Chapter 16

OER and OEP in the Global South: Implications and recommendations for social inclusion

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Acronyms and abbreviations

DDL   Darakht-e Danesh Library
HEI   higher education institution
IP   intellectual property
MOOC   Massive Open Online Course
NGO   non-governmental organisation
OEP   Open Educational Practices
OER   Open Educational Resources
ROER4D   Research on Open Educational Resources for Development

Introduction

The Research on Open Educational Resources for Development (ROER4D) project was undertaken to provide a better understanding of the uptake of Open Educational Resources (OER) and their impact on education in the Global South. The 18 sub-projects that comprise the larger project investigated the extent of OER adoption by educators and students; the factors influencing OER adoption; and the impact of OER adoption on access to educational resources, the quality of teaching and learning, and some of the costs of education provision in 21 countries in South America, Sub-Saharan Africa, and South and Southeast Asia.

The findings of each of the sub-projects are discussed in the various chapters comprising this volume, and a meta-synthesis of these findings is presented in Chapter 2. Using a social realist lens, the meta-synthesis provides a comparative analysis of OER use, adaptation and creation across the research sites, and identifies the structural, cultural and agential factors that enable and constrain these Open Educational Practices (OEP). It points out disjunctures in adoption processes in the countries and institutions studied, and draws insights regarding the extent to which OER adoption can expand access to educational materials, enhance the quality of educational resources and educators' pedagogical perspectives and practices, and improve the affordability and sustainability of education in the Global South.

This concluding chapter explores the implications of the main research findings presented in the meta-synthesis for the attainment of social inclusion, which lies at the heart of the Open Education movement. The Paris OER Declaration of 2012[1] explicitly calls upon states to "[p]romote and use OER to … contribut[e] to *social inclusion*, gender equity and special needs education [and i]mprove both cost-efficiency and quality of teaching and learning outcomes"[2] (emphasis added). The Ljubljana OER Action Plan of 2017[3] likewise recognises that, "[t]oward the realization of inclusive Knowledge Societies ... [OER] support quality education that is equitable, inclusive, open and participatory". Understanding how OER, OEP and Open Education more generally, can help to achieve social inclusion is particularly critical in the Global South where increased demand, lack of resources and high costs limit the capacity of education systems to provide accessible, relevant, high-quality and affordable education. This chapter aims to contribute to this understanding the

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1   http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/WPFD2009/English_Declaration.html
2   http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/English_Paris_OER_Declaration.pdf
3   https://en.unesco.org/sites/default/files/ljubljana_oer_action_plan_2017.pdf

potential of OER and their accompanying OEP through a critical exploration of the ROER4D findings in terms of whether and how OER adoption promotes equitable access, participatory education and empowerment of teachers and students, and thus helps to achieve social inclusion. The chapter begins with a brief overview of the relationship between OER and social inclusion, details the implications of ROER4D's findings as they pertain to social inclusion, and concludes with recommendations for advocacy, policy, practice and further research in OER and OEP in the Global South.

Social inclusion

Social inclusion refers to "the process of improving the terms for individuals and groups to take part in society … It ensures that people have a voice in decisions which affect their lives and that they enjoy equal access to markets, services and political, social and physical spaces".[4] The process assumes that people face some level of social "exclusion" – a complex reality that may be influenced by factors of "socio-economic status, culture (including indigenous cultures), linguistic group, religion, geography (rural and remote/ isolated), gender, sexual orientation, age (including youth and old age), physical and mental health/ability, and status with regard to unemployment, homelessness and incarceration" (Gidley, Hampson, Wheeler & Bereded-Samuel, 2010, p.1).

OER advocates have approached the relationship between OER and social inclusion in different ways. Bliss and Smith write that in the early days of the open movement, "much of our attention focused on OER's usefulness at providing knowledge in its original form to those who otherwise might not have access. The implicit goal was to equalize access to disadvantaged and advantaged peoples of the world – in MIT's [Massachusetts Institute of Technology] language to create 'a shared intellectual Common'" (2017, p.15).

OER proponents then expanded their understanding of social inclusion to incorporate notions of participation (Lane, 2012) and social justice (Jhangiani, 2017), especially in contexts shaped by cultural and/or linguistic marginalisation (Bradley & Vigmo, 2014). Critiquing any approach that would appear to be based on a "top-down" provision of educational resources by educational elites to others (Perryman & Coughlan, 2013), Richter and McPherson (2012, p.202) argue that "just providing those resources as a contextualized 'give-away' cannot lead to reach the aim of educational justice throughout the world … [and] ... that when implementing learning in foreign contexts, not taking the cultural context of the targeted learners into consideration can lead to their frustration and finally to a general denial of participation". Thus, educators are encouraged to become "public-facing" so as to meet the needs of the communities that they are serving with their materials development (Perryman & Coughlan, 2013).

More recently, OER scholars have suggested that "studies into the activities and competences of self-direction are needed" (Knox, 2013, p.830), meaning that it is time to collapse the boundary separating learner and educator, and between materials-user and materials-creator. Social inclusion means empowering educators and students to be the creators of their own materials and knowledge, not just recipients or adapters of others'

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4   http://www.worldbank.org/en/topic/socialdevelopment/brief/social-inclusion

work. A similar sentiment animates those who encourage the historically and persistently excluded from knowledge production (Jhangiani & Biswas-Diener, 2017), such as scholars in the Global South, to transcend the demeaning and exclusionary situation where "data gathering and application happen in the colony, while theorising happens in the metropole" (Connell, 2007, p.ix).

The ROER4D project understanding of social inclusion is informed by these varied approaches, though we find their differences to be of degree rather than type. Gidley et al.'s (2010) discussion of "degrees" of social inclusion is especially useful in understanding the dynamics of OER and social inclusion. Arguing that inclusion is not a binary outcome – i.e. you are either included or not – they propose "a nested schema regarding degrees of inclusion" where "the narrowest interpretation pertains to the neoliberal notion of social inclusion as access; a broader interpretation regards the social justice idea of social inclusion as participation; whilst the widest interpretation involves the human potential lens of social inclusion as empowerment" (Gidley et al., 2010, p.2).

The most basic form of social inclusion is access to resources. Gidley et al. suggest that this is connected to neoliberal ideology, which sees access as being about "investing in human capital and improving the skills shortages for the primary purpose of economic growth as part of a nationalist agenda to build the nation's economy in order to better perform in a competitive global market" (2010, p.2). It is an instrumentalist approach, seeing people as having certain deficits (in skills, etc.) that should be overcome with greater access, leading to social capital and opportunities for individuals, as well as expanded economic growth for their societies.

A more expansive form of social inclusion includes notions of participation which are connected to principles of social justice. This addresses issues of "human rights, egalitarianism of opportunity, human dignity, and fairness for all" (Gidley et al., 2010, p.4) by enabling individuals' participation "in the key activities of the society in which they live" (Saunders, Naidoo & Griffiths, 2007, p.17) beyond mere employment. Higher education can help to achieve this degree of social inclusion by promoting social responsibility and community engagement, for example through participatory action research, service learning and other forms of university–community partnerships.

The highest level of social inclusion is empowerment of individuals to reach their full potential based on the principle that each person is complex and multidimensional, and that difference and diversity are strengths to be leveraged and enhanced rather than ignored or suppressed. In education, this degree of social inclusion is realised through an emphasis on dialogue, multiculturalism, personal empowerment, lifelong learning and social transformation. In this context, "education can be understood as transformative" (Gidley et al., 2010, p.5), fostering one's dignity and generativity.

OER and OEP: Implications for social inclusion

In this section, we discuss the findings of the ROER4D sub-project studies regarding OER engagement in the Global South in terms of the degrees of social inclusion.

In general, the ROER4D studies found variable access to and engagement with OER in the research sites in South America, Sub-Saharan Africa, and South and Southeast Asia. Of the three forms of engagement with OER – namely, using OER "as is", adapting OER and

creating OER – the most frequently cited by research participants was the use of OER "as is". The second most frequently reported activity was creation of OER. Compared to these two forms of OER engagement, there were fewer reports of OER adaptation (which includes localisation and translation).

The discussion below explores the factors that account for the extent of OER use, adaptation and creation observed in the ROER4D studies in order to draw insights into how social inclusion through OER and OEP can be achieved in the Global South.

Factors influencing access to educational materials through OER use

OER are considered to be a means for making educational content more accessible to educators and students, especially in economically depressed regions where textbooks and other learning resources are scarce and/or costly. However, findings from the ROER4D studies suggest that access to OER in the Global South countries studied is uneven. In their survey of educators and students in nine countries in South America, Sub-Saharan Africa, and South and Southeast Asia, de Oliveira Neto, Pete, Daryono and Cartmill (Chapter 3) found that while a little more than half (51%) of educators and almost two-fifths (39%) of students said that they had used OER at least once, as many as a quarter of the educators and slightly more than a quarter of the students said they had never used OER, and slightly less than a quarter (24%) of the educators and more than a third (35%) of the students said they were not sure whether they had used OER. The ROER4D studies suggest that educators' and students' level of access to OER is an important factor in whether and to what extent they use OER. Access to OER in turn is shaped by OER awareness, technological infrastructure and OER availability.

OER awareness refers to familiarity with OER as a concept and an understanding of how OER are different from other types of (non-open) educational materials. In the ROER4D studies, lack of OER awareness was apparent in the fact that many educators and students signified uncertainty regarding whether they had used OER. Cox and Trotter (Chapter 9) and Kasinathan and Ranganathan (Chapter 14) note that this uncertainty stems in part from a lack of understanding of the legal restrictions of copyright, which is exacerbated by the ease with which online materials may be downloaded free of charge, regardless of their associated licence. In some cases, educators engage in what is arguably too liberal an application of the principle of "fair use", which permits use of copyrighted material without permission from the copyright holder for non-commercial and restricted use in the classroom and for other "transformative" purposes (such as critique). In general, there was a low level of familiarity with open licensing among the research participants and the range of permissions this allows. Thus, while many educators and students might inadvertently use OER (because the item they downloaded from the internet happened to have an open licence), their deliberate use of such resources is limited.

Although online access to OER is optimal to ensure maximum reusability, some OER used by ROER4D research participants were available as print copies in institutional libraries (Adala, 2017) or as government-supplied textbooks (Goodier, Chapter 7). To be able to access online OER, one must have a digital device and a stable internet connection, which in turn requires reliable electricity provision. In the ROER4D studies, access to computers and other digital devices (such as mobile phones) and to the internet was not a problem for most of the educators in higher education and less so amongst school teachers. However, many

students, especially in rural and economically depressed communities, lacked even basic connectivity. This had a constraining effect not only on the students' use of digital resources, but also on the educators' pedagogical decisions to use digital materials in their teaching. For example, Cox and Trotter (Chapter 9) found that lecturers at a distance education university in South Africa worried about the lack of connectivity for their rural students, and thus limited the amount of digital materials they incorporated into their teaching. In their study of OER adoption in six institutions in East Africa, Wolfenden, Auckloo, Buckler and Cullen (Chapter 8) referred to inadequate access to laptops and desktop computers and lack of internet connectivity as factors that restricted teacher educators' exploration of OER, particularly in rural higher education institutions (HEIs). The inadequate technical infrastructure is also one reason for the low level of digital literacy, which in some instances is the main factor limiting access to and use of digital resources, including OER. It is this multidimensional digital divide that validates Willems and Bossu's contention that, "while equity reasons often underpin the provision of OER, challenges continue to be experienced by some in accessing open digital materials for learning" (2012, p.185).

Another important access factor is the availability of suitable OER. While the quantity of available OER is growing, this is not necessarily of value to educators, who often find the vast number of online resources overwhelming, as Wolfenden et al. (Chapter 8) observe. Added to this is the question of the appropriateness of the available OER for an educator's or student's specific use. Several of the ROER4D sub-projects found that educators and students use online materials based on their perceived relevance, regardless of whether they are openly licensed. A key aspect of relevance is language. Most of the globally available OER are in English, which means that they need to be translated for use in contexts where the medium of instruction is different, such as Swahili in Tanzania (Wolfenden et al., Chapter 8), Dari and Pashto in Afghanistan (Oates, Goger, Hashimi & Farahmand, Chapter 15), Urdu in Pakistan (Waqar, Shams, Malik, Ahsan ul Haq & Raza, 2017), and Tamil and Sinhala in Sri Lanka (Karunanayaka & Naidu, Chapter 13).

In sum, while OER can help to address the problem of inadequate educational resources, access to OER in the Global South is constrained by lack of awareness and understanding of OER, poor connectivity and limited access to computers, and the unavailability of relevant and/or useable OER. Since access is a prerequisite for OER adoption, these factors also limit educators' and students' adaptation and creation of OER, activities which represent higher degrees of engagement with OER and, more generally, participation in knowledge production. We discuss this aspect of the relationship between OER adoption and social inclusion in the next section.

Factors shaping participation through OER adaptation

Beyond providing access to educational resources, the power of OER as a means for achieving social inclusion lies in its potential to transform teaching into a more participatory process. In particular, adapting OER (for example by translating it into a local language, customising it to suit a particular set of students or combining several OER to make a new resource) broadens an educator's understanding of what teaching entails beyond "delivering" instruction, encourages reflection on how to engage students more, and promotes collaboration with other educators as well as with students. However, the ROER4D

studies indicate limited adaptation of OER by educators and students. In the cross-regional survey (de Oliveira et al., Chapter 3), only 18% of educators and 6% of students reported having participated in adapting or modifying OER at least once. Educators and students generally use OER "as is" (verbatim), which is the most basic form of reuse, equivalent to simply "copying" content. The factors that account for this relatively low degree of participation in OER-based practice include technical skills (including fluency in English), pedagogical practices, institutional policies and support mechanisms.

Adaptation of OER requires a range of technical skills, including translation, multimedia proficiency and instructional design. As mentioned, there is a predominance of OER in English and translating these resources poses a challenge for those whose native language is not English. Oates et al. (Chapter 15) describe how OER in English are translated into Dari and Pashto by volunteer translators for the Darakht-e Danesh Library (DDL) in Afghanistan. Translation also takes time, which could be a barrier to OER adoption by educators, as Zagdragchaa and Trotter (Chapter 11) point out in their study of OER adoption practices in Mongolia. Educators in the East African teacher education institutions studied by Wolfenden et al. (Chapter 8) said that using OER adds to their preparation time, as it requires careful assessment of the quality of resources as well as restructuring of content to align it with particular learning objectives. These activities also require instructional design skills which the educators often do not have.

Pedagogic orientations and practices, which include educators' beliefs about the nature of knowledge, conceptions of learning, teaching perspectives and professional identities, also account for educators' attitudes to and practice of adapting OER. Among school teachers in Afghanistan, Oates et al. (Chapter 15) observed the "entrenched practice" of relying on the textbook in preparing lessons despite the availability of a variety of OER that they could easily access from the DDL. Wolfenden et al. (Chapter 8) noted the perception of some teacher educators in campus-based universities in East Africa that using OER in the classroom would distract students from the learning task, and it would not be appreciated by students, who are thought to be interested only in passing examinations and reluctant to explore new ideas or try out new learning experiences.

Institutional policies and the corresponding support mechanisms also influence whether and how OER are used by educators. In many cases, due to lack of OER awareness in the first instance, a policy mandating the use of OER could propel educators to use such resources. For example, policy guides for shifting from use of proprietary textbooks and materials to OER-based course packages have recently been enacted in distance education institutions in Malaysia (Menon, Phalachandra, Emmanuel & Kee, 2017) and the Philippines (Bonito, Reyes, Serrano, Ramos & Orias, 2017). At one South African university, the institution's Open Access policy encourages (but does not require) educators to use, adapt, create and share their educational materials as OER. This approach is useful in "collegial" institutional cultures where educators enjoy a high degree of personal autonomy in their pedagogical decisions (Cox & Trotter, Chapter 9). Educators also value policies dealing with rewards and incentives which officially recognise educators for their adoption of OER. For example, educators at four Indian HEIs identified the lack of a recognition and reward system as a major obstacle to OER development (Mishra & Singh, Chapter 12), and half of 42 Mongolian university educators surveyed said that the lack of a reward system for OER adoption was an important factor in their decision-making on this issue (Zagdragchaa & Trotter, Chapter 11).

Aside from incentives, educators across several research sites referred to the need for skills training, administrative and technical support, and tools and resources for OER-based teaching and learning. In the ROER4D studies in India (Kasinathan & Ranganathan, Chapter 14; Mishra & Singh, Chapter 12) and Sri Lanka (Karunanayaka & Naidu, Chapter 13), skills development was provided through workshops for educators and course developers. In the sub-projects in India (Kasinathan & Ranganathan, Chapter 14), Colombia (Sáenz, Hernandez & Hernández, Chapter 5) and Afghanistan (Oates et al., Chapter 15), technical support in curating and circulating OER developed by school teachers was provided by non-governmental organisations (NGOs). Educators at a South African university who were involved in the development and delivery of Massive Open Online Courses (MOOCs) with OER as component elements appreciated working with instructional designers in designing the different elements of the MOOCs and navigating the intricacies of copyright management (Czerniewicz, Deacon, Glover & Walji, Chapter 10). In these examples, educators had access to technical support in developing derivative (adapted) as well as original materials, in applying the relevant licences to enable sharing and reuse of materials, and in uploading resources to a project or institutional OER platform where they could be accessed by colleagues within and beyond their respective institutions.

It should be noted that most of the educators who participated in the ROER4D studies worked in environments where there were few institutional support mechanisms for OER adoption, including use of existing OER and development of derivative and/or new OER. Most of the institutions featured in ROER4D sub-project studies did not have OER-specific policies, which meant that any potential OER activity within these institutions would be governed by national copyright legislation and institutional intellectual property (IP) policies, which might be agnostic about OER use but antithetical to OER creation (including production of derivative work) due to the fact that, in many countries, legislation grants employers copyright over works created by employees in the course of their official duties. This includes teaching materials created by educators, which means that educators technically do not have the right to openly share their teaching materials unless these rights are ceded to them by their institutions. On the positive side, some of the HEIs in the ROER4D studies have drafted policies that either grant copyright of teaching materials to the educator who created them (allowing them to share their materials as OER) or that commit the institution to managing and sharing the teaching materials of its educators under an institutional banner (Cox & Trotter, Chapter 9).

In sum, the participation factors discussed here shed light on the challenges involved in going beyond use of OER "as is" to engaging with OER in more dynamic ways to improve the quality of instruction (and the quality of the educational resources themselves) to foster participatory learning. The theoretical and empirical literature points to the need for educator training, policy and technical support, as well as cultures of collaboration as components of the more durable types of social and institutional arrangements that can bolster and sustain OEP, especially OER adaptation. ROER4D findings, however, show that educators and students participated in OER adaptation activities far less frequently than in the other types of OER adoption activities (use and creation of OER). As discussed in the next section, while OER creation ranked lower as an activity than OER use "as is", it was still more prevalent than OER adaptation, a practice that requires pedagogical clarity (allowing educators to see exactly how they can integrate OER into their teaching), technical capacity (to revise and

remix OER and then to reshare the new OER openly) and a supportive social and institutional environment (to sustain open, collaborative instructional materials development).

Factors empowering educators and students through OER creation

A more expansive form of social inclusion is empowerment, which is best exemplified through OER creation. This activity was less prevalent among ROER4D research participants than OER use, but more common than OER adaptation. In the cross-regional survey (de Oliveira et al., Chapter 3), 23% of educators and 9% of students stated that they had created OER at least once. Based on the findings from the ROER4D studies, the factors that promote OER creation include opportunities afforded by (typically externally funded) OER projects, collaboration with colleagues and students, and agential factors related to personal motivation and the desire to assert an epistemic stance.

The ROER4D sub-projects that employed participatory action research or design-based research methodologies demonstrated the role that funded OER projects can play in providing educators (particularly in rural communities) with opportunities to engage in OER creation. In Colombia, 22 teachers in six rural schools, who were equipped with the necessary skills and resources and supported by a community of practice composed of peers and experienced facilitators, created 16 OER for use in different subject areas (Sáenz et al., Chapter 5). The research-led interaction took the teachers from a point of relative "disempowerment" with regard to developing their own teaching materials, to a position where they were creating a broad array of OER to be shared openly. Projects like these counter the sense of disempowerment that comes from being on the wrong side of the digital divide. They can also be instrumental in the formation of professional development networks where collaborative OER creation can flourish, as shown in the sub-project in India where school teachers created 25 original demonstration videos in the local Kannada language, which formed the core resource material for a statewide training programme (Kasinathan & Ranganathan, Chapter 14). Even among university faculty, collaborative creation of materials is relatively rare and usually takes place in experimental contexts, such as the launch of an institutionally funded MOOC initiative at one South African university (Czerniewicz et al., Chapter 10).

It would seem that attitudes towards collaboration and sharing are informed by the educator's professional community. In higher education especially, this community consists of a discipline-based department that exerts a strong influence on educators' teaching practices as well as attitudes to knowledge-building and -sharing. As interviews at South African universities revealed, educators were sensitive not only to general disciplinary norms but also to departmental cultures where peer pressure can shape their teaching choices, sometimes leading to OER adoption (Cox & Trotter, Chapter 9). Thus, for example, lecturers at a South African distance education university who already enjoyed high levels of intra-departmental sharing, thought that it made sense to share learning resources beyond their departmental contexts. However, when the opposite was the case – i.e. when colleagues were not in the habit of sharing teaching materials (due to a lack of confidence or anxiety about others "stealing" their ideas) – respondents were less enthusiastic about OEP.

A few educators who were early OER adopters and who observed that teaching with OER made learning more enjoyable and engaging for students, also described sharing (with an

open licence) materials created by their students aside from their own work (Wolfenden et al., Chapter 8). Embracing a learner-centred pedagogy to the point of encouraging students to become co-creators of OER is deeply empowering for all concerned, disrupting the power dynamics traditionally associated with the transmissive educator–student relationship. It should be noted, however, that this was a very nascent phenomenon in the ROER4D research sites. For the most part, such open co-creation is not happening (Westermann Juárez & Venegas Muggli, Chapter 6), as educators are constrained by conventional teaching approaches, culturally informed notions of the educator–student relationship, over-reliance on the traditional textbook and a modest familiarity with OEP.

Personal motivation, especially the desire to enhance one's reputation, underpins some educators' practice of creating and sharing teaching materials as OER. In some cases, such as at one South African university (Cox & Trotter, Chapter 9), educators may receive official recognition for their OER contributions (in this case, an award given at a public ceremony). In most other instances, recognition comes in the form of feedback from users of the content who offer words of praise and gratitude and then share the resource with their colleagues. Mishra and Singh (Chapter 12) report that most of the Indian university educators in their study equated sharing educational resources with improving their professional stature, enhancing their personal reputation and boosting their institutional standing. While this self-promotional facet of OER creation is rarely discussed in the open movement, it forms an important element in the diverse mix of reasons that individuals have for engaging in OEP.

Another form of motivation for creating and sharing OER is personal fulfilment and confidence. Educators across the ROER4D research sites said that they experienced a great deal of satisfaction from sharing their materials openly. It addressed a deeply held desire concerning what type of educator they wanted to be and how they imagined themselves at their most effective, as evidenced in the results of an attitudinal survey of Indian university lecturers (Mishra & Singh, Chapter 12). In many ways, such motivation is personally defined, as ROER4D researchers also met many educators who said that they would not get the same sense of fulfilment out of openly sharing their materials because they were concerned about quality and the potentially critical assessment they might receive from colleagues. For those who were able to produce materials that they believed reflected well on themselves and could also be of real value to others, the act of sharing materials openly was a gratifying one.

Finally, creation and sharing of OER can be a way of asserting an epistemic stance, or one's own unique (individual or collective) perspective of knowledge. This is vital for people from marginalised communities whose histories and knowledge have been sidelined or suppressed by colonial or hegemonic powers. The internet as a communication platform, and OER as an educational resource that can be freely shared, provide an opportunity for educators in the Global South to contribute their own ideas, give voice to their own perspectives and participate in a global conversation. For the school teachers participating in ROER4D sub-project studies, such epistemic assertiveness represented a new level of agency characterised by a greater sense of accountability and a widening of their sphere of influence (Sáenz et al., Chapter 5). Likewise, for university educators, the offering of MOOCs provided an opportunity to assert alternative epistemic perspectives on a global scale, though it involved both personal and institutional reputational risks (Czerniewicz et al., Chapter 10). By contributing original OER and/or MOOCs, educators were offering

knowledge to the world in their own unique voices and through their own "theory from the South" (Comaroff & Comaroff, 2012), engaging in a dynamic conversation with hegemonic epistemic perspectives while strengthening their sense of self-identity.

In sum, the ROER4D studies show that OER creation as a form of empowerment for educators and students from the Global South is fostered by professional development, membership in a community of practice and personal qualities and motivations related to personal histories as well as professional identities. There are a number of legal and technical challenges to OER creation, including complex licensing processes and IP policies that grant copyright over teaching materials to employers. For those educators who do create their own instructional materials, they have a ready supply of content that could be shared as OER, as long as the legal and technical requirements are dealt with and they have the confidence and desire to do so. For some, this process of sharing is imperative in order to ensure that voices from the South are broadcast to the world – particularly to others in similar contexts who need high-quality, locally relevant materials. However, for the time being, OER creation remains the exception rather than the rule.

Figure 1 provides a summary overview of the factors that influence each of the three forms of OER engagement – OER use, adaptation and creation – and the associated levels of social inclusion, with factors ordered from least socially inclusive (at the bottom of each list) to most.
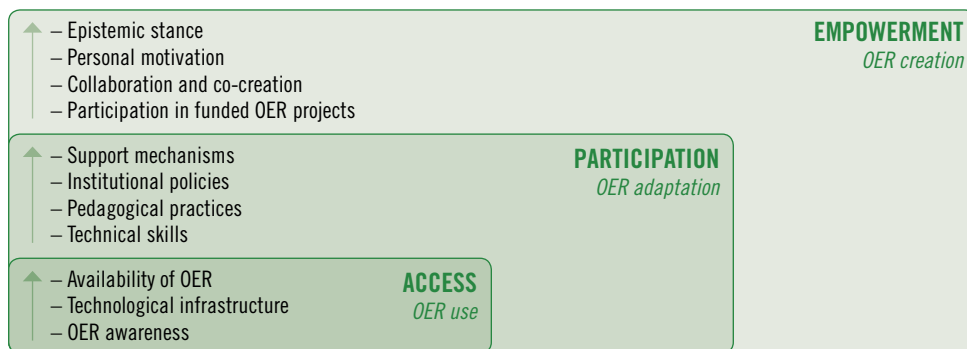

Figure 1: Levels of social inclusion through OER use, adaptation and creation, with the structural, cultural and agential factors that impact on each type of OER engagement

We posit that these three forms of OER adoption comprising the Open Education cycle (described in Chapter 2) contribute to the achievement of social inclusion in the following ways:

- OER use in general and OER use "as is" widen access to educational materials and to education more broadly.
- OER adaptation fosters participatory pedagogy, which encourages learner-centred teaching, extends the range of localised OER available to students and deepens learner engagement.
- OER creation empowers educators and students to contribute to knowledge production.

Recommendations

Based on our analysis of the findings from the ROER4D studies in 21 countries in South America, Sub-Saharan Africa, and South and Southeast Asia, we propose the following recommendations to ensure equitable access to OER, active adaptation of OER to suit local contexts, and creation and sharing of openly licensed teaching and learning resources showcasing local knowledge in relevant languages.

Advocacy

Recommendations for cultural interventions by intergovernmental agencies, NGOs, donor and research agencies include:

- Creating awareness of OER and how these legally reusable materials are different from other types of materials available on the internet.
- Engaging with policy-makers, particularly at state/provincial and institutional levels, to deliberate research findings and the value propositions of OER.
- Initiating projects where intergovernmental agencies, NGOs and donor and research agencies support initial research, implement an OER adaptation and/ or creation project, and developmentally monitor both processes using user-focused evaluation.[5]

Policy

Recommendations for structural interventions by government agencies and policy-makers include:

- Providing an enabling infrastructure, including a reliable power supply and hardware and connectivity, especially in underserved areas.
- Developing a favourable policy environment for OER creation, particularly as relates to legal permission for educators to share materials they create in the course of their work.
- Developing local platforms or portals where educators and students can host and share local content and practices (depending on the size of the country and the number of languages spoken, there could be one or several of these portals).
- Engaging with internet service providers for zero-rate access[6] to these platforms.
- Providing support to educators, particularly as relates to technical proficiency, open licensing and learning design.
- Allocating time, rewards and recognition for the adaptation and creation of OER.

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5   The user-focused evaluation used in the ROER4D project was based on the work of Patton (2008), which was customised for International Development Research Centre projects by Ramirez and Brodhead (2013).

6   "Zero-rate access" refers to the provision of free internet access to specified educational sites, as implemented in South Africa in 2017 by internet service providers (see https://www.mtnblog.co.za/mtn-zero-rates-access-to-online-curriculum-for-university-students/).

Practice

Recommendations for transforming institutional culture and developing agency include:
- Promoting teacher professional development in OER adoption, including critical digital literacy, participatory pedagogy and instructional design.
- Building professional learning networks and local communities of practice.
- Developing local-language and curriculum-aligned OER in order to have sufficient collections of OER that could be easily used by educators and students alike.
- Encouraging a culture of sharing within disciplines and departments.
- Encouraging educators to co-create OER with students.

Further research

Recommendations for further research (topically) include:
- Use and adaptation of OER by basic education students.
- Creation, use and adaptation of OER by informal learners.
- Uptake of OER originally created in the Global South.
- Provincial collaborative teacher professional development networks supporting OER adoption in schools.
- School-based collaborative teacher professional support for OER adoption.
- Institutional policies enabling OER creation, especially copyright permission but also reward and recognition.
- Extent of OER reuse within institutional learning management systems and portals.
- Cost-effectiveness of OER adoption in the Global South.
- Textbook practices and OER adoption in the Global South.

Conclusion

The relationship between OEP (OER use, adaptation and creation) and the degrees of social inclusion (access, participation and empowerment) should be understood not as a hard set of findings, but as an emergent and provisional set of understandings around how engaging with OER, and OEP more generally, may lead to varied social inclusion outcomes. The three-tiered nested schema presented in Figure 1 is valuable for thinking through these concepts and identifying where there may be critical disjunctures in OEP across the Global South. A key insight is that while equitable access remains a challenge in the Global South and should be addressed, it is in the realms of individual and community participation and empowerment that future OER interventions hold their greatest promise and will yield their largest gains. It is in those areas that broader inclusivity can be achieved and sustained.

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