

CHAPTER 7:

African OER Initiatives in Higher Education: Insights into OER Localisation, Advocacy and Sustainability

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Abstract

In the last decade, a number of OER initiatives in African higher education have sought to address challenges related to the access, supply and contextualisation of educational materials. However, limited information is available on the effectiveness of such initiatives. To gain deeper insight into this, OER Africa conducted research between September 2019 and February 2022. The project analysed the effectiveness of eleven key African OER initiatives in higher education and their influence on developing and supporting effective OER practices. The research team used a mixed-methods approach which included a short survey, desktop research and in-depth online interviews with initiative representatives to develop eleven case studies (one for each initiative). They also developed an analytical summary report which drew key findings across the case studies together. Three significant themes emerged from the research, which are explored in this chapter. First, the research highlighted the impact that OER localisation had on improving the number of contextually relevant educational materials. Second, it identified successes and challenges of OER advocacy. Third, it contributed insights about sustainability efforts for the initiatives, including funding, inter-institutional support, and champions to advocate for OER. This chapter explores these themes using the case studies and the accompanying report findings.

Keywords:

Sustainability, Advocacy, Localisation, Open Educational Resources

7.1 Introduction

Several African Open Educational Resource (OER) initiatives have, over the past decade, aimed to provide opportunities for educators, students and higher education institutions to tackle issues relating to the access, supply and contextualisation of educational materials, but little is known about their long-term effectiveness. Such initiatives operate within the context of efforts to improve access to educational materials (Hodgkinson-Williams & Arinto, 2017), on the one hand, and significant resource constraints (Glennie et al., 2012), on the other. In parallel, it has become clear that OER should not be viewed as a panacea for solving these challenges, as their adoption is not always without complexity (Mishra, 2017).

The definition of OER was coined in 2002 by UNESCO, while OER activities first found expression in the Global North through initiatives like the Massachusetts Institute of Technology's (MIT) OpenCourseWare initiative which launched in 2001. By November 2019, the 40th UNESCO General Conference adopted the UNESCO Recommendation on OER, "the only international standard setting framework in this area worldwide" (UNESCO, nd). The OER Recommendation stresses the role that investments in OER can play in realising Sustainable Development Goal (SDG) 4, which aims to promote inclusive and equitable quality education and lifelong learning opportunities for all. It notes:

One key prerequisite to achieve SDG 4 is sustained investment and educational actions by governments and other key education stakeholders, as appropriate, in the creation, curation, regular updating, ensuring of inclusive and equitable access to, and effective use of high quality educational and research materials and programmes of study (UNESCO, 2019).

OER has gained traction in Africa over the last decade, with an increasing number of OER initiatives focusing on OER advocacy, practice and research (OER Africa, nd). With this growth, OER Africa embarked on research to analyse the effectiveness of eleven key African OER initiatives in higher education. The research sought to assess the initiatives' long-term contribution to establishing sustainable OER

practices and what might be learned to enable better development and support of such practices.

The research process⁴⁰ entailed developing case studies of the eleven African OER initiatives in higher education, followed by an analytical summary report which drew key findings from the case studies together. Three key themes emerged. First, the research highlighted the effects of OER localisation in producing contextually relevant educational materials. Second, it foregrounded the successes and challenges surrounding OER advocacy efforts, with varying forms of institutional support and staff capacity building in OER being key to these efforts. Third, it provided insight into the complexities of ensuring the sustainability of these initiatives, which included funding, inter-institutional support, and champions on the ground. This chapter explores these themes and is based on the findings from the case studies and accompanying report.

7.2 Background and methodology

The OER Africa research team conducted desktop research to identify a list of potential initiatives. The following qualifying criteria were used:

1. Active participation of African organisations (though the lead organisation did not have to be based in Africa).
2. Evidence of at least some OER-related activities in higher education (though the overall initiative could extend beyond higher education).
3. Sufficient availability of documentation online in English to compile a profile of the initiative (with preference given to initiatives for which there was an evaluation report).
4. Attempts to develop, adapt and/or harness OER or policy development, rather than being limited to advocacy or research.
5. Evidence that the initiative had been operational for at least two years to enable meaningful assessment of its effectiveness.
6. Ability to identify and contact at least one key individual who remained in a position to comment meaningfully on the long-term effects of the initiative.

In addition, selections aimed to accommodate the following:

⁴⁰ This research was conducted under the auspices of a grant from the William and Flora Hewlett Foundation.

1. Representation of initiatives across three African regions (West, East, Southern Africa).⁴¹
2. Combination of single-institution initiatives and initiatives involving collaborations between multiple institutions.
3. Incorporation of some initiatives involving national governments.
4. Incorporation of initiatives that included:
 - a. Initiatives led by OER Africa and others in which OER Africa was not directly involved.
 - b. Initiatives led by African organisations and some by international organisations.
 - c. Initiatives led by universities and others (NGOs, donors, etc.).
 - d. Some donor-funded initiatives and some funded by governments and/or institutions.

Once the initial list had been compiled, the OER Africa management team reviewed it and selected the final sample of initiatives. The sample included representation from across the continent, including Nigeria, Ghana, South Africa and Tanzania, and initiatives that have operated in multiple African countries. Due to language limitations in the research team, the focus was on initiatives in Anglophone countries. The research sample included a diverse set of initiatives (in line with the criteria above), consisting mainly of once-off OER initiatives and instances where institutions have engaged in multiple OER-related activities. Two initiatives included in the final selection did not respond to requests to participate in the research and were thus not documented.

The research team used a mixed-methods approach to gather data: a short survey distributed online via Survey Monkey, desktop research and in-depth online interviews with initiative representatives. The most appropriate method/s were selected on an initiative-by-initiative basis. Table 7.1 below lists the profiled initiatives and indicates the number of survey responses and interviewees for each initiative.

⁴¹ The initial search did not preclude North African initiatives from selection, but due to language limitations in the research team, the focus was on initiatives in Anglophone countries.

Table 7.1 List of initiatives covered in the research sample

Initiative	Country/ies	Survey responses	Interviewees
Open Education for Eye Health (OEEH)	East and Southern Africa	1	2
Teacher Education in Sub-Saharan Africa (TESSA)	Sub-Saharan Africa	1	1
OER Term Bank	South Africa	1	1
Open Education Influencers at Nelson Mandela University (OEIs at NMU) ⁴²	South Africa	1	1
Kwame Nkrumah University of Science and Technology (KNUST)	Ghana	0	3
Virtual University of Small States of the Commonwealth (VUSSC)	Multiple African countries	2	2
National Open University of Nigeria (NOUN)	Nigeria	1	1
University of Cape Town (UCT)	South Africa	2	2
African Veterinary Information Portal (AfriVIP)	South Africa	0	4
African Teacher Education Network (ATEN)	West, East and Southern Africa	0	1
Open University of Tanzania (OUT)	Tanzania	1	4

The research was conducted using generally accepted research ethics principles. All contributors who had agreed to participate in the research were notified about the research process, data handling and how the findings would be shared. Data from

⁴² The OER Africa team added Nelson Mandela University's Open Education Influencers (OEI@NMU) to the sample once the research process was already underway. Note that although this initiative did not fit all the criteria mentioned above (for example, it had been operating for less than two years when it was selected), the team still thought it was worth profiling because of its innovative approach and influence on Open Educational Practices (OEPs) at NMU, and so decided to include it in the sample.

each initiative was collated and prepared as a set of case studies. Each case study was submitted to contributors for feedback, verification and approval. Once the case studies had been finalised, a cross-sectional analysis was conducted, and the team compiled a summary report outlining key findings and lessons learnt. The case studies, together with the final report – which contains a summary of the case studies and comprehensive analysis on which this chapter is based – were shared with contributors. They are available on the OER Africa website.⁴³

The research process provided rich insights into successes, challenges and lessons that initiatives had learnt in conceptualising and implementing their activities. Three themes frequently emerged, prompting the researchers to explore them in this chapter. These were: localisation, advocacy and sustainability.

7.3 Localisation

As the OER Recommendation explains, using open licences in educational materials presents opportunities for “more cost-effective creation, access, re-use, re-purpose, adaptation, redistribution, curation, and quality assurance of those materials (UNESCO, 2019).” Central to repurposing and adapting OER is the concept of localisation. Localisation involves the process of adapting educational resources that have been developed for one context into resources that are suitable for other contexts. This can include geographical, pedagogical, political or technical contexts. The process of localisation involves more than simply translating materials into a local language or replacing an image to reflect cultural alignment. It seeks to promote diversity, openness and reusability through the process of adaptation (OpenStax CNS, nd).

Localising OER has proven beneficial for participants and initiatives themselves. In most cases, such activities were undertaken by individual institutional initiatives but they were also the result of inter-institutional collaborations in others. Findings from the case studies demonstrated that localisation efforts have improved the quantity and relevance of educational materials.

In terms of increasing the quantity of such materials, the research revealed that initiatives had developed different kinds of resources suited to local contexts. For example, Teacher Education in Sub-Saharan Africa (TESSA) created approximately

⁴³ See <https://www.oerafrica.org/resource/oer-initiatives-african-higher-education>

100 OER in English, 75 of which are also available in kiSwahili, French and Arabic. The materials cover primary school curricula, handbooks, and toolkits for teachers and teacher educators. The Open Education Influencers (OEIs) at Nelson Mandela University (NMU) developed the Becoming an #OpenEdInfluencer (BOEI) course, a practical online course that supports influencers of, and for, open education (Open Education Influencers, 2020). In doing so, it encouraged researchers at NMU to contribute to the open education movement by providing access to valuable, relevant, Africanised content (Nelson Mandela University, 2019). These examples demonstrate how initiatives have created OER that are relevant to the contexts in which they operate, as well as the subject matter with which they deal.

Initiatives have also adapted or repurposed resources to be more contextually appropriate. In 2020, for example, the Virtual University of Small States of the Commonwealth (VUSSC), an initiative of the Commonwealth of Learning, developed and piloted two online professional development courses for the disability sector. The materials were openly licensed and have since been customised for the Ministry of Education in Tonga, which is currently offering the courses. In addition to creating full courses and programmes, VUSSC has developed openly licensed units of content that countries can adapt to fit into their own courses. The localisation activities have allowed the content to be used more widely than in just one programme.

Localisation efforts that initiatives undertook also prioritised the quality and responsiveness of resources. For example, Open Education for Eye Health (OEEH) steering groups had external members based in Lower- and Middle-Income Countries (LMICs) and were familiar with the context for which they were writing. Steering groups carefully selected content authors and facilitators, and brought in subject experts, thus ensuring that evidence-based best practice was shared and contextually relevant. Due to OEEH's activities, more than 300 OER, created with 110 collaborators from 25 countries, are available to download, reuse, share and adapt for local training needs (Commonwealth Eye Health Consortium, 2020).

Some initiatives created useful frameworks and guidelines to enhance and facilitate localisation activities. This provided structure to OER-related activities of VUSSC, the National Open University of Nigeria (NOUN) and the Open University of Tanzania (OUT), while also being used as a tool to mainstream OER-related practices. VUSSC developed a Transnational Qualifications Framework (TQF), allowing countries to compare their qualifications to transfer credit from one

programme to another. The TQF aims to make qualifications more readable and measurable, thus contributing to a more flexible workforce and easier comparison of qualifications (Keevy et al., 2010). The Framework allows courses and degree programmes that VUSSC creates to be adapted into recognised courses that students can take for credit through educational institutions in small states (Lesperance, nd). The TQF has promoted OER use and increased the value of the materials by accrediting them and transferring accreditation to other qualifications. Because the TQF undergirds all courses or content that VUSSC develops (all of which are openly licensed), this has created a culture that is accommodating of localisation efforts.

Inter-institutional collaboration and knowledge sharing have also shaped an environment conducive to localisation. NOUN reported that it had been approached by some institutions in Nigeria to use its educational materials. In cases where materials that institutions requested were not openly licensed, NOUN developed and added an institutional licence template to the materials so that other institutions could use and adapt them (OER Africa, 2022d). Kwame Nkrumah University of Science and Technology (KNUST) partnered with the University of Michigan for the Health OER initiative. The latter institution provided an intern and visiting staff to upskill KNUST staff and share lessons learned about OER creation. This partnership was crucial in creating momentum for OER-related implementation at KNUST (OER Africa, 2009).

Despite successes in localisation, initiatives also faced several challenges. The first was a lack of time to undertake resource creation and adaptation, which both students and academics raised. For example, some academics who participated in Digital Open Textbooks for Development (DOT4D) hoped to collaborate with others but could not, either because of conflicting schedules or the unwillingness of some peers to be involved. The DOT4D team tried to resolve this by introducing incentives such as the annual Open Textbook Award to recognise open textbook authors' efforts. For the Vice Chancellor's (VC) OER Adaptation project at the University of Cape Town (UCT), students struggled to balance the time required to gather content and adapt the OER with their course loads. At the end of the project, students revealed that they would have preferred a more structured, production-focused model with regular workshops to support adaptation activities (King, 2017).

Another challenge was a lack of specialised OER-related skills needed for OER localisation or development, including adaptation, searching and licensing, along with insufficient professional development opportunities to improve such skills.

OUT has a shortage of trained instructional designers to develop course materials, which also applies to the country more broadly. OUT thus observed a need to develop skills in integrating OER into teaching resources, searching for appropriate OER, and writing and editing course materials. Likewise, both VUSSC and UCT's VC OER Adaptation project found that initial hesitance from academics to participate in the initiatives was compounded by a lack of understanding of open licensing, as some found Creative Commons licences confusing. The VC OER Adaptation project concluded that students were only responsible for partial knowledge transfer about Creative Commons licensing and copyright when collaborating with academics (King, 2017). But initiatives also sought to bridge such gaps. For example, VUSSC sought to address knowledge gaps by offering periodic Continuous Professional Development (CPD) workshops on these topics. It was noted, however, that sustained CPD activities and monitoring these activities would have been valuable.

Despite these challenges, the research demonstrated the power of localisation efforts. TESSA's materials for teachers and teacher educators remain relevant even though some were developed a decade ago. Their relevance is evidenced by the enthusiastic response to the materials in Zambia, where they are being integrated into the existing structures and processes for school-based CPD and into the curriculum of all the government-run colleges of education. Initiatives like OEEH have brought in subject experts and participants from LMICs, ensuring that evidence-based best practice is shared. This has had a significant impact on the relevance of the materials. Efforts to localise materials have been extensive and welcome, particularly because contextually relevant materials enhance teaching and learning while also ensuring that local knowledge is incorporated into formal education (OpenStax CNS, nd).

Importantly, the research demonstrated that localisation efforts should be balanced with using existing resources from similar contexts, particularly because such efforts are resource-intensive. The contributor representing the African Teacher Education Network (ATEN) observed that:

Every country thinks that its curriculum is unique and wants to create its own content. However, there is much overlap and topics common across countries, and initiatives will be more sustainable if focus is placed on collating content of common topics across countries into one platform (OER Africa, 2022a: 4).

This suggests we should view localisation efforts practically, paying attention to what content is already available for use and ensuring that initiatives function as efficiently as possible.

Overall, the evidence above suggests that, while significant gains have been made in developing and localising OER and creating conditions conducive to this, notable barriers remain. These include a lack of time and a lack of skills to undertake localisation. Key lessons are that localisation activities should be balanced with efforts to use existing OER that may be relevant to one's purposes and that there is a need to provide CPD for academics and students on how to create, adapt and license OER.

7.4 Advocacy

Initiatives have conducted advocacy in various forms, concentrating on promoting the initiatives themselves and OER use and adoption. These efforts have included capacity building and skills' development for OER users and creators, and creating networks of champions. Activities have transpired at several levels, including workshops on the benefits of OER and collaborations with governments to promote OER nationally.

The case studies showed that advocacy activities encompassed capacity building for both OER creators and users, impacting teaching and learning practices. As a result of such activities, academics have started using OER in their work, as was the case with the OEIs at NMU, where four permanent staff started using OER because of the OEIs' advocacy efforts. The OEI Project Lead also successfully advocated for one of the Key Performance Indicators (KPIs) for staff to include reference to using OER. Other initiatives reported that academic staff's awareness and understanding of the concept of OER had improved, resulting in OER becoming more integrated with institutional practices. For example, at OUT, contributors observed that the advocacy aspect of their initiative was very important in raising awareness of OER, while the workshops and seminars provided capacity for staff members to become active OER users. The result was that staff developed themselves professionally and honed their pedagogical skills.

Initiatives have used capacity-building strategies such as training staff and students in OER advocacy, which proved to be an impactful way of spreading OER knowledge and skills through the institution. For example, the OEIs and the VC OER

Adaptation project trained student facilitators on copyright, Creative Commons licencing and OER advocacy. These students then shared their knowledge with other staff and students at the institution, with demonstrable impact evident in some (though not all) staff embedding OER into their work. Thus, these initiatives have shown that students have played a part in advocacy aimed at academics.

The findings reinforced the connection between advocacy and capacity-building activities, which have encouraged skills' development for initiatives such as DOT4D, VUSSC, the African Veterinary Information Portal (AfriVIP) and OUT. This involved skills such as OER policy writing, OER licensing, content development, repurposing and accreditation of OER courses. For example, VUSSC aimed to develop capacity in OER creation and use from the beginning, which was essential because of high participant turnover, so the team had to train both OER users and OER creators regularly. VUSSC used its training to ensure that OER creators developed skills to train other people in their own countries. This had a cascading effect that spread awareness about OER throughout the countries (OER Africa, 2022k). As a result, more than 2,000 participants from 31 countries were directly involved in VUSSC training courses and formal programmes, and approximately 110 courses and modules were developed (OER Africa, 2022k). This demonstrates significant reach in OER capacity building.

Regarding AfriVIP, the OER Africa project manager approximated that 60 to 80 teaching staff were trained during capacity-building workshops run by OER Africa and during 'Mixed Matters' CPD workshops, where academic staff were encouraged to reflect on OER and teaching and learning methods while being equipped with skills to find, adapt and license OER. General OER awareness training was provided to small groups of staff during visits made by the University of Pretoria (UP) and OER Africa staff to the Dean's Forum member institutions. In addition, the workshops and seminars that OUT hosted improved awareness and understanding of the concept of OER among academic staff, and OER reportedly became more integrated with institutional practices.

Champions have been central to advocacy and capacity building for initiatives like ATEN, those at NOUN and TESSA. Teachers involved in ATEN often became aware of the concept of OER for the first time through ATEN's activities, and some went on to become champions advocating for OER to supplement or complement prescribed textbooks. A crucial lesson from ATEN was that advocacy could highlight the role that OER can play in tackling challenges that teachers experience:

By and large, you only get buy-in when teachers have an immediate need for something. If they have a challenge and OER helps them with that, then they will engage (OER Africa, 2022a: 2).

At NOUN, the Academic Director adopted the champion function by using her context and networks to advocate for OER:

Coming from an ODL institution, I thought my institution was better suited to learn about OER because we have materials online and are funded by government. So I wrote a proposal and submitted it to the VC. Before then, we had brief workshops in that area (2013). [I also] attended a workshop in 2013, [for the] Economic Committee of West Africa States. If we were able to get our institutions to buy in, they would support us with capacity building. I reached out to UNESCO, the then- coordinator came to Lagos to talk to the senate members- they educated us about OER, the ability of OER and why my university should buy into it (OER Africa, 2022d: 5).

TESSA has dedicated a great deal of time to selecting and supporting champions, including those in senior positions such as Deans or Heads of Department and people who saw their involvement in the programme as a way to improve their standing and expertise in their respective institutions. The TESSA team observed that local champions were highly effective in promoting OER adoption because, when they introduced new resources or ideas, champions would emerge to implement them. One such example was the development of the TESSA Ambassador Scheme, through which TESSA sends ambassadors a package of resources to help them publicise the initiative. They also have a WhatsApp group to exchange ideas about using the materials.

The main constraint in measuring the impact of advocacy efforts was a lack of data, particularly information about what happened after advocacy had occurred. For example, though NOUN encouraged other institutions to openly license their materials, which – anecdotally at least – improved OER awareness and use amongst these institutions, cumulative statistics were unavailable to demonstrate the extent of sustained OER adoption (OER Africa, 2022d). This is a substantial area for improvement in OER initiatives as tracking and data analysis can help measure OER impact and provide a more accurate sense of strengths and challenges that initiatives face.

As with localisation efforts, there were also obstacles in terms of staff time and capacity to conduct advocacy. Although participants found the capacity building and advocacy efforts valuable, several contributors raised the issue of gaining and sustaining participation, which was often linked to a lack of time and capacity. In some cases, OER initiatives were viewed as requiring extra work and time commitments, which was met with resistance. There were numerous reasons for this, including that advocacy around understanding OER takes time and effort, and that initiatives tended to underestimate the time and energy required for such advocacy.

The transience of champions was another significant issue that led to a loss of institutional memory and stalling of advocacy. In some cases, the workload was borne by one person or a small group, often comprising those selected or who had volunteered to be champions. Though TESSA has been highly dependent on champions to drive the initiative, ambassadors have been promoted to higher positions over time, and their involvement in the initiative has ebbed, thus leaving a gap in promoting the use of TESSA materials. This raises the question of why champions did not always become active advocates after promotion. To address this, a contributor from TESSA recommended creating a meritocracy in institutions whereby people are rewarded for OER advocacy, and the profile of OER champions in the institution is raised.

Initiatives like the OEIs at NMU, the UCT VC OER Adaptation project, and AfriVIP also experienced turnover of staff and students, which made it difficult to build capacity over a sustained period. This is an important consideration for sustaining initiatives long-term. While champions are charged with core aspects of implementation, because professional positions change over time, well-established handover and continuity plans should be in place to ensure that activities can continue without losing momentum.

A final challenge was that initiatives experienced some resistance to OER adoption following advocacy. For example, participants at UP found it difficult to see the benefit of OER because academics were ‘at the top of their game’ in terms of producing quality resources (OER Africa, 2022b). This compounded the issue that the OER they found during their searches was reported to be of inferior quality to their own. While some staff were amenable to developing and sharing their resources, most saw no personal benefit in sourcing existing OER. OEIs, NOUN and DOT4D experienced similar resistance and reluctance, as summarised below.

- *OER were sometimes seen as competition to published textbooks.* OEIs experienced resistance from publishers and vendors on campus in their efforts to assist academics to find ‘textbook equivalents’ that were openly licensed.
- Initial efforts were greeted with hesitance, particularly when staff were asked to share their courses with other instructors in the institution or externally. However, in cases such as NOUN’s, as the initiative gained traction, using OER made staff more amenable to sharing their own content.
- *Some academics were concerned about the exposure that the use of their materials for OER adaptation might entail.* This is known as the ‘sunflower effect’, where academics are comfortable creating and sharing materials for students to use but feel exposed if they are shared more widely as it might expose them to critique (OER Africa, 2022j).

This highlights the intricacies of OER advocacy and CPD, especially concerning participants’ time limitations, sustaining OER activities and ensuring that participants have the appropriate skills. Although it is difficult to provide solutions to these challenges, there is evidence that sustained advocacy efforts can have an impact in the long-term, thus emphasising the need to ensure that initiatives prioritise sustainability, develop innovative strategies to mainstream their activities, and contribute to changing academics’ mindsets.

This section has highlighted that OER advocacy is an ongoing need, both for initiatives and the institutions within which they operate. Initiatives have implemented innovative mechanisms to ensure the continuation of advocacy efforts, and champions play a fundamental role. Thus, supporting them should be central to advocacy planning. The departure of champions was a significant challenge, suggesting that there should be well-established handover and continuity plans to proceed with work without losing momentum when there is personnel turnover. The research also highlighted a need for more comprehensive data on the impact of advocacy activities.

7.5 Sustainability

Building sustainability into OER activities is crucial to develop a robust OER ecosystem. It is thus a core component of documents like the OER Recommendation, which contains an action area on nurturing the creation of OER sustainability models, and the Ljubljana OER Action Plan 2017, which recognises a need to

“identify the full spectrum of possibilities for innovative sustainability models and the benefits they provide government, institutions, educators, librarians and learners (Ljubljana OER Action Plan 2017).” Initiatives have employed various approaches to ensure that their work is sustainable in the long-term. The key to this has been planning and adapting to changing circumstances. Initiatives can play an important role in ensuring that OER activities move from the periphery to the mainstream of institutional processes through mechanisms such as innovative models, the use of metrics and policy implementation. However, the findings show that such interventions have come with challenges, such as resource constraints and compromises in autonomy.

The case studies demonstrated the use of various approaches to ensure sustainability of the initiative or its activities. Initiatives like the Open UCT Initiative (OUI), OEI and TESSA reported noticeable success in mainstreaming OER into institutional practices and achieving a level of continuity, in some cases, even after the initiative had ended. OUI was especially successful in this regard. Once the initiative ended, stakeholders agreed that the library should start maintaining the OpenUCT repository. This was a significant success because the initiative’s outputs became entrenched in the institution’s operations. The OUI also introduced small grants of up to ZAR10,000 (approximately US\$680) for staff and students to develop OER or adapt teaching and learning content into OER. The grants were mainstreamed when they were incorporated into the university’s general teaching and learning grants. This was also a precursor to UCT’s Open Textbook Award,⁴⁴ which recognises open textbook authors and supports the development and reuse of OER, thus officially recognising and rewarding open practices at the institution.

Embedding OER into CPD has been another important element of mainstreaming, as in the case of OEIs, which integrated OER-related CPD into institutional processes. As mentioned, the Project Lead advocated for one of the KPIs for staff to reference OER use. Moreover, all new contract staff in the Learning and Teaching Collaborative for Success (LT Collab) Academic Literacy Writing Programme are required to complete the BOEI course, providing a focus on OER-related CPD that assists staff with teaching and learning. OUT also embedded OER knowledge into

⁴⁴ See <http://www.cilt.uct.ac.za/cilt/open/otaward>

the library-led information literacy training for staff and students in each academic year (OER Africa, 2022h).

Initiatives have also achieved increasing levels of sustainability by being adaptable. TESSA demonstrated the value of adaptability in its efforts to mainstream practices by continuously modifying elements of its programme to suit environmental factors on the ground. The commitment to adapting practices according to grassroots requirements has been essential to ensure continued success, relevance and OER adoption for TESSA.

OER-related policy development has also been a commonly used tool to mainstream the use of OER in institutions, though there was limited evidence that institutions have been able to sustainably implement such policies. KNUST's OER policy, which was developed because of the Health OER initiative, was approved by the College Board, Academic Board and Council; NOUN created a comprehensive OER policy for the institution; and OUT developed an institutional OER policy while also amending other policies to include OER. For the AfriVIP initiative, participants at UP realised that the Intellectual Property Policy was conservative and did not support the use of OER. Participants pushed the university to review the policy, a process which, at the time of writing, was still underway (OER Africa, 2022b). Although several policies have been developed and revised to support OER, and despite initiatives reporting that policies guide OER development and use, efforts to gather statistics to support this were often unsuccessful, suggesting a lack of data. The lack of data points to the idea that operationalisation has been tenuous in some cases, which begs the question of how such policies can find expression in ongoing institutional practices going forward.

Achieving sustainability has sometimes come at a price, most notably a lack of autonomy in the initiative's future trajectory. There were several reasons why OER initiatives have not been sustainable in the long-term. Whilst this research did not tackle these exhaustively, it did highlight the most frequently raised sustainability challenges, which are addressed below.

The compromise between autonomy and sustainability was observed when initiatives needed to consider mainstreaming their activities into existing university structures. For some, this had the effect of compromising on the initiative's goals. NOUN merged provisions for OER creation with its course materials' development budget instead of making it a separate budget item. While this mainstreamed the use

and development of OER, the funding arrangement has also meant that there were insufficient funds available to implement OER optimally. A separate budget would assist OER development and adaptation, as converting existing government-funded course materials into OER requires dedicated time and resources (Hoosen & Butcher, 2019).

Similarly, AfriVIP had limited external funding; its portal was hosted on an OER Africa server which UP continued to fund until 2020. At first, the faculty maintained the platform to assess its use and whether it was financially viable to sustain. It also explored alternatives such as commercialising some resources with an external partner to provide CPD points, where the resources would be open but earning CPD points would be a paid service. However, this model did not rely on an OER platform, so the idea was abandoned. UP also considered including advertisements on the site, but because the veterinary science discipline is small, realised there would not be sufficient traffic to generate revenue in this way. Subsequently, the faculty stopped hosting the platform. These examples highlight a missed opportunity in building on the successes that initiatives have had regarding OER adoption. They also foreground the importance of longitudinal support, including financial support, peer recognition, design, copyrighting and publishing support.

The insights from the case studies revealed that structural drivers are a core requirement for sustainability. As a contributor from the OUI noted, if teaching, resource development and OER are not specific criteria measuring success, it is hard to shift OER as a peripheral activity towards being a core activity within an institution (OER Africa, 2022j). This makes OER initiatives far more vulnerable to changes in faculty and shifts in institutional practices or priorities.

Initiatives have demonstrated that embedding activities into the institution and mainstreaming them can be highly effective. As noted above, ensuring that initiatives' gains are sustained and built upon is a complex issue. Although the research did not explore these implications comprehensively, it did reveal key lessons regarding the contributing factors undergirding sustainability. These can broadly be separated into developing innovative implementation models, creating reward systems and fostering an enabling environment for OER to flourish.

7.5.1 Innovative models, agreements for continuation and institutional embedding

In cases where initiatives had no sustainability plan or resources to continue their activities, sustainability was particularly challenging. This raises the question of how to embed projects within the structure of an institution from the design phase (OER Africa, 2022c). Initiatives employed innovative approaches to ensure that their work left a legacy and continued after the initiative had finished.

Developing a sustainability plan early on has benefited initiatives, providing them with an opportunity to find alternative support mechanisms. OER Term Bank prioritised the sustainability of its platform while the initiative was still running. The initiative put funding aside to host the project for three years when the project ended. Similarly, once OEEH's funding cycle ended in 2019, it secured additional funding until the end of 2020, through which it tried to find ways of ensuring that the content remained relevant and up to date. Since 2021, the project has been delivering courses on demand. When they were interviewed, OEEH contributors anticipated moving to a mixed funding model, potentially increasing their revenue stream by formalising their courses.

Initiatives have also mainstreamed their activities into institutional practices by being absorbed into existing departments or organisations. OpenUCT was incorporated into the UCT library, while the OEI initiative is situated in the student support arm of NMU, within the Academic Literacy Writing unit in the LT Collab. Being linked to an established segment of an institution means that these initiatives can draw on resources and networks from that segment, which contributes to their sustainability.

7.5.2 Rewards and incentives for participation

Rewards and incentives, both financial and otherwise, have shown to be a successful mechanism to entrench OER practices. Initiatives achieved this in different ways, such as including criteria for OER use and creation as part of KPIs and introducing awards for those who have developed OER. Initiatives such as DOT4D and the VC OER Adaptation project at UCT provide evidence that incentives, such as grants and awards, can change behaviour and encourage OER development.

The findings highlighted the benefits of rewarding an open education culture at higher education institutions, without which OER will most likely remain at the periphery. This might include incorporating OER into academics' KPIs, offering greater exposure for the OER that individuals produce, absorbing OEPs into existing

committees and structures, and amending criteria for the University World Rankings by placing greater emphasis on OER outputs to incentivise academics to use OER. However, the question remains: what are the fundamental drivers for OER adoption at higher education institutions in Africa, and how can stakeholders align these drivers with operational realities?

7.5.3 Policy, the necessary implementation vehicles, and an enabling environment

A key element of sustainability is using policy and practice to embed OER creation, use and advocacy into institutional practices. One example of this was how the mainstreaming of OpenUCT was influenced by UCT's Open Access Policy. UCT's Centre for Innovation in Learning and Teaching also adopted a principle of openness in its own work, thus promoting Creative Commons licences as a default starting point both internally and when working with academics.

In terms of practice, the identification of, and support for, champions and advocacy efforts can play a significant role in implementing sustainable practices at higher education institutions because they form a core part of an enabling environment. Initiatives have implemented innovative mechanisms to ensure that advocacy efforts continue, and champions have a crucial role to play in this advocacy. Thus, supporting them should be a priority in advocacy planning.

Much has been written about how OER policies can sustain OER activities at higher education institutions (see, for example, Janssen et al., 2014; Cox & Trotter, 2016), and this research has noted OER-related policy development as a key success of initiatives such as OUT, NOUN, and KNUST. Case studies such as VUSSC also reiterated the importance of policies at the national level to support OER adoption and sustainability.

However, just as important as policy development is creating both an enabling environment and accountability for policy implementation so that institutions do not risk deprioritising OER activities once the policy is approved. Within an institution, OER could be considered in strategic plans, including an outline of focus areas and who is responsible for driving the activities. Moreover, while policies create structures and rules for implementation, if they are overly complex and prescriptive, they act in opposition to the concept of openness, contributing to unnecessarily complex education systems. This points to a need to simplify national and

institutional policies to aid in ‘opening up’ opportunities for OER use (see World Bank, 2018).

7.6 Conclusion

The research provided insight into successes, challenges, and lessons regarding OER localisation, advocacy, and sustainability. Although initiatives have manifested successes in terms of creating and adapting contextually appropriate resources, notable barriers still endure, including a lack of time and lack of skills to localise resources. This suggests that localisation efforts should be balanced with efforts to use existing OER that may be relevant to one’s purposes, together with provision of CPD for academics and students on how to create, adapt, and license OER.

OER advocacy remains critical for promoting OER, and champions on the ground have been central to this. Initiatives also used capacity-building strategies such as training staff and students in OER advocacy, which effectively cascaded OER knowledge and skills through the institution. However, the transience of champions was a challenge, suggesting that initiatives might benefit from well-established handover and continuity plans and raising the question of how to ensure that champions continue their advocacy once they are promoted.

The findings regarding sustainability successes that initiatives have experienced indicated a need for concerted efforts to mainstream OER practices and embed OER into CPD. They also demonstrated the benefits of adaptability in maintaining the relevance of the initiatives’ work. However, sustainability has not come without a cost, as some have had to compromise by reducing resource usage or relinquish autonomy over the initiative to ensure the initiative is sustainable. Despite these compromises, several factors were successful in supporting sustainability including developing innovative implementation models, creating reward systems, and fostering an enabling environment for OER to flourish.

Finally, a key lesson that emerged from this research was the need for comprehensive data and tracking mechanisms to promote the success of OER initiatives. Data is a critical enabler that will facilitate an accurate analysis of what works and what does not, thus allowing initiatives to derive context-specific lessons for OER initiatives in African higher education and beyond.

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