UCT Network Hub also wanted to be able to share the document openly with sub-project researchers in the context of the project's research capacity building initiative without researchers having to access specialised, expensive software. To facilitate these needs, the choice was made to use GoogleSheets, as its spreadsheet format allowed for multiple metadata fields to be added. This format choice also meant that the document could be shared through a single link without version control or access issues.

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The ROER4D bibliography

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The ROER4D bibliography was initially populated with references used in the project scoping document. Further references were added to the bibliography as new research appeared in open access journals and online aggregators – such as *International Review of Research in Open and Distributed Learning*[1], *Open Praxis*[2] and the OER Knowledge Cloud[3]. ROER4D sub-projects also contributed to the bibliography in that the references contained in their research reports were added by the Project Curator. References were captured and incorporated into the bibliography by the Project Curator from 2014 until mid-2017. At this point in the project, as sub-project researchers were finalising their chapters for the ROER4D edited volume, *Adoption and Impact of OER in the Global South*, a Bibliographic Consultant took on the role of adding new references from these chapters, formatting all references according to the American Psychological Association convention (APA, 2009) and enhancing the metadata.

Particular care was taken to ensure that author names and dates were correct and present in full, that the references were accompanied by correct URLs (URLs were added or replaced where possible when they were absent or non-functional, and flagged when no working alternative could be found), and that all book, journal or conference titles were present.

The following metadata fields were added as the bibliography evolved:

1. The publication type (journal article, book chapter, blog post, etc.) of each item.
2. Language of publication, included as many of the South American sub-projects quoted extensively from literature in Spanish.
3. Access conditions (i.e. whether or not the resource was accessible without paywalls).
4. Whether the publication originated from or was authored in the Global North or the Global South, accompanied by regional and country affiliation, where possible, in order to determine where new OER literature was being produced.
5. Lastly, keywords were ascribed to the references. These were either harvested from the reference metadata or ascribed from abstracts, where possible.

The reference lists of the edited volume chapters served as the primary (but not exclusive) source for populating the bibliography. In the course of the project, a decision was taken by the UCT Network Hub to restrict reference lists in research reports and final chapters to those items that

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1   http://www.irrodl.org/index.php/irrodl
2   https://www.openpraxis.org/index.php/OpenPraxis
3   https://oerknowledgecloud.org/

could resolve to a static document (such as a PDF), while references to blog posts, static URLs (web pages) and similar non-document references were captured in footnotes. As such, the ROER4D bibliography is focused on representing the more formal outputs such as journal articles and book chapters captured in reference lists, even though some sub-project chapters did make extensive references to websites and other more ephemeral resources. The website references present in the bibliography were incorporated before the decision to place websites and blog posts into report and chapter footnotes (and before the edited volume reference lists were incorporated).

The process of populating the bibliography was concluded when the ROER4D project finished in December 2017. Final formatting of the bibliography was concluded in March 2018, whereupon the existing content was downloaded, typeset and archived.[4] The 1 471 references contained in the archived version of the bibliography form the basis of the analysis presented here.

Analysis of key bibliography characteristics

In the course of developing the ROER4D bibliography, the Project Curator and other members of the UCT Network Hub observed some interesting trends, particularly as relates to which content types were most frequently cited by sub-project researchers, primary languages of publication, the accessibility of the literature and regions of origin. In the early stages of bibliography development, multiple metadata fields were explored to capture a diverse range of data related to educational sector, theoretical models used in the reference, geographical data, and so forth. Over time, these categories were refined to a more limited set of metadata fields, namely publication type, language, accessibility and region. These categories were chosen pragmatically according to an assessment of which indicators were most instructive in terms of interpreting the OER research publishing landscape in the Global South.

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Publication type

Publication type was selected as a category for analysis in order to determine the primary resource types from which ROER4D researchers were drawing their core insights. Journal articles, comprising 36% of the references in the bibliography (n = 574), were the predominant content type. The "report" category, which covers a range of studies, white papers and similar publications published by non-governmental

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4   The live version of the bibliography continues to be developed and can be accessed under a Creative Commons Attribution 4.0 International licence at: https://docs.google.com/spreadsheets/d/1sHFNzg6QlFSN0geTWjKkMIPSdqEiywybCsEoMjriX8g/edit#gid=0

organisations, research organisations and transnational bodies (such as OERAfrica and the United Nations Educational, Scientific and Cultural Organisation [UNESCO]), were the second-most prevalent, at nearly 18% of the references (n = 261). The "other" category comprised a range of publication types with 25 or fewer entries, and consisted of a range of policy documents, blog posts and other resources.

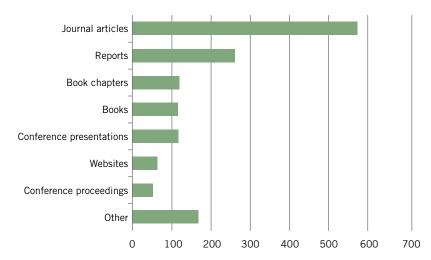A breakdown of the bibliography by publication type is presented in Figure 1.

Figure 1: Publication types in the bibliography (arranged in order of frequency)

Language

Previous studies have indicated that the majority of current OER literature is produced in English (Krelja Kurelovic, 2016), which has the potential to leave the speakers of non-English languages "linguistically and culturally marginalised" (Bradley & Vigmo, 2014, p.4). Language was therefore deemed a relevant category for analysis in order to determine whether ROER4D researchers were primarily referencing English or local-language content. The majority of the publications captured in the ROER4D bibliography are in English (91%), with the only other language with more than 1% representation being Spanish (7.8%).[5] This is unsurprising, given that the project was explicitly designed to have English as its language of publication in order to contribute to the global empirical knowledge base on OER.

Even when Global North references were excluded, English continued to dominate, representing ~84% of the references originating from the Global South.[6]

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5   Other languages represented in the bibliography are: French, German, Mongolian, Portuguese, Russian and Turkish.
6   Other languages represented in the Global South references of the bibliography are: Mongolian, Portuguese and Spanish.

Accessibility

As accessibility is a core function of all aspects of open research, including open access publishing and OER, it was deemed valuable to determine what percentage of the literature cited in the bibliography was accessible without paywall restrictions. An earlier decision to indicate whether items were openly licensed or not (i.e. legally open access) was considered less valuable to users of the bibliography than an indication of whether the object was freely accessible without paywall restriction. Nearly 84% of the references in the bibliography are accessible without having to navigate paywalls, with the remainder consisting of journal articles and books being behind paywalls. It should be noted that the bibliography focused on outputs commonly used in a research context, such as journal articles, book chapters and policy documents. Had the bibliography been focused on collecting OER, noting specific licensing provisions rather than focusing exclusively on accessibility would have been more pertinent.

Region

The ROER4D project was explicitly scoped with the ambition of providing an empirical baseline of OER research in the Global South, acknowledging that most OER research prior to 2013 originated from the Global North. Determining the authors' region of origin in cited literature was therefore considered interesting as it would provide some insight into who the ROER4D authors were referencing. Despite the inherent focus of the bibliography on the Global South, just over half (51%) of the references were authored by Global North scholars – primarily from North America (~27%) and Europe (~22%), with a small number from Australasia (~1%) – while the remainder were cross-regionally authored. This can be explained by the fact that most of the research work on OER is being conducted in these regions.

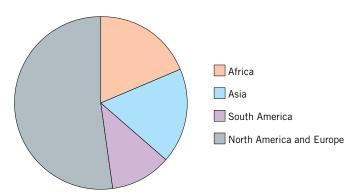A breakdown of the bibliography by region is presented in Figure 2.

Despite the inherent focus of the bibliography on the Global South, just over half (51%) of the references were authored by Global North Scholars – primarily from North America and Europe, with a small number from Australasia.

Legend:
- Africa
- Asia
- South America
- North America and Europe

Figure 2: Authorship of bibliography titles by region

Insights and lessons learned

It was neither possible nor desirable to limit the ROER4D bibliography to Global South references. As already mentioned, most of the foundational theoretical work on OER has been produced by Global North scholars who continue to be frequently cited as authoritative sources on OER and OER-related scholarship. Excluding their outputs from the bibliography would have resulted in it not being representative of the current sources of information used by Global South scholars, thereby reducing its intended utility within the project.

Government documents, particularly those in the Global South, are often poorly curated with many broken links and generally poor metadata. This is a cause for concern as many of these resources refer to policies, national statistics or other key pieces of information that are vital to open education research.

Ensuring the long-term presence of scholarship published online requires an established and rigorous curatorial system. Currently, mainstream commercial publishers possess a robust archiving framework through the Controlled Lots of Copies Keep Stuff Safe (CLOCKSS)[7] initiative; academic project websites and archives do not necessarily have the same level of support. The use of established and well-supported repositories is recommended for projects that cannot ensure long-term stability in terms of their website hosting solutions, and therefore cannot guarantee sustained, ongoing access to project outputs.

As an output arising from an English-language project, the ROER4D bibliography cannot claim to accurately represent the full range of OER literature in the Global South, particularly as relates to publications from francophone and lusophone Africa, Latin America and those areas of South and Southeast Asia that publish in local languages. The regional breakdown provided in this document should be viewed primarily as a proxy to indicate the continued dominance of Global North scholars in OER literature, particularly as pertains to theoretical and foundational texts, many of which are published in English.

Given the fact that online resources are not always well curated or archived, and that project websites come and go, the ROER4D project cannot ensure that all links captured in the bibliography will be accessible in the long term. Column E in the bibliography indicates the last date that the resource's accessibility was checked.

While significant resourcing has been devoted to formatting and enhancing the bibliography as a project output, it developed in an organic and ad hoc manner without a strategic approach as to which metadata would be captured or how it would be organised. As such, this output represents one way in which reference data could be presented; other projects may find value in using different metadata fields to capture detail more suited to their project contexts.

> *The use of established and well-supported repositories is recommended for projects that cannot ensure long-term stability in terms of their website hosting solutions, and therefore cannot guarantee sustained, ongoing access to project outputs.*

7   https://www.clockss.org/

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APA (American Psychological Association). (2009). *Publication manual of the American Psychological Association (6th edn.)*. Washington, D.C.: American Psychological Association.

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The live version of the ROER4D bibliography can be accessed at **https://docs.google.com/spreadsheets/d/1sHFNzg6QlFSNOgeTWjKkMIPSdqEiywybCsEoMjriX8g/edit#gid=0**.

A full list of ROER4D outputs can be accessed at https://goo.gl/BMeCTH.