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Separating Rhetoric from Reality: The Process of Institutionalizing OER Practices at African Universities

Abstract

OER Africa is working with four universities in Kenya, Tanzania, and South Africa to support the deepening of pedagogical practices that employ open educational resources (OER) and use information and communication technologies (ICT) to improve teaching and learning at both faculty and institutional levels. Concurrently, we are seeking to build an evidence base from the emerging lessons of experience, which would give impetus to the application of similar strategies in other African institutions of higher education.

A growing willingness amongst institutions to engage with the concept of OER and to harness OER practices to improve quality is reflected in the work to date. It is, however, evident that universities typically place relatively limited focus on improving teaching and learning practices. Other academic activities, particularly academic research and administration, tend to take precedence over establishing a strong culture of improving students' educational experiences through systematic research and investigation.

In light of emerging lessons, this paper explores barriers to deepening a culture of implementing research-based pedagogical change in African universities and proposes possible mitigation strategies.

Introduction

Since inception in 2008, *OER Africa* has sought to respond to challenges faced by educators in universities in Africa by working with them to harness open educational resource (OER) practices to improve the quality of teaching and learning and to redress specific insufficiencies. These practices have been customised to the realities of the contexts within which they are to be applied, such as inadequate bandwidth, a shortage of skills to develop and adapt relevant and appropriate teaching and learning materials, insufficient funding, and over-stretched human and physical resources. OER sensitization and advocacy, proof-of-concept pilot projects, policy work, materials development and adaptation, course design, and action research comprise some of the strategies enacted.

Through this work, *OER Africa* identified a need to deepen the knowledge base required to institutionalize OER practices to improve teaching and learning. Having initially adopted an expansive partnership strategy, *OER Africa* has opted to support a small selection of universities committed to transforming teaching and learning practices, to build evidence that OER practices can both lead to and support pedagogical transformation, and can be successfully mainstreamed and institutionalized.

Our proposed approach has been informed by an understanding that supporting significant change in this way requires sustained engagement over an extended period and the assumption that, while some critical success factors will be generic, others will be institutionally specific. Consequently, *OER Africa* is now working with four universities – the African Nazarene University (ANU), the Open University of Tanzania (OUT), the University of the Free State (UFS), and the University of Pretoria's Faculty of Veterinary Science (known as Onderstepoort) – to support pedagogical change using OER, with a view to identifying key supporting and inhibiting factors to sustaining such changes.

This paper reflects on lessons emerging from work across these four institutions. It commences with a summary of the approach that has guided *OER Africa* in its engagement with institutions, the 'theory of change'.

The Study

OER Africa's experiences over the past eight years indicate that many universities on the continent are committed to overhauling their teaching and learning practices to support students to negotiate the knowledge / information rich societies in which they live. It has supported many such institutions to develop and implement OER proof-of-concept pilot projects, improve materials development processes, enhance curriculum design, and prepare institutional policies supportive of these practices. *OER Africa*'s interventions, in combination with those of other organisations working on the continent, have contributed to ensuring that a critical mass of universities on the continent now understands, at least at a basic level, the concept of OER and its potential to support the improvement of teaching and learning. To deepen understanding of how OER might support the institutionalised transformation of teaching and learning, OER Africa is now providing longer-term faculty and institutional engagement processes aimed at interrogating the policy, regulatory, systemic and, cultural barriers that might impede sustainable integration of innovative OER practices into mainstream academic activities in accordance with our Theory of Change:

- OER has tremendous potential to function as a catalyst for educational transformation (as evidenced by the significant growth of awareness within African universities about the concept of OER and its potential to support more flexible resource-based provision centred on student active critical engagement rather than information transmission). OER can potentially be used to: (a) place the student at the centre of the process of locating and developing materials and course environments; (b) shift the role of educator from lecturer to facilitator, thereby making much more productive use of educator time; and (c) facilitate development of a wide range of additional cognitive and information literacy skills that are essential in modern society.
- Despite this transformative potential, OER is most often being used to replicate traditional models of education in which the learner remains largely a consumer of information. There is limited evidence of transformative pedagogical changes occurring in a sustainable way within universities. A key reason for this is the existence of significant policy, regulatory, systemic, and cultural barriers to transformative pedagogical practice, which make sustained integration of innovation into academic activities difficult to achieve.
- Effecting meaningful educational transformation aimed at overcoming these barriers requires long-term engagement with institutions and accompanying systemic and cultural change – best underpinned by strong leadership and simplified, focused policies. In Africa, until this deeper process of systemic transformation, at both faculty and university level, is attempted by a few pioneering universities and the lessons of experience are openly shared and debated, it is unlikely that decision-makers in higher education more broadly will begin to institute wider institutional and national policies that support sustained, educationally effective use of OER.

Linked to the above is an assumption that rigorous research, led by the institutions themselves, should accompany longer-term process of pedagogical change. In our current institutional engagement, we anticipated that an OER research agenda might seek to answer the following kinds of questions, amongst others:

1) What kinds of pedagogical transformation are envisaged at each of the participating institutions and within what timeframes are these changes expected to be introduced? How does this align with the OER community's understanding of the transformative educational potential of OER?
2) To what extent can use of OER constitute an effective catalyst in driving or supporting these envisaged pedagogical changes?

3) In what ways can a focus on pedagogical transformation serve to embed effective OER practices into mainstream institutional activities and systems, rather than these practices operating parallel to the mainstream?
4) What opportunities already exist within universities that can be used to drive this kind of pedagogical transformation and how can these opportunities most effectively be harnessed?
5) What policy, procedural, systemic, cultural, and logistical challenges and barriers inhibit these changes within institutions?
6) What strategies need to be implemented to overcome these challenges?
7) What levels of institutional political support or championing are needed for changes made to become institutionalized?

At each university, activities and outputs have been tailored to the particular circumstances and articulated needs of the partner institutions. In each case, alignment with the institutional mission and strategies was sought in a bid to avoid burdening faculty and staff with 'additional work' that they would not otherwise have conducted. Importantly, we selected institutional partnerships that represent a diversity of situations and approaches. Based on this, the following specific types of involvement were sketched out initially:

Table I. University Partners and Project Involvement

Institution	Focus of engagement
Africa Nazarene University	MoU in support of pedagogical shift towards OER-based Resource Based Learning (RBL) was to be implemented as a means to respond to increased demand for online and mixed-mode delivery in this campus based institution.
Onderstepoort, University of Pretoria	Launch of African Veterinary Information Portal (*AfriVIP*) at Faculty of Veterinary Science created the possibility to integrate OER into all formal programmes and Continuing Professional Development (CPD) courses and, to share the Faculty's wealth of veterinary sciences knowledge within the framework of a Regional Veterinary Sciences Deans' Forum that is committed to sharing materials as OER. A core focus has been the use of OER to support implementation of a block-teaching methodology. The work of the Faculty was seen as an institutional Pilot meant to inform institutional policy and with possibilities for replication across the university.
Open University of Tanzania	Commitment to use policy framework to harness OER and technology to enhance the quality of this ODL University's offerings. This has focused on enhancement of faculty skills to implement the above, through development and application of OER based Digital Fluency course
University of the Free State: Centre for Teaching and Learning (CTL)	UFS has identified OER as being of strategic importance in its overall approach to teaching and learning, and more specifically blended learning. The institution seeks a deeper understanding of how • students learn with technology • the scaled use of OER can alleviate the prohibitively high costs of textbooks that burden students. To this end, it is hoped that academic staff will acquire the capacity to contribute to OER development and use in identified modules.

As outlined above, ANU sought to deploy a pre-existing relationship with *OER Africa* to support the development of materials required to meet increased demand for distance and blended delivery programmes. Onderstepoort was originally committed to sharing its wealth of high quality resources, via

AfriVIP, with other African faculties of Veterinary Science. However, an institutional initiative to move from traditional lecture-based pedagogy to teaching in concentrated blocks of time created an additional need for transformed pedagogy. At OUT, a commitment to sharing existing courses as OER resulted in a focus on professional development for faculty to upskill their use of available technologies and OER. Finally, at UFS, the CTL is charged with providing faculty support for improved pedagogies and OER was considered an important aspect of such change.

Significant levels of support for the faculty and staff involved in the project were foreseen in consideration of the complexity and diversity of the change processes envisaged. Accordingly, each university is receiving dedicated support from an *OER Africa* Institutional Lead (IL) to help to build capacity to actively engage with OER and ICT as tools for improving the student learning experience. ILs have introduced new concepts and proffered professional guidance on issues ranging from faculty remuneration for materials development to the possibilities inherent in alternative business models from those currently being implemented.

An external project evaluator has been appointed to review the work. He has noted that, at least in three institutions, new concepts such as OER, pedagogical transformation and Participatory Action Research (PAR) have gained traction in challenging environments. His interim evaluation (Harley K. , OER Institutionalization Report, 2016) found that the project has introduced a new *language of possibility* to institutions – one that moves teachers beyond trying to improve their existing teaching skills – and into the realm of grappling with how they can teach *differently*.

The remainder of this paper focuses on presenting lessons emerging from our engagement with these four institutions.

Emerging Lessons

What are we learning about OER as a tool for sustained pedagogical change?
In order to inform his understanding of how the project might have supported institutional partners to improve or indeed transform teaching and learning practices, the evaluator asked institutional partners for their views on the term pedagogy. He found "Multiple individualized understandings of pedagogy across institutions", whereby partners generally perceived of pedagogy in terms of quality, whereby the notion of interactive teaching and learning materials was considered a qualitatively positive development and OER viewed as an enabler to such improved quality. It is worth noting that, in some instances, the relative scarcity of topical resources due to their high cost meant that making readily available to students *any* well-presented learning materials was also deemed a marker of quality: at OUT, for example, the dual push towards transforming copy-righted texts to OER and designing new OER-based courses is a direct result of this rationale. Across the board, the (prohibitive) cost of student materials underlies the desire to employ OER using available technologies. These perceptions of pedagogy suggest that, for many academics, the mere application of OER and / or ICT is deemed a marker of improved teaching and learning. Indeed, *OER Africa* has observed that beyond a small group of knowledgeable people, understanding of the concept of OER and its potential implications for improving teaching and learning drops rapidly. As a consequence, even though the term OER has been in use for some time, most institutions express an ongoing need for workshops that incorporate a specific focus on taking university staff through these basic issues. Both the IL-led workshops and the need for project partners to search for and incorporate relevant OER and ICT into their materials have facilitated discussions about just how they might transform teaching and learning.

Despite mixed appreciation for the finer points of pedagogy, there is a growing academic focus on harnessing OER to improve quality of teaching and learning materials during course design and

development projects. Although some quality concerns remain, generalized negative perceptions of OER as 'poor quality' because they are freely available are reducing quite rapidly, as is the time taken to persuade people of the merits of running searches to find existing, openly licensed content to integrate into courses. Of course, as noted above, part of this imperative is also to seek to contain the costs of course materials design and/or to save time spent on content development. However, there is also a growing sense that judicious use of OER can help to improve the quality of courses, for example, in the e development of the capacity of CTL support staff to harness OER as part of the course design activities they undertake with UFS academics. However, as noted by the evaluator, it is only after the completion, licensing, piloting, use and review of materials, that the efficacy of OER and ICT as markers of high quality pedagogy can be fully appreciated.

Typically, OER is being harnessed to support traditional pedagogies, even in cases where it forms part of a broader shift to e-learning. At ANU, an acute shortage of distance materials created a need to introduce a standardised model for materials development. Primarily a contact university, ANU was obliged to respond to the unforeseen demand for its limited portfolio of distance education courses. Use of OER commenced as a means to support the expansion of this portfolio through the development of distance education modules and supportive teaching and learning materials. At OUT, the innovative approach of involving faculty in the design of an OER-based Digital Fluency course to capacitate staff to make the best possible use of OER and available technologies is ongoing. The idea is that this professional development course will support an institutional aspiration to convert selected existing courses into OER. Both at ANU and at OUT, these OER initiatives emanate from the need to provide all students, regardless of their location, with equal learning opportunities. At Onderstepoort, OER is being used to support a move to a block teaching method in its flagship veterinary sciences degree programme. Teaching in consolidated chunks of time precludes the use of the traditional lecture and obliges faculty to search for alternative means to deliver significant portions of the curriculum at one go. Restructuring delivery to incorporate resource-based learning and ICT becomes a logical consequence of this pedagogical change.

More groups of academics and academic support staff are expressing interest in both sharing under open licences and integrating OER into courses, while resistance to engaging in such discussions in either institutional or faculty-level fora has declined significantly compared to when *OER Africa* first commenced its work. It may be that the ongoing penetration of mobile technologies and Internet use by staff and students alike mean that the concepts of sharing and sourcing content digitally are increasingly part of the lived experience of people, so that the concepts seem less alien. One consequence of this has been that all universities with which *OER Africa* has been working have acted to adjust or develop policies that enable them to better manage the rights to their intellectual property in this fluid digital environment.

What are we learning about institutional OER policy as a tool for sustained pedagogical change?
Evidence of progress towards OER institutionalization was to be assessed on the basis of structured improvements related to both practice and policies. In the examples above, the use of OER has arisen from the need to provide students with more effective learning (as at Onderstepoort) or the need to generate new materials to fill a void in the student learning experience (as at ANU and OUT). However, efforts to introduce innovation, even when initially successful, are often slowly strangled by the weight of tradition and scale of bureaucracy. The seemingly inordinate amount of time taken by two of the institutions to replace OER champions who either changed faculties or institutions, is another manifestation of the ponderous nature of many institutional hierarchies. Structurally, with the exception of the CTL, there appears to be relatively little weight attached to activities focused on improving teaching and learning, even where there is apparently strong in-principle commitment to it. That said, across all four institutions, respondents to the evaluator noted that there has been positive activity towards either the completion or the implementation of policies supportive of effective development, adaptation and use of OER as a core component of course or module development, refreshing and / or delivery.

Across all institutions, OER policy issues remain intertwined with ICT, Intellectual Property (IP)/copyright, and human resource issues. As growth of OER and eLearning continues, content management is becoming a significant problem, a challenge noted across all participating universities. Possibly the most visible success in the projects to date has been the focus on IP policies, with all institutions acknowledging the importance of having IP policies that cover issues of open licensing. This has often been a catalyst for wider discussions on IP and copyright, as IP issues are not well understood at most universities and not guided by clear policy frameworks. The latter has been particularly surprising to find at the ODL institutions, given the centrality of IP in the form of teaching and learning materials to their pedagogical and business models.

Policy development and/or review processes are underway at all institutions and they have adopted different strategies to try to ensure harmony between institutional policies and practices. At UFS, a draft Intellectual Property (IP) Policy, which will incorporate components of open licensing, has been developed and a consultation process to ensure approval is being discussed. At Onderstepoort, it is expected that the revised IP Policy will incorporate the use of OER as per the lessons learnt during this project. The institution hopes to use the new faculty policy as a foundational document for the revision of the university's IP Policy. At OUT, policy development has occurred in tandem with OER processes aimed at building the capacity of staff to harness OER and ICT to create and deliver more student centred and activity-based programmes.

The Evaluator noted that, at some institutions, there is still much discussion about the incentives for academics to participate in OER practices and materials development for their course. This suggests a misalignment between OER practices and institutional priorities and HR policies. For example, at ANU, implementation of the OER Policy was halted due to an unresolved faculty dispute regarding reward and recognition for materials development. This problem is much bigger than OER. It reflects the relatively weak status of course design and materials development as a core university function in relation to course delivery, research, and university administration. This in turn has the effect of people perceiving OER practices as 'additional work' rather than an efficacious strategy to achieve their professional objectives more effectively. It also helps to explain why take-up in postgraduate studies has been the biggest research success in exploring OER practices. At OUT, this problem has been mitigated within the HR policy, as course conversion to OER is now a recognized criterion for faculty promotion.

What role can research play in embedding OER practices in support of improved pedagogies?
To understand the role played by OER in improving educational practices and helping to drive pedagogical transformation, any interventions aimed at improvements and/or transformation in pedagogy should be accompanied by rigorous research. Our work to date suggests, however, that it remains a challenge to inculcate a culture of systematic research and critical reflection on pedagogical practices within universities. Whilst there is some evidence of wider participation in the formulation of a research agenda within institutions, the greatest successes in conducting research into OER have been registered by engaging with individual academics, who are primarily interested in the research to produce publications or complete postgraduate qualifications. Typically, this is most appealing to academics in the field of education, given the alignment between the research field and their future career development.

OER Africa support of research into pedagogical practices by individual academics has been fruitful at OUT, where various conference papers and articles for publication have already been completed. These publications have tended to report on the results of baseline studies seeking to explore perceptions, use, and barriers against OER or expert and student reviews of materials pre and post design intended to incorporate OER to improve pedagogy. With regard to the latter, it has been interesting to note how academics at OUT have worked together and shared experiences through processes reminiscent of participatory action research (PAR). A similar research agenda is also emerging at ANU, where bespoke

workshops conducted by *OER Africa* have driven the research process. These interventions have also fuelled the development of a postgraduate ANU higher education teaching qualification. Yet even there, the most comprehensive research study at ANU is being completed by an individual lecturer completing this enquiry as part of the requirements for a PhD. In the examples above, individual researchers are working in the field of education so there is a direct correlation between the research focus on OER and their academic research career trajectory. However, when academics are working in a different discipline, encouraging research can be difficult, even in cases – as at University of Pretoria – where there are special-purpose funding vehicles (Scholarship of Teaching and Learning grants) in place to support that research.

The following research themes have been the most commonly identified as important when exploring OER issues:
• Using student research to generate, collect, and process OERs;
• Examining the impact of using OER and measuring improvements in student performance;
• Undertaking financial analysis of relative costs of using OER in course design.
Answering these types of research questions will ultimately be essential to achieving greater take-up and sustainability both at faculty level and institutionally. Yet, despite interest expressed in these themes, there is no meaningful evidence yet of actual research being conducted into such issues. There are two possible reasons for this. First, in some cases, it may be that the issues are being tabled by *OER Africa* as part of its support function rather than emerging organically. Second, the complexity of conducting this type of research means that individuals tend to focus instead on less ambitious research agendas. In some instances, this means that innovations are being introduced that are not being properly researched against a substantive baseline. One result is that decisions about whether to scale up such innovations or abandon them may be driven by political considerations, anecdotal evidence, and/or the opinions of influential personalities, rather than grounded research.

That several research engagements described above are becalmed also suggests that research capacity is limited in many institutions. This problem is reflected both in challenges experienced in designing good research projects and in difficulties reported by many academics in knowing how to find OER (which is effectively a simple research skill). Emerging research activities across the institutions focus on assessing knowledge about OER and open licensing, measuring uptake of OER, and exploring experiences of students and staff in using OER and accompanying challenges. These research interests mirror closely the kinds of work done by *OER Africa* since its inception, suggesting limited growth in understanding of the potential of OER to support pedagogical transformation, over the last few years. However, these kinds of research focuses may predominate because their implementation is relatively simple. Even within this range of questions, baseline studies have tended to use surveys without verification of findings through triangulation, primarily because surveys are relatively simple and cost-effective to implement in short-term research projects: effective triangulation would require significantly more time and resources. From this perspective, the work of the CTL in introducing a PAR research agenda amongst CTL staff as a strategy to build institutional capacity in research on teaching and learning is noteworthy.

A long-term PAR research programme, in which CTL staff members are being supported to identify and implement research projects focused on different aspects of teaching and learning is currently ongoing at UFS. A CTL institutional requirement is precisely this focus on surveying needs, monitoring processes and evaluating impact primarily in terms of improved student performance. This example provides the strongest evidence of an organic PAR programme being driven by a university. At UFS, the PAR agenda also serves to ensure that CTL staff (who are support staff working with academic faculties to improve teaching and learning practices) complete research projects that will advance their academic careers. This CTL model provides for other universities an excellent example of both an institutional effort to introduce educational innovation and more compellingly, a structured institutional commitment to ensure critical reflection through research on the effectiveness of pedagogical practices.

Conclusions

OER Africa was initiated with the objective of supporting faculty in African universities to take advantage of the affordances of OER and ICT to raise the continental and global profile of Africa's valuable intellectual property. Through this project, *OER Africa* sought to build a depended understanding of what it might mean in practice – at four very different universities – to harness OER as a means of improving pedagogy and to share the lessons learned through their experiences with the wider OER community. We envisaged that research on these varied practices – aimed at meeting the needs of the four partner institution – rather than creating for them a burden of additional effort, would reflect on the changes required to practice, policy, institutional culture and other variables, so as to sustain improved teaching and learning practices. We anticipated that the diversity amongst these four institutions would support the building of a body of evidence to inform similar transformation at other higher education institutions.

With respect to sustaining pedagogical transformation, work conducted by *OER Africa* and its partner universities reflects a diverse range of activities and approaches to investigating and institutionalizing those activities. Apparent in each of the institutions is a growing recognition of the need for more flexible provision such as flipped classrooms, part-time studies, distance education, and online learning, which are all resource-based forms of provision. This recognition for more flexible provision was accompanied by a growing willingness amongst institutions to engage with the concept of OER and to harness OER practices to improve the quality of teaching and learning.

In all the institutions, we witnessed a significant increase in interest in establishing clear IP policies to manage the complex range of issues associated with copyright management that have been introduced by the growth of open licences. That said, a misalignment between OER practices and institutional priorities and HR policies is manifest in the concerns of faculty at all of these institutions for clarity to be provided about how faculty should be rewarded and recognised for their engagement in materials development processes. Neither institutional policy nor indeed institutional culture generally recognise that resource-based forms of provision require that the cost of materials development and renewal becomes a key line item in institutional budgets. As a result, rather than operating within an environment in which a culture of improvement is structured into the processes and operations of the institutions, efforts to drive effective pedagogical transformation labour against the weight of institutional culture and longstanding traditional practices. The primary consequence is to slow down the pace of such transformation, while also creating an environment in which pedagogical innovations are systematically co-opted into mainstream systems in ways that tend to reinforce traditional educational practices rather than systematically improving them.

The work to date clearly demonstrates the value of having an institutionalised research process into pedagogical practices and the relative strengths and opportunities for different tools such as OER and ICT that is driven by a dedicated teaching and learning centre. This is evident from the goals and objectives espoused by well-established Teaching and Learning Centres at some universities in countries like Australia and Canada[1] and indeed, the example of the CTL at UFS. In the absence of such a centre, a compelling reason for individualised research initiatives is that research in universities is traditionally conducted to further individual research careers and derive the benefits that accrue from publication of research through formal academic channels.

Lessons emerging from the project to date demonstrate that the desire for more effective pedagogical practice is widespread. Furthermore, a growing familiarity with the use of ICT and OER means that acceptance of educational technologies is far more prevalent than at *OER Africa*'s inception in 2008. Pedagogical innovations are regularly introduced and assessed amongst the four partner institutions and

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[1] See https://www.google.com/search?q=university%2C+centre+for+teaching+and+learning&ie=utf-8&oe=utf-8&client=firefox-b for references

some barriers to deepening a culture of implementing research-based pedagogical change in African universities are being addressed through policy reform. However, faculty workload remains a significant constraint to OER institutionalization. The time required to complete work, especially pertaining to course design and development, is not readily available to university staff in African universities. Their ability to focus on activities of the kind being prioritized through these partnerships are constrained by multiple competing demands on their time. For example, the external evaluation notes even the unexpected impact of traffic on time taken by faculty to get to and from work in one instance. Furthermore, the extent of academic administration now required in most universities occupies a significant (and growing) portion of academics' workload. It was also striking that in both distance and campus based institutions, faculty opted to create OER from scratch: this time-consuming process was frequently justified by assertions regarding either the absence of OER relevant to their specific needs or an inability to find entire OER courses that matched their students' requirements.

Finally, lessons emerging from this project suggest that only when universities place as much value on teaching and learning as they do on academic research will we begin to see research into the relative effectiveness of different educational methods become an institutional priority and incentives for academics or support staff to conduct such research concomitantly strengthened. It is this kind of research that will facilitate the regular introduction of pedagogical innovations that are systematically assessed and modified to ensure constant improvement to teaching and learning in Africa's higher education institutions. The growing willingness amongst institutions to engage with the concept of OER and to use available ICT effectively can then translate into large scale harnessing of OER practices to effect consistent and measurable improvements to the student experience.

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