Researching the effectiveness of Open Educational Resource (OER) policies

An analysis of policies that contain OER commitments and their implementation

February 2023

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Background

> *It is not systematic education which somehow moulds society, but, on the contrary, society which, according to its particular structure, shapes education in relation to the ends and interests of those who control the power in that society.*
> — *Paulo Freire, Pedagogy of the Oppressed*

Education policy is the cornerstone of any national education system. These policies are designed and implemented to achieve specific educational goals within the system.[1] They mirror a government's national vision for how its education system should operate and form the foundation of the effective implementation of that vision. The principles, provisions, and policy decisions contained in a policy document have far-reaching systemic, institutional, and individual impacts. With its power to mainstream adoption of specific practices, an educational policy is a fundamental part of improving an education system. But several issues can develop during education policy development and implementation.[2] Some policies may be too prescriptive or rigid and others too vague – both leading to sub-par implementation. Some may be too ambitious, while others reproduce weaknesses of the status quo. Some might fall into the trap of creating complexity that cannot be implemented practically, while others fall victim to the whims of the political administration they serve.[3] And yet, effective education policies can be transformative for a country and its people, as in the case of Singapore, which has used targeted economic and education policies to drive growth and achieve some of the highest educational attainment rates globally.[4]

The prospect of educational transformation is key when one considers the potential impact of Open Educational Resources (OER) on learners, educators, and education systems. OER provide possibilities to innovate in teaching and learning; to reimagine how education systems function and the values that they promote; and to expand access to inclusive and equitable quality education as outlined in Sustainable Development Goal (SDG) 4.[5] As the opening quotation of this paper highlights, socio-political and socio-economic structures mirror how the education system functions. These structures have historically been determined by those who hold power in society. OER offer us an opportunity to disrupt those power dynamics by reorganising knowledge creation and dissemination structures, reshaping the education system in ways that prioritise relevance, quality, inclusivity, and access.[6] To effectively harness the potential of OER, however, we need to interrogate the role that national OER policy plays in promoting the use and implementation of OER and its initiatives.

As UNESCO's recently published *Guidelines for OER Policy Development* note:
> *If OER are to contribute to SDG 4, they must be mainstreamed in long-term national or institutional strategies, preferably along the entire spectrum of education – primary, secondary and tertiary as well as non-formal learning and lifelong learning.[7]*

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[1] Study Smarter. (nd) Educational policies. Retrieved from https://www.studysmarter.co.uk/explanations/social-studies/education-with-methods-in-context/educational-policies/
[2] See https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2017)11&docLanguage=En
[3] See https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2017)11&docLanguage=En
[4] Kent, D.C. (2017). A New Educational Perspective: The case of Singapore. Perspectives on Urban Education. Retrieved from https://urbanedjournal.gse.upenn.edu/volume-14-issue-1-fall-2017-15-years-urban-education-special-anniversary-edition-journal/new
[5] See https://sdgs.un.org/goals/goal4
[6] See https://files.eric.ed.gov/fulltext/EJ1163203.pdf
[7] United Nations Educational, Scientific and Cultural Organization (UNESCO) and Commonwealth of Learning. (2019). Guidelines on the development of open educational resources policies. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000371129

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The Guidelines go on to list core pillars of a successful OER policy, including a new regulatory framework for open licences and inclusive access; quality assurance mechanisms for user generated OER; universally accessible OER repositories; sustainable business models for producing and sharing OER; and continuous training and capacity building for teachers on the pedagogical use of OER. Equally important is research on OER to ensure evidence-based policy planning and adjustment.[8]

This research aimed to strengthen our understanding of the most effective strategies and approaches to create government policy and regulatory environments that facilitate implementation of UNESCO's *Recommendation on OER* and OER more generally. One of the action areas of the Recommendation is developing supportive policy:

> *Encouraging governments, and education authorities and institutions to adopt regulatory frameworks to support open licensing of publicly funded educational and research materials, develop strategies to enable the use and adaptation of OER in support of high quality, inclusive education and lifelong learning for all, supported by relevant research in the area.[9]*

Other documents like the *Ljubljana OER Action Plan*, drafted in 2017 at the second World OER Congress, highlight the importance of good policy for OER, noting that to mainstream OER, it is crucial to develop, adopt, implement, and carry out advocacy for supportive and effective OER practices.[10] This paper seeks to interrogate a key requirement that is often left unstated in such documents.

OER policy should not be developed or implemented in isolation from a country's broader educational goals. Creating a flourishing OER ecosystem depends on OER policy provisions that are integrated into mainstream government policy commitments and strategic goals, such as on intellectual property and licences; materials development and quality assurance; human-resource requirements; and information and communications (ICT) requirements and infrastructure. Until OER policy commitments are directly connected to a requirement for the attainment of national level educational policy outcomes, they are unlikely to be impactful or sustainable.

For these purposes, a national policy is defined as a statement containing principles and a broad course of action adopted by the national government in pursuit of a specific objective. It is used to guide decision making towards achieving a stated outcome and usually outlines politically relevant challenges and/or targets that it will address.[11],[12]

As the reader will note, we were only able to identify a handful of OER policies that meet the criteria we enumerate in the next section. These criteria were selected as the basic conditions necessary for policy planning, drafting, and implementation. Despite these disappointing results, we believe that our research is important because it points to various areas that must be strengthened. It is possible that UNESCO's research on policy and capacity building and the responses to the annual questionnaires that each country will submit will further broaden the number of such policies.[13]

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[8] UNESCO and Commonwealth of Learning. (2019). Guidelines on the development of open educational resources policies. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000371129

[9] UNESCO. (2019). Recommendation on Open Educational Resources. Retrieved from https://www.oerafrica.org/system/files/13709/373755eng-2.pdf?file=1&type=node&id=13709&force=1

[10] Ljubljana OER Action Plan. (2017). Retrieved from https://oer-contentbuffet.info/edu-sharing/components/render/b472a430-201c-4391-a033-58d7ff87f215?mainnav=false&scope=EDU_ALL&id=4989085d-91c9-4a64-ae32-513dfe324ed3

[11] Better Care Network. (nd). National Policies. Retrieved from https://bettercarenetwork.org/practitioner-library/legal-and-policy-framework/national-policies

[12] Evans & Cvitanovic (2018) in UNESCO and Commonwealth of Learning. (2019). Guidelines on the development of open educational resources policies. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000371129

[13] UNESCO will publish guidelines for national governments and institutions on OER policy and capacity building in the first half of 2023. The first OER questionnaire was submitted to governments in January 2023.

Methodology

We set out to understand the effectiveness of OER policies to date and whether there is evidence of integration between OER policy provisions and other mainstream government policy commitments or strategic goals. This research involved a review of 27 standalone OER policies and 16 policies that contained OER commitments (see Appendix One for an annotated list).

We found examples of countries that have standalone OER policies (where the primary focus is on OER) and examples where policy commitments have been made to OER embedded in other policies such as educational technology policies, ICT policies, or other mainstream educational policies. For both sets of policies, we listed the policy, indicated when it was approved, and analysed it based on a set of criteria for inclusion in the dataset, which were:

- Evidence that the policy had been approved by the government.
- Availability of baseline documentation of what OER activities were already underway in the country before the policy came into effect (where available).
- Evidence of meaningful OER practices that were implemented since the policy was approved.

Through an analysis and comparison of these two sets of policies, our research sought to discover which, if either, group of policies had a greater effect on implementing OER practices. It also aimed to discern any trends between the two sets of policies and to allow us to extrapolate whether integration between OER policy provisions and other mainstream educational policy goals had any bearing on OER activity and the achievement of OER policy provisions. It achieved this by drawing comparisons between OER-related policies and national education plans or strategies that countries had released.

Findings

Challenges with finding OER policies that fitted the research criteria

The research presented unforeseen challenges in finding OER policies that fitted the research criteria. First, several policies that were developed have not been formally approved. This includes Madagascar's OER policy, where online records show that the policy was being discussed in 2016, but there is no subsequent evidence of approval. We found similar issues with Sri Lanka, Saudi Arabia, and Indonesia. Similarly, institutions like the Commonwealth of Learning (COL) assisted some governments in drafting national OER policies (e.g. Bangladesh, Belize, India, Malaysia, Malta, Mauritius, St Lucia, and Zambia). Some of these were approved by the relevant government but in other cases, adoption of the policy stalled (e.g. Mauritius).[14] The reasons for this were unclear.

While it is certainly possible that approved versions of some of the abovementioned policies do exist but are not available online, the likelihood of earlier versions of the policy existing online but the approved policy not being published online seems relatively low, especially because these are government documents which should be accessible to the public. Another possible explanation could be that the researchers' search results were limited as they were conducting the searches in English, while approved policies might have been in other languages (though it stands to reason that if initial drafts of the policy were in English, the final policy would be too). Nevertheless, the numerous instances where there was no evidence of the policy being approved highlights an interesting phenomenon and begs the question of *why* this has happened in so many cases.

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[14] In 2017, COL also assisted the National Universities Commission (NUC) of Nigeria to write an OER policy for all of the tertiary-level institutions in the country. A workshop was held and a draft policy written, but the policy never received final government approval. See https://www.nuc.edu.ng/nigerias-draft-oer-policy-gets-world-acclaim/.

There are several possible explanations, including one or a combination of the following:
- The policy approval process is longer than anticipated, so such policies will eventually be approved.
- The process is too cumbersome and the OER policy approval was not seen as valuable enough to follow through with, or there is a policy approval bottleneck.
- Stakeholders involved in the process were not incentivised to follow through with the approval.
- OER policy development and implementation could have been actively disincentivised through pressure from stakeholders, like traditional publishers or copyright holders, who may have a strong influence on the content market.
- The government's educational priorities (and/or budget) shifted.
- Non-governmental organisations and inter-governmental organisations that initiated OER policy development may have been driven by their own internal Key Performance Indicators and thus implemented activities were not aligned with national educational strategies or plans. When outside organisations initiate activities that are not consonant with a government's existing priorities there is no one in government to pursue these OER objectives.

Compounding the issue of creating the dataset was that there were fewer national OER policies that fitted our criteria than anticipated. This is despite findings from the 2017 OER Global Survey, in which 56 countries reported that there is some kind of support for OER policies in their laws, policies or national development plans, including mention of 41 national policies (pp16).[15] It is also a surprising finding considering recent efforts surrounding the OER Recommendation. For example, a report on a survey conducted by the International Council for Open and Distance Education mentions a national OER policy in Croatia, but other sources indicate that one does not exist.[16] Our work therefore highlights the need for more rigorous research on OER policy and practices. Encouragingly, such efforts are already in process, most notably through UNESCO reporting on the OER Recommendation. Results from the first UNESCO OER Recommendation questionnaire that was submitted to governments in January 2023 should provide a crucial insight into the extent of OER implementation at the national level amongst member countries.

The impact of standalone OER policies and policies containing OER commitments

Of the 27 national standalone OER policies, only two fitted all our criteria and provided sufficient evidence of meaningful OER practices following implementation. The first was Fiji's *National Policy on OER* which was approved in 2016 and reviewed in 2017. The policy aligns with the country's *ICT in Education Policy* and seeks to ensure wider acceptance and use of OER as an educational tool.[17] The implementation of the OER policy within the public and private sectors has been pursued in various ways:
- The policy states: 'All educational institutions, from early childhood centres to secondary schools, whether private or public, shall, under the Ministry of Education, Heritage and Arts develop OER policies, guidelines and procedures as appropriate that are relevant to their organizations and that are consistent with this policy.'[18] There is little evidence of this having occurred. However, the University of the South Pacific in Fiji (which is owned by the governments of twelve Pacific Island countries) approved an OER Policy in 2020 which sets open licensing as the default. Decisions on licensing remain within the authority of the university itself as 'The University reserves the right not to share resources that may be commercially viable.'

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[15] See https://oasis.col.org/colserver/api/core/bitstreams/45bc3daf-d568-46a4-8c8a-53555b516daa/content
[16] See https://eosc-portal.eu/croatia
[17] Ministry of Education, Heritage and Arts - Fiji. (2016). National Policy on Open Educational Resources. Retrieved from https://www.education.gov.fj/wp-content/uploads/2019/04/OER_National_Policy_Final.pdf
[18] Ministry of Education, Heritage and Arts - Fiji. (2016). National Policy on Open Educational Resources. Retrieved from https://www.education.gov.fj/wp-content/uploads/2019/04/OER_National_Policy_Final.pdf

- At the tertiary level, the policy states that the Fiji Higher Education Commission shall work with individual institutions and will facilitate OER implementation more broadly.[19] The Commission set up OER Fiji in 2013 (prior to the OER policy's approval).[20] OER Fiji aligns with the OER policy's mandate and supports higher education institutions across Fiji in the development and use of OER to enhance teaching and learning.[21] In 2020, Fiji's Minister of Education launched the Pacific Regional OER Channel to support education needs in the Pacific Island States, which is expected to improve Science, Technology, Engineering, and Mathematics outcomes for Fijian students.[22]
- The policy also notes: 'All other government-funded or non-government and private institutions or agencies operating in Fiji shall develop their own policies and procedures in OER that are relevant to their organizations and are consistent with this policy.' There is no readily available evidence of this online.

There has been notable OER activity in the Pacific region more broadly, which seems to contribute to Fiji's OER ecosystem. In response to COVID-19, COL developed an introductory course on *Using Open Educational Resources for Online Learning*. The first iteration of the course was offered in partnership with The Pacific Centre for Flexible and Open Learning for Development (PACFOLD) for teachers in the Pacific. The course, which was launched in May 2020, offered an overview of useful resources, applications and guidelines, which can be freely accessed online and provides a foundation on which in-depth engagement with online and blended learning can be built.[23] In 2021, COL re-launched a short course on OER for Online Learning in the Pacific.[24] Eight countries in the Pacific are also a member of the Virtual University of Small States of the Commonwealth (VUSSC) through the University of South Pacific.[25]

The second standalone policy that fitted our criteria was Oman's OER Policy,[26] which was in effect from 2013 to 2016 and aimed 'to achieve high quality learning for all Omani citizens and to build a dynamic and sustainable knowledge society.'

> ### Box 1: Oman's OER policy
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> Oman's OER policy sought to tackle the following national educational challenges:
> - Improving the quality of student learning outcomes;
> - Developing the level of teacher performance in teaching and learning;
> - Raising community culture towards ICT in education approaches;
> - Connecting education to accommodate the demands from the labour market; and
> - Supporting research and educational studies.

Implementation of the OER policy was intended to promote autonomy of teaching practices and teachers, to enhance Arabic digital sources, and promote knowledge creation.[27] A 2016 report noted that the Ministry of Education had invited the Information Technology Authority (ITA) to join the mission so that responsibilities were divided into the development of relevant policies and strategies by the Ministry of Education and the development of regulations and laws on open licensing and open standards for OER by

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[19] Ministry of Education, Heritage and Arts - Fiji. (2016). National Policy on Open Educational Resources. Retrieved from https://www.education.gov.fj/wp-content/uploads/2019/04/OER_National_Policy_Final.pdf

[20] See http://oerfiji.org.fj

[21] See http://oerfiji.org.fj

[22] Commonwealth of Learning. (2020). Fiji Minister nationally launches the Pacific Regional OER Channel. Retrieved from https://www.col.org/news/fiji-minister-nationally-launches-the-pacific-regional-oer-channel/

[23] See https://www.col.org/news/teachers-in-the-pacific-learn-to-use-oer-for-online-learning-during-covid-19/

[24] Commonwealth of Learning. (2021). COL re-launches short course on OER for Online Learning in the Pacific. Retrieved from https://www.col.org/news/col-re-launches-short-course-on-oer-for-online-learning-in-the-pacific/

[25] See https://vussc.col.org

[26] A copy of the policy in English could not be sourced online so all available information was found via secondary sources.

[27] See https://oasis.col.org/colserver/api/core/bitstreams/d0c6f200-ccb1-494b-8adb-bde7a776a7d8/content

ITA. The Ministry and ITA thus co-operated by providing translated, openly licensed educational materials, building a platform for teachers, developing and sharing materials, and raising awareness of OER amongst educators and stakeholders in Oman.[28] Despite this, little evidence of subsequent OER practices in Oman was found online.

Regarding OER commitments in other policies, four of the 16 policies in the dataset provided evidence of countries having implemented meaningful OER practices following policy approval. Mongolia had an *ICT in Education Sector (2012–2016)* policy, which highlighted an objective to adopt Creative Commons licences and promote the use of OpenCourseWare. During the same period, the IDRC supported a series of seminars and workshops on OER between 2011 and 2013 and in 2014, the Mongolian parliament adopted a National OER Programme which was to be implemented by the Ministry of Education, Science and Sport and the Open Network for Education (ONE) Foundation of Mongolia. The National OER Programme had several elements, including the ONE Academy for supporting open collaborative work, the development of an open university, and the development of policies that allow educators to release their materials with open licences. These components are to be implemented between 2014 and 2024. As part of initial activities, 500 videos from Khan Academy were localised and a Mongolian dictionary wiki was created.[29] Despite this, however, there was little updated information available about progress with these initiatives.

Like the set of standalone OER policies, there were two key reasons why some policies with OER commitments could not be included in the dataset. Some documents did not fit our definition of a policy (e.g. although they were referred to as policies in the literature, they were strategic guidelines or legal documents such as Ordinances or Acts).[30] In other cases, there were meaningful policy commitments, but limited evidence of subsequent implementation. For example, the *ICT in Education Policy and Strategy for Saint Lucia (2019 - 2022)* highlights OER as an enabler for the policy's success. As part of its goal to create a modern optimal ICT infrastructure that will meet the educational needs of the country at all levels, the policy states that the Ministry of Education will establish an Informatics Unit that will provide the necessary host infrastructure for systems, including an OER repository. No evidence of such a repository was found.

So, when comparing standalone OER policies with other national policies that contain OER policy provisions in other national policies, which approach (if either) has been more impactful? At this stage, it is difficult to say, for various reasons:

- There are too few standalone OER policies that fit our criteria to draw a meaningful comparison.
- There is conflicting information online, with some articles or reports citing existing national OER policies and others citing a lack of such policies, or cases where the cited policy has not been approved.[31]
- There is limited information available online reporting on practices that occurred as a direct result of policy commitments.

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[28] Al Abri, M. and Al Busaidi, S.H.H. (2016) in Miao, F., Mishra, S. and McGreal, R. (eds). *Open Educational Resources: Policy, Costs and Transformation.* Retrieved from
https://oasis.col.org/colserver/api/core/bitstreams/d0c6f200-ccb1-494b-8adb-bde7a776a7d8/content

[29] Zagdragchaa, B. and Trotter, H. (2017). Cultural-Historical Factors Influencing OER Adoption in Mongolia's Higher Education Sector. ResearchGate. Retrieved from https://www.researchgate.net/publication/335971996_Cultural-Historical_Factors_Influencing_OER_Adoption_in_Mongolia%27s_Higher_Education_Sector

[30] An ordinance or act is not necessarily inferior to a policy, but it is important to note the definitional differences and the functions of each document. Ordinances and acts are both laws (the former is generally passed at the local level and the latter at the national level and both tend to be specific and sometimes limited in scope). An OER policy may hold greater value than an ordinance or act because it provides a more comprehensive approach to tackling an issue.

[31] For example, in the case of Indonesia, this article claims that Indonesia has an OER Policy
https://www.unesco.org/en/articles/increasing-quality-education-oman?TSPD_101_R0=080713870fab20004f46b7492cb32a5452879366a6526a9ff80888e8259100ce433e05b636e4b1b808ac6c290e1430000b192ab416f21597b39a536ff54ecb5d6dece7b5a130f2002e47b42b62e5f65bfcb3d85a6cdaebdc13530cc6bc97c5c9

But this 2018 article highlights a lack of supportive policy and a narrow understanding of OER in the country
https://www.thejakartapost.com/academia/2018/12/22/open-education-can-address-indonesias-educational-inequalities.html

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- Similarly, it is difficult to distinguish between OER activities that are the result of a national policy (unless the policy explicitly states the outcome such as, for example, a repository) and OER activities that are independent of the policy's influence.

The picture that begins to emerge is sobering. It suggests that there is limited evidence of OER policies overall – be they standalone OER policies or other policies that contain OER commitments. The next section approaches this issue from a different angle by looking at alignment between OER policy provisions and national plans or strategies.

The relationship between OER policy provisions and national plans or strategies

Policies often do not (and possibly should not) delineate roles and responsibilities for implementation. This is where strategic documents come into play. Because strategies play an important role in implementation, it is necessary to probe the relationship between OER policy provisions and national strategies or plans to ascertain whether such provisions are aligned with governments' broader educational priorities.

In the case of Fiji, the Ministry of Education, Heritage and Arts released a *Strategic Plan for 2019 - 2023*. The strategy notes the Ministry's mandate of 'reducing unemployment, making education more accessible to all Fijians, contributing towards building a knowledge-based society, promoting gender equality and inclusivity, and protecting and preserving both the tangible and the intangible cultural heritage.'[32] Interestingly, although OER could provide an effective means of realising this mandate, neither the *Strategic Plan (2019 - 2023)* nor the *Education Sector Strategic Development Plan (2015 - 2018)* mention OER or open practices – despite the fact that the Fiji Higher Education Commission released a higher education OER policy in 2017.[33]

Similarly, policies that contained OER commitments did not align with a coordinated national effort in other government documents. For example, Rwanda has an ICT in Education policy which contains policy statements to promote 'the use of OER' and 'enable teachers to use OER, Massive Open Online Courses, create electronic content, and share knowledge experiences and practices using technology.' Rwanda also developed a *National Framework on MOOCs and OER (2018)*, which states:

> *The framework assumes that for the Rwanda Ministry of Education (MINEDUC), the Rwanda Education Board (REB), the University of Rwanda (UR) and the Rwanda Polytechnic (RP) to embrace the use of ODeL, OER and MOOCs there needs to be a phase of capacity building to provide staff with skills, know-how and knowledge on how best to design open, blended learning education courses and programmes. A second phase would be to provide opportunities for staff at these institutions develop and deploy such courses and/or material. It will also be necessary to run advocacy campaigns to spread awareness of the potential benefits of studying using open resources and online platforms. Advocacy campaigns need to be aimed not only at officials in the key institutions but also the general public, prospective students and within industry.[34]*

However, the above does not carry through into documents like the Ministry of Education's response plan to the COVID-19 outbreak, published in April 2020.[35] Although the plan outlines an objective to 'prepare the resilience of the education system against future shocks', no reference is made to the potential of open

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[32] Ministry of Education, Heritage and Arts – Fiji. (2019). Strategic Plan 2019-2023. Retrieved from https://www.education.gov.fj/wp-content/uploads/2019/11/MEHA-SP-2019-2023-Short-Version-26082019.pdf
[33] See https://www.oerafrica.org/system/files/12175/oernationalpolicyfinal.pdf?file=1&type=node&id=12175&force=1
[34] Ministry of Education – Rwanda. (2018). Rwanda National Framework on MOOCs and OER. Retrieved from https://en.unesco.org/icted/sites/default/files/2019-04/2018_11_06_rwanda_national_open_framework.pdf
[35] Ministry of Education – Rwanda. (2020). Keeping the Doors Open for Learning: Response Plan of Ministry of Education to the COVID-19 Outbreak. Retrieved from https://planipolis.iiep.unesco.org/sites/default/files/ressources/rwanda_education_sector_covid_plan_0.pdf

licensing or OER. Equally puzzling, the Rwanda Education Board has released freely available content in basic education that either carries no licence or is marked copyright protected.[36] A functioning OER policy could clear up these licensing anomalies.

An OER policy is not a precondition for meaningful OER practices at the national level. Other government documents such as legislation, national plans, and strategies can be equally effective at spurring meaningful OER practices. Brazil does not have a national OER policy, but the Ministry of Education (MEC) established Ordinance 415/2018, a normative document that provides criteria for acquiring educational resources for basic education produced with the MEC's financial resources. It also defines the differences between 'open' and 'free' educational resources. Article 7 of the Ordinance states that educational resources acquired or produced with public funds should always be open,[37] while Article 8 notes that legal instruments such as procurement notices must conform to the ordinance with open licensing clauses.[38]

OER were also included in Brazil's *National Education Plan (2014–2024)*, a key piece of national educational legislation, as a category of educational technologies framed as tools. Furthermore, Brazil had a Digital Transformation Strategy (2018 - 2021), one of the strategic actions being 'to encourage the production and dissemination of digital content created by teachers and students, as well as encourage the open sharing of publicly-funded resources, with and between public and private educational networks, giving preference to OER.'[39] One of the outcomes of this was the Integrated Platform of Digital Educational Resources, many of which are OER.[40] The National Textbook Plan (2019 and 2020) provided supplementary digital instructional content for basic education educators and students, licensed under a Creative Commons Attribution Non-Commercial (CC-BY-NC) licence.[41] Thus, coordinated efforts to prioritise the use of OER in the Brazilian education system and encourage adoption have been effective.[42]

> **Box 2: Government support for OER activities in South Africa**
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> *Although South Africa has no national OER policy, what is now the Department of Higher Education and Training (DHET) released a White Paper for Post-School Education and Training in 2013. The White Paper references OER as a mechanism to build a more comprehensive, effective, and integrated post-school system. Regarding funding and sustainability, the paper intimates the importance of partnerships between the public and private sector.[43] South African universities such as the University of Cape Town, North-West University, and the University of Pretoria have all been actively involved in creating an OER ecosystem, sometimes with funding assistance from DHET for cross-institutional OER development activities like OER Term Bank.[44]*

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[36] See https://elearning.reb.rw

[37] Brazil's *Programa Nacional do Livro Didático* (PNLD) is one of the largest national textbook programs in the world. Each year, the program purchases curricula for a set of primary or secondary school subjects, including textbooks and digital supplemental resources for teachers. In 2017, PNLD spent R $1.3 billion (approximately US $400 million) to purchase more than 150 million textbooks for nearly 30 million students. Since 2019, the programme started incorporating an open licensing requirement.

[38] Hoosen, S. and Butcher, N. (2019). Understanding the impact of OER: achievements and challenges. UNESCO and OER Africa. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000367767.locale=en

[39] Government of Brazil. (2018). Brazilian Digital Transformation Strategy. Retrieved from https://www.gov.br/mcti/pt-br/centrais-de-conteudo/comunicados-mcti/estrategia-digital-brasileira/digitalstrategy.pdf

[40] See https://plataformaintegrada.mec.gov.br/

[41] Allen, N. (2017). Brazil Adopts Open Licensing in National Textbook Program. SPARC. Retrieved from https://sparcopen.org/news/2017/brazil-adopts-open-licensing-national-textbook-program/

[42] See Amiel, T. and Soares, T.C. (2020). Advancing Open Education Policy in Brazilian Higher Education. In K. Zhang, C.J. Bonk, T.C. Reeves and Reynolds,T.H. (Eds.), MOOCs and Open Education in the Global South: Challenges, Successes, and Opportunities (pp. 229–235). Routledge. Retrieved from https://www.routledge.com/MOOCs-and-Open-Education-in-the-Global-South-Challenges-Successes-and/Zhang-Bonk-Reeves-Reynolds/p/book/9780367025779#eresources

[43] Hoosen, S. and Butcher, N. (2019). Understanding the impact of OER: achievements and challenges. UNESCO and OER Africa. Retrieved from https://iite.unesco.org/wp-content/uploads/2019/04/Understanding_the_impact_of_OER_2019_final.pdf

[44] See https://www.oerafrica.org/system/files/13645/assets/13656/oer-term-bank.pdf?file=1&type=node&id=13656&force=0

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The Department of Basic Education (DBE) has supported OER adoption. The DBE pays to print openly licensed textbooks from Siyavula[45],[46] and has partnered with organisations like Room to Read South Africa. For example, the Results in Education for All Children (REACH) project funded Room to Read and local South African publishers to create 20 new books in South African languages. Each book was openly licensed and was originally written in Sepedi, siSwati, Xitsonga, Tshivenda or isiZulu. All 20 books are available in all of these languages, as well as English. The project was supported by the DBE.[47]

The Open Learning Policy Framework for Post-School Education and Training (2017) strongly recommends OER as a mechanism to support the sustainable development and sharing of quality learning materials. However, at the time of writing, there was only evidence of the Framework being published for public comment. Despite this, there are signs of increasing OER adoption at the national level. For example, the DHET has launched its National Open Learning System (NOLS), which provides a repository of openly licensed learning assets.

OER policy is clearly not a precondition for meaningful OER practices,[48] but it does seem to be an *enabler* in creating a coordinated national effort geared towards OER implementation. For this to occur though, there needs to be alignment between OER policy provisions and a government's strategic priorities.

Conclusion and recommendations

This research has provided a window into the global OER policy landscape, outlining successes in OER development and implementation. It highlights a need to problematise the idea of educational policy as it relates to the OER movement and interrogate why OER policies are developed, their function, and how they are implemented. Below is a set of key recommendations and points of further inquiry.

- The term 'OER policy' is contested, which results in varied understandings of whether a country possesses an OER policy. The term has been conflated with declarations, strategies, plans, ordinances, and acts. Thus, research efforts on OER policies as well as the policies themselves should define what a 'policy' is and its intended functions. This research should also be carried out in a number of languages, at the very least Arabic, French, Portuguese, and Spanish. Even if researchers are not fluent in these languages, the development of artificial intelligence should make basic searching feasible.
- OER policies operate within a larger system. If there is no synergy between the different elements of that system, the desired outcomes (e.g. OER adoption) cannot be achieved. Countries might consider adopting a systems-based approach when developing an OER policy to ensure better integration between OER policy provisions and the other mainstream policy commitments or strategic goals of the government.
- In some cases, although a country had developed a comprehensive national OER policy, there was limited adoption. There could be various reasons for this, including a lack of resources or shifting priorities. A key takeaway, however, is that governments could benefit from considering any possible misalignments between policy provisions and what is realistic to implement. There is little value in having an OER policy without foundational measures to drive the development of an OER ecosystem, advocacy, and efforts to embed OER at various levels of the education system.
- It is difficult to measure policy outcomes in education because they can take time to become evident and because it may be challenging to draw connections between an outcome and a specific policy.[49]
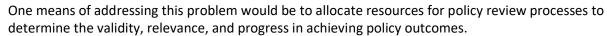
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[45] Formerly seeded by the Shuttleworth Foundation, Siyavula supports and encourages communities of teachers to work together, openly share their teaching resources and benefit from the use of technology.

[46] See https://www.siyavula.com

[47] See https://onedayonebook.org

[48] See also Hoosen and Butcher (2019). Understanding the Impact of OER. Retrieved from https://iite.unesco.org/wp-content/uploads/2019/04/Understanding_the_impact_of_OER_2019_final.pdf

[49] Viennet, R. and Pont, B. (2017). Education Policy Implementation: A literature review and proposed framework. OECD Education Working Paper No. 162. Retrieved from https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2017)11&docLanguage=En

One means of addressing this problem would be to allocate resources for policy review processes to determine the validity, relevance, and progress in achieving policy outcomes.

- Similarly, there was a dearth of information available on the policy implementation process. More research needs to be undertaken to document policy wins and shortcomings. Additionally, given the OER Recommendation approval, organisations like UNESCO might be able to provide support for countries that write an OER policy but never implement it.
- There are obvious contextual factors related to policy implementation such as resourcing, language, sustainability challenges. However, these are largely left undiscussed in many policies and strategic documents. More research is required at the national level to home in on the specific enablers and constraints to OER policy implementation.
- Accountability is important for implementation, and mechanisms like the Open Government Partnership[50] have demonstrated success in spurring implementation by creating accountability structures. Governments might consider which accountability mechanisms they use more broadly and how these might be used in implementing OER policy provisions.
- Implementation mandates may vary between countries, with different levels of government and diverse stakeholders (e.g. private funders, school boards) responsible for different aspects of implementation. Given this, one might argue that there is no one size fits all model for *how* national OER policies and strategies should be developed as there are several variables. Any government starting the OER policy development process might consider answering the following questions to inform the process:
    - What does the OER ecosystem currently look like?
        - Do stakeholders understand OER and open concepts?
        - What OER initiatives currently exist?
        - What infrastructure currently exists or needs to be built to promote OER adoption?
        - What capacity currently exists or needs to be developed to promote OER adoption (e.g ICT and related skills, human resources, institutional capacity, and partnerships)?[51]
        - What norms and regulations can be leveraged or altered to promote OER? This may include existing policies and programmes that deal with educational resource procurement; grant-funding provided through public agencies to educational or research institutions; and public funding mechanisms.[52]
        - Are stakeholders motivated to engage with OER and implement related activities?
    - Will it be more effective to develop a standalone OER policy or to insert OER provisions into another policy?[53]
    - When developing the OER policy, have the following elements been considered for inclusion?[54]

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[50] See https://www.opengovpartnership.org

[51] Note that diverse categories of stakeholders require different kinds and levels of OER capacity-building. Senior policymakers, for example, will require an understanding of the benefits and challenges of OER, including financial investments that are necessary in their ministries or institutions. These attributes assume greater significance when one considers ensuring the sustainability of OER investments over the long term if the initial funding is secured from development partners and later ceases. Senior officials might not need hands-on experience in identifying, creating, and using OER as would staff working on curriculum development. See UNESCO OER Policy and Capacity Building Guidelines (forthcoming).

[52] See UNESCO. (forthcoming). Capacity Building Guidelines OER Recommendation Action Area IV Nurturing the creation of sustainability models for OER.

[53] OER policies can be standalone or incorporated into strategic priorities relevant to OER, depending on national contexts and policy priorities. The JRC (European Commission) report *Policy Approaches to Open Education – Case Studies from 28 EU Member States*, identifies four types of strategic approaches for OER; (1) Development of OER and education policies focusing specifically on opening education through the promotion of OER and Open Education Practices (OEP). (2) Inclusion of OER in national or institutional ICT policies. (3) Inclusion of OER within comprehensive educational policies and strategies. (4) Development of national commitments that lead to OER policies as part of National Open Government Action Plans. See Inamorato dos Santos, A. *et al*. (2017). Policy Approaches to Open Education - Case Studies from 28 EU Member States. Retrieved from https://publications.jrc.ec.europa.eu/repository/handle/JRC107713

[54] In an unpublished paper for UNESCO, Dr Ndeye Massata Ndiaye formulated a matrix of governmental and institutional capacity-building requirements for three educational sectors: university, basic, and vocational and technical training. Dr Massata discusses

- Clearly defined and realistic outcomes;
- All stakeholders in the national OER ecosystem and how to encourage buy-in to the concept of OER;
- Supportive infrastructure development and maintenance;
- Capacity building at different levels of the education system (including pre-service and in-service teacher training and government official training);
- Accessibility and inclusive education;
- Clearly defined roles and responsibilities and governance structures;
- Financial and non-financial incentives to promote implementation; and
- Potential implementation challenges and bottlenecks.
  - Is there alignment between the desired OER policy outcomes and the mainstream government policy commitments and strategic goals?
    - If yes, how can the OER policy provisions be most effectively integrated with broader strategic goals?
    - If no, what measures need to be taken to ensure better alignment between the OER policy and governments other policy commitments and strategic goals?

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policy setting at the national and institutional levels. She posits that regardless of the level, OER policies can be integrated in four ways: (1) a comprehensive policy of Open Education; (2) a strategic plan; (3) an annual budgeted work plan, and (4) any other policy or policy document of the ministry incorporating the educational resource regulations and the rights of others. For more, see UNESCO OER Policy and Capacity Building Guidelines (forthcoming).

Appendix One

Standalone OER policies included in the dataset

Policy	Country	Description	Years in place	Links
OER Policy	Fiji	The national policy for Fiji includes all schools directly under the remit of the national Ministry of Education, requires the Higher Education Commission to coordinate the work with tertiary education providers and includes the expectation that all other educational institutions outside the direct mandate of the ministry will follow the public role models. The Ministry of Education has published a legal document in which the need for relevant policies and effective implementation strategies for OER is stressed and a policy is formulated, aimed at making educational resources freely available for reuse and repurposing through open licences. The Creative Commons licence is the preferred form of open licence. The OER policy recognizes its place within or alongside the ICT in Education Policy of the Ministry of Education to ensure wider acceptance and use of OER as an educational tool.	2016 (reviewed 2017)	https://www.education.gov.fj/wp-content/uploads/2019/04/OER_National_Policy_Final.pdf
OER Policy	Oman	The OER policy was developed in 2013 with a vision 'to achieve high quality learning for all Omani citizens and to build a dynamic and sustainable knowledge society.' The policy sought to tackle the following national educational challenges: a) improving the quality of student learning outcomes; b) developing the level of teacher performance in teaching and learning; c) raising community culture towards ICT in education approaches; d) connecting education to accommodate the demands from the labour market; and e) supporting research and educational studies. Implementation of the OER policy was expected to promote autonomy of teaching practices and teachers, to enrich Arabic digital sources, and support knowledge creation. These were to be integrated with eLearning, a student-centred learning approach, and expansion of digital schools.	2013 - 2016	https://oasis.col.org/colserver/api/core/bitstreams/d0c6f200-ccb1-494b-8adb-bde7a776a7d8/content

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Standalone OER policies that were reviewed but excluded because they did not fit the criteria

Policy	Country	Reason for not being included
National OER Policy	Nigeria	Limited evidence of meaningful practices following approval of policy
Open Learning Policy Framework for Post-School Education and Training	South Africa	Opened for public comment in 2017, but no subsequent evidence of approval
OER Policy	Madagascar	Records show that the policy was being discussed in 2016, but no subsequent evidence of approval
National Mission on Education through ICTs (NME-ICT) OER Policy	India	Could only find evidence of a copyright policy. There are also Open Licensing Policy Guidelines
OER Policy	Morocco	Some sources mentioned an OER policy in Morocco, but there is only evidence of an OER Declaration for Morocco
OER Policy	Croatia	Mention of an OER policy in Croatia through survey responses in an ICDE report, but other literature indicates that there is none
OER Policy	Mexico	Mentioned in OER Policy Registry but no information available online in English/with translation enabled.
Australian Governments Open Access and Licensing Framework	Australia	Unable to find the framework online - link broken, so further research not possible https://wiki.creativecommons.org/wiki/Australia:_AUSGoal_-_Australian_Governments_Open_Access_and_Licensing_Framework
National Strategy for Open Educational Resources (REDA)	Colombia	Does play a role and is aimed at promoting OER in higher education in Colombia, but the commitments adopted by the science and technology body as part of LA Referencia are yet to materialise in the form of policy or legislation on Open Access or OER.
US Department of Labor's 2010 Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program	USA	This was mentioned in the literature as a policy, but in the US, state governments set overall educational standards. There is a list of state-wide OER policies: https://sparcopen.org/our-work/state-policy-tracking/
OER Policy	Mauritius	Not yet approved. COL conducted a national consultation and validation workshop on an Open Educational Resources (OER) policy which was organised by the Ministry of Education, Tertiary Education, Science and Technology (MOETEST) in Mauritius on 30 May 2022
OER Policy	Bangladesh	An article by COL says that since 2015, COL supported Bangladesh in drafting relevant ICT in education policy or OER policy at a national level. There is a document titled 'Towards a National Policy on Open Educational

Policy	Country	Reason for not being included
		Resources in Bangladesh'. No evidence of the approved policy though. There is also a 'Master Plan for ICT in Education for Bangladesh (2012 – 2021)', but this makes no mention of OER.
WIKIWIJS: The Dutch National OER Strategy (2009 - 2013)	Netherlands	Marked as a national policy on the OER Policy Registry, but seems to be a national initiative (could not find a related policy or strategy)
OER Policy: Provincial Ministries of Education	Sri Lanka	No evidence that the policy was approved
National Open Educational Resources Policy for Malta	Malta	Could only find draft policy from 2018, no evidence of the policy being adopted
Rwanda National Framework on MOOCs and OER	Rwanda	This is a framework, so does not fit criteria
Inclusive Open Educational Resources (iOER) National Policy	Malaysia	Too early to ascertain whether meaningful OER practices have been adopted as a result of the policy Found this, which references the policy: The ACoRD Project aims to introduce innovative digital pedagogy methods that will benefit healthcare and biomedical science students in Malaysia. It notes on its website: The ACoRD Project team is committed to making its website accessible, in accordance with the Malaysia National Inclusive Open Educational Resources [IOER] Policy.https://acord.my/accessibility/ There is also this document: Towards National Policy Guidelines on Open Educational Resources in Malaysia: http://hdl.handle.net/11599/2739
OER Policy	Saudi Arabia	No records of the policy being approved – could only find mention of it being in draft form
OER Policy	Bahrain	There is mention of this policy in Miao, Mishra, Orr, & Janssen, 2019, p. 39, but could not find the policy online
OER Policy	Kuwait	Tlili, Jemni, Khribi, Huang, Chang and Liu (2020) mention that Kuwait is working towards developing an OER policy, but there is no sign of this online https://slejournal.springeropen.com/counter/pdf/10.1186/s40561-020-00120-z.pdf
OER Policy	Kenya	Unable to find report online. Found reference to the policy being developed dating back to 2015
OER Policy	Philippines	No evidence of a finalized policy, only a finalized draft of a joint circular in support of OER from 2016/17. Note that the Philippines also has an Open Distance Learning Act, enacted in 2014. It defines the Philippines policy on open learning. While the Act is an enabling mechanism for OER-related activities such as training and outlines how to mobilize resources, it is not a policy in terms of the definition used in this paper.
OER Policy	Indonesia	There is mention of an OER policy that is being developed: https://oasis.col.org/colserver/api/core/bitstreams/d0c6f200-ccb1-494b-8adb-bde7a776a7d8/content This article also mentions a policy: https://www.col.org/news/col-presents-to-commonwealth-foreign-ministers/ No evidence of an approved policy online

Policy	Country	Reason for not being included
Open education and educational resources. National policy and executive plan by the higher education and research community for 2021–2025	Finland	The policy was published in August 2022. Thus, there is limited evidence of implementation available online as of January 2023
Draft OER Strategy	Zambia	Not a policy and no evidence of the strategy being approved

OER commitments in other policies included in the dataset

Policy	Country	Description	Years in place	Links
ICT in Education Policy	Rwanda	The policy states: 'Improve preparation of the current generation of students for a workplace where ICT tools such as computers, Internet and other related technologies, are becoming ever more present. This will include technological literacy and the ability to use ICTs effectively and efficiently to provide a competitive edge in an increasingly globalized job market. The focus in formal education is, among others: • Ensuring primary, secondary, TVET and Higher Education educators use ICTs in their teaching and learning practices. • Promoting the use of Open Distance and e-Learning (ODeL). • Promoting the use of Open Education Resources. • Enabling teachers to use open educational resources, Massive Open Online Courses, create electronic content, and share knowledge experiences and practices using technology.'	2016	https://www.reb.gov.rw/fileadmin/user_upload/REB/Publications/POLICIES/ICT_In_Education_Policy.pdf
ICT in Education Policy	Antigua and Barbuda	According to the policy: 'The Ministry of Telecommunications, Science and Technology will provide the necessary hosting infrastructure for key systems through its data centre. These systems will include a central Education Management Information System (EMIS), a Learning Management System (LMS) to be used in supporting school learning, an open educational resource (OER) repository, and appropriate communication and social networking tools to facilitate	2013	https://planipolis.iiep.unesco.org/sites/default/files/ressources/antigua_ict-in-education-policy_2013.pdf

Policy	Country	Description	Years in place	Links
		interaction between key education stakeholders within Antigua and Barbuda'		
ICT in Education Sector 2012–2016	Mongolia	Plans for the following activities: 'adopt creative commons license and enable open source courseware; policy support for higher education institutions that are developing open courses, enabling access to open course wares, developing distance learning infrastructure for common use'	2012 - 2016	https://www.researchgate.net/publication/335971996_Cultural-Historical_Factors_Influencing_OER_Adoption_in_Mongolia%27s_Higher_Education_Sector
National Information and Communication Technology in Education Policy	Samoa	The purpose of this policy is to guide the process of embedding and integrating ICT in all schools in Samoa to: • build a common shared understanding of what ICT in Education means among all stakeholders; • create an enabling environment, mechanisms and priorities for ICT in education and improve communication within the education system and; • provide modern, relevant content fulfilling the needs and expectations of educators and students. It aims for optimum use of OER to improve quality of teaching and learning and states: 'Teachers will also be encouraged to use (Open educational Resources) OERs in their teaching as well as develop their own OERs to contribute to the OER repository of teaching resources.' The Ministry of Education, Sports and Culture is also tasked to 'Provide repository of OER e-resources at MESC Data Center and secure availability of these resources for all schools'	2018 - 2023	https://planipolis.iiep.unesco.org/sites/default/files/ressources/samoa_mesc-ict-in-education_policy_2018-2023-30.10.2018_final.pdf

Standalone OER policies that were reviewed but excluded because they did not fit the criteria

Policy	Country	Reason for not being included
New Zealand Government Open Access and Licensing Framework	New Zealand	Limited information available online
Higher Education Act (UU No. 12, 2012)	Indonesia	Not a policy
ICT for Education Policy	Ghana	Mentions 'flexible, open and upgradeable architectures' and 'Development of appropriate content for open, distance and e-learning'. But no explicit reference to OER

Policy	Country	Reason for not being included
Open Science Policy	Turkey	Mentioned in ICDE report, but not a national policy
OER Policy	Argentina	*Understanding the impact of OER (2017)* mentions that Argentina has adopted national policies that drive the development of OER. However, no evidence was found online using an English search and other articles express a lack of development of the OER ecosystem in Argentina
Educational Policy 2014	Tanzania	Mentioned in the literature, but no reference to OER in the document
National policy on information and communication technology (ICT) in school education	India	No mention of OER in this policy, despite the literature saying that it does
Ordinance (415/2018)	Brazil	Does not constitute a policy based on the definition in this paper. Cannot find an English version of the document
Strategic guidelines for the further introduction of ICT	Slovenia	Does not constitute a policy
ICT in Education Policy and Strategy for Saint Lucia	Saint Lucia	Limited evidence found of implementation – the ICT in Education policy outlines plans to develop an OER repository, but no such repository was found
White Paper for Post-School Education and Training by the Department of Higher Education and Training (DHET)	South Africa	This is not a policy per se, but it is worth mentioning because of the various OER-related activities that have been informed by the White Paper
ICT in Education Policy	Seychelles	Limited evidence of OER or the policy having been implemented

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