# Emerging Lessons from the *OER Africa* Institutional Engagement Grant

## Introduction

Since inception in 2008, *OER Africa* has sought to respond to the challenges faced by educators in Africa’s universities by working with them to collaboratively develop and implement open educational resource (OER) processes to redress specific teaching and learning insufficiencies. These processes have been tailor-made to fit the realities of the contexts within which they are to be applied, including inadequate bandwidth, a shortage of skills to develop and adapt relevant and appropriate teaching and learning materials, insufficient funding and over-stretched human resources. Strategies implemented to this end have included OER sensitization and advocacy, proof of OER concept pilot projects, policy work, materials development and adaptation, course design, and action research.

Initially, *OER Africa* adopted an expansive partnership strategy to advance this agenda. However,as its focus for its current work supported by the William and Flora Hewlett Foundation, *OER* Africa identified a need to deepen the knowledge base required to take OER in African universities to the next level – that is, the mainstreaming of engagement with OER to improve pedagogical practice. It decided to do this by supporting a small selection of universities which are committedto transforming teaching and learning practices, in the context of the information society, through Action Research and Critical Practice, to build evidencethat OER practices can both lead to and support transformation, and can be successfully mainstreamed and institutionalized.

Consequently, *OER Africa* is 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. The University of South Africa (Unisa) was also one of the original partner institutions, but because it proved difficult to sign a Memorandum of Understanding between *OER Africa* and Unisa for various reasons, Unisa was replaced by the UFS in the second half of 2015. Our proposed approach is informed by an understanding that supporting significant change in this way requires sustained engagement and support over an extended period and that, while some critical success factors will be generic, others will be institutionally specific.

As the second year of this work draws to a close, it is opportune to reflect in general terms on lessons emerging from work across these four institutions. This reflection commences with a summary of the approach that has guided *OER Africa* in its engagement with institutions, the ‘theory of change’.

### Theory of change

*OER Africa*’s experiences over the past half-decade indicate that many universities on the continent are committed to overhauling their teaching and learning practices to support their students to negotiate the knowledge / information rich societies in which they live. *OER Africa*'s interventions 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 transformative pedagogical agenda now required.

However, there is a need to move beyond proof-of-concept projects into longer-term faculty and institutional engagement processes, which seek to better understand what policy, regulatory, systemic, and cultural barriers impede sustainable integration of innovative OER practices into mainstream academic activities, most notably the delivery of high quality undergraduate and postgraduate programmes. Consequently, the proposed *OER Africa* Theory of Change as defined in its grant proposal for this phase of work was as follows:

* 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 centered on student active critical engagement rather than information transmission).OER can effectively be used to: (a) place the student at the center 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 largely being used to replicate traditional models of education where the learner is a consumer. 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. 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 can be 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.

The thinking at the outset of this work was that, if this process of change was accompanied by rigorous research and sustained advocacy (that involves the institutions themselves in sharing their experiences), it could then be used to present to key decision makers (at a governmental level) and university administrators (such as senior management and Faculty Deans), practical evidence of the kinds of policy, regulatory, systemic, and cultural changes needed to effect the changes in pedagogical practice that higher education experts routinely discuss, but seldom implemented on any significant scale. This practical evidence could then be used to trigger broader processes of change by providing higher education decision makers clear guidance about the programme of action needed to implement the types of institutional changes that broader social pressures are increasingly forcing them to consider.

### Participatory action research

Give the above, *OER Africa* decided it would attempt to integrate a participatory action research (PAR) agenda into each of its institutional engagements as its primary method of critical reflection. We define PAR as ‘collaborative research, education and action used to gather information to use for change on social issues’[[1]](#footnote-2). It involves people who are concerned about or affected by an issue who take a leading role in producing and using knowledge about it. A PAR approach has the following features:

* It is driven by participants;
* It offers a democratic model of who can produce, own and use knowledge;
* It is collaborative at every stage, involving discussion, pooling skills and working together;
* It is intended to result in some action, change or improvement on the issue being researched.

The PAR process is necessarily open-ended in the first phase of design, which means that specific research questions and methodologies will need to be negotiated with the participants themselves. However, it was our expectation that the 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?

This can be represented diagrammatically as follows:



As indicated by this diagram, we envisaged an iterative action research process, enabling organizational change, and leading to key identifiable actions and outputs that are conceived, acted upon, reviewed and revised through ongoing discussion and debate with the relevant stakeholders. It was further intended that the lessons of experience that emanate from these processes should be shared more widely through appropriately open forums. In this regard, our advocacy will seek to both stimulate further engagement with OER as a pillar of pedagogic transformation and the implementation of processes and policies that seek to ensure that such transformation becomes a reality.

## What are the emerging lessons?

As the second year of engagement with the identified institutions comes to a close, it is useful to reflect on what has been learned to date. A brief summary of key emerging lessons is presented below.

### Who is driving research and critical reflection?

As has been indicated above, a key interest in this grant has been to explore the role of OER in improving educational practices and helping to drive pedagogical transformation. To determine the extent to which this has been achieved, it is necessary to ensure that research activities accompany any interventions, which focus on determining the extent of any improvements and/or transformation in pedagogy. Given our emphasis on PAR, this depends on participation from members of the university.

Our work to date suggests that it remains a challenge to inculcate a culture of systematic research and critical reflection on pedagogical practices within universities. Research into the effectiveness of different educational methods and their relative effectiveness is seldom an institutional priority, and consequently the incentives for academics or support staff to conduct such research are relatively weak. The primary research incentive remains the traditional one of individual academics pursuing research into pedagogical practices in order to advance their research careers and to derive the benefits that accrue from publication of research through formal academic channels. Until relatively recently, even this practice was not recognized as being serious research if the author was from a discipline other than Education. While there are now well-established Teaching and Learning Centres at some universities in countries like South Africa and Australia, this is not evident elsewhere in Africa. These centres would be the logical units to drive pedagogical transformation in higher education institutions, as can be seen from the work of the CTL at UFS.

Thus, although there has been 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 in order to produce publications or as part of completing postgraduate qualifications (and typically this is restricted to academics in the field of education). This has been particularly successful at OUT, where various conference papers and articles for publication have already been completed (see detailed institutional reports for details). At ANU, the research process has been driven by very productive workshop engagements, which have facilitated more widespread participation in the setting of a research agenda and the development of a postgraduate ANU higher education teaching qualification, but the most comprehensive research study is still being completed by a lecturer completing research as part of the requirements for a PhD.

At Onderstepoort, a research agenda has been defined, but it has proven difficult to move forward with implementing this research. This is partly due to changes in the management of the project, with the departure of the Deputy Dean responsible for the project and subsequent time taken to appoint a replacement. In addition, though, it is difficult to persuade academics to focus on research into pedagogy in a Faculty where careers are built largely on the basis of publishing research in the veterinary sciences. In the examples above, the researchers are typically working in the field of education in some way, 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. Hopefully, though, interest in conducting research will lead to at least one funding application to that fund when the next round of applications is launched.

Work completed at Unisa before the relationship with *OER Africa* ended identified a wealth of research opportunities and some apparent interest from staff, particularly those in support positions to conduct that research. Importantly, there were also financial resources specifically available for this type of research, which seemed especially relevant given the importance of ensuring effectiveness of teaching and learning methods in Unisa’s large distance education programmes. Through two activities, one focused on integration of e-learning into the Economics 1 course and the other on creation of a MOOC on Principles of Accounting to supplement various first-year courses, an extended process of participatory engagement, including academics, support staff, and participants from relevant university research units, detailed research agendas were defined and agreed. Sadly, the research itself was not taken forward before the ending of *OER Africa*’s relationship with Unisa and it seemed unlikely that it would continue without that relationship in place.

The UFS has, through its Centre for Teaching and Learning (CTL), embarked on 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. This example provides the strongest evidence of an organic PAR research programme being driven by a university. In most of the other institutional examples, the focus on research into OER has been initiated and/or directed by the OER Africa engagement, whereas at UFS the PAR research agenda is seen as part of an institutional process of both reflecting on pedagogical practices and ensuring 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. Although focuses for these research projects are still being finalized, this model already provides excellent lessons for other universities as an example of a structured institutional commitment to ensuring critical reflection through research on the effectiveness of pedagogical practices and institutional efforts to introduce educational innovations.

From this, one can draw various conclusions:

* In a few instances, research is emerging organically and as part of a wider institutional agenda, but in most, external facilitation has been essential to get a focus on OER research and even, more broadly, research on pedagogical practices and transformation.
* Where research is being done, interest is greatest where there is a connection between the type of research done and the academic interests of researchers. In particular, research seems to be of greatest interest to academics when it is connected to distance education (possibly because it aligns with broader research interests on ODL and resource-based learning in ODL institutions). In addition, though, staff working in support units helping academics to improve teaching and learning practices and/or introduce pedagogical innovations of different kinds also show great interest in completing research projects to further their academic careers.
* There is little evidence that research agendas are driven in a structured or systematic way by accompanying institutional drives to introduce pedagogical changes and then measure their relative effectiveness. In a few cases, there even seems to be active resistance to researching the introduction of pedagogical innovations, despite the apparently clear imperative to measure whether or not such innovations yield a meaningful educational improvement that would justify continued support for that innovation. Where such research is done, it is typically in the context of academic research driven by an individual, which has two consequences:
	+ The scope of the research is defined by the resource constraints and time pressures of that academic (most importantly, the need to complete the research within defined timeframes) place significant limits on research methodologies, with the result that some of the most important research questions about the impact of pedagogical transformation efforts (particularly those of a longitudinal nature) are seldom explored through academic research
	+ The outcomes of the research are not intrinsically connected or fed into planning or policy-making processes in a way that enables more effective financial decisions on the relative merit of investing in different education innovations to effect meaningful pedagogical transformation. The result is that decisions the relative merits of different kinds of pedagogical transformation are driven by other factors, for example, the drive and enthusiasm of their champions or the inherent conservatism of many decision-makers whose perspective is strongly influenced by the history of educational practices at universities.

### What are the emerging project and research focuses?

Notwithstanding the above concerns, there are some clear research focuses emerging from work done to date and some accompanying lessons about attitudes towards OER. Resistance to engaging with OER issues appears to be declining over time. More groups of academics and university academic support staff are expressing interest in both sharing under open licences and integrating OERs 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. For example, during the period of the PAR grant, OUT have mounted three highly inclusive OER institutional fora. One can only speculate on possible reasons for this, but it seems likely that the efforts of organizations like Creative Commons, UNESCO, the Commonwealth of Learning, and OER Africa, as well as globally respects reports such as the New Media Consortium’s Annual Horizons Reports, have raised awareness about the concept of OER significantly. Likewise, 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, much more so than even a few years ago, so that the concepts seem less alien. One consequence of this has been that all universities with which OER Africa has been working has seen the importance of adjusting (or developing) intellectual property (IP) policies that are responsive to this changing environment and manage its implications for copyright management.

Nevertheless, the need for OER advocacy remains very high in all of the universities with which *OER Africa* is working. Once one goes past a small group of knowledgeable people, understanding of OER and its potential implications for teaching and learning drops rapidly. Evidence of this can be seen in the number of workshops held that incorporate a specific focus still on taking university staff through these basic issues. As a consequence, many of the project activities in which universities are engaged still focus on course-level activities that focus on designing courses using existing OER and/or creating course materials that will be released under open licences.

Emerging research focuses across the institutions reflect the following kinds of activities (see detailed institutional reports for details):

* Baseline Research (for example, OUT, ANU, Unisa), which seeks to:
	+ Determine knowledge about OER and open licensing within universities;
	+ Assess current use of OER;
	+ Explore attitudes towards OER; and/or
	+ Examine barriers to OER implementation.
* Research into take-up of OER (OUT, ANU). In the case of ANU, there are plans to examine take-up in multiple institutions.
* Exploring experiences of students and staff in using OER and accompanying challenges (OUT, Unisa, UFS).
* Conducting expert and student review of materials pre and post design (ANU, OUT).

These research interests mirror closely the kinds of work done by *OER Africa* since its inception, suggesting that there has been limited growth in sophistication of understanding of the potential of OER in supporting pedagogical transformation in the last few years. However, the reality is that these kinds of research focuses tend to predominate because the research is relatively simple to implement compared to research focused on more complex research questions. Even within this range of questions, baseline studies have tended to be overly focused on using surveys without verification of findings through triangulation, primarily because surveys are relatively simple and cost-effective to implement in short-term research projects, while effective triangulation would require significantly more time and resources.

During this period, significant interest has been expressed in exploring additional research themes, such as the following:

* 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.

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 rather than emerging organically; and, second, the complexity of conducting this type of research means that individuals tend to focus instead on less ambitious research agendas. This is a pity as answering these types of research questions will ultimately be essential to achieving greater take-up and sustainability both at faculty level and institutionally. In addition, in some instances, it means that innovations are being introduced that are not being properly researched against a substantive baseline. This means that decisions about whether to scale up such innovations or abandon them tend to be driven by political considerations, anecdotal evidence, and/or the opinions of influential personalities, rather than grounded research.

The engagements reflect also that research capacity remains very limited in many institutions. This problem is reflected both in challenges experienced in designing good research projects and in difficulties still reported by many academics in knowing how to find OER (which is effectively a simple research skill). For many academics, online research still seems to be an unusual practice. 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.

### Emerging OER issues

Project activities within institutions have yielded various general insights worth noting. These are discussed briefly below:

#### OER, ICT, and Pedagogy

Sadly, technology take-up and penetration in universities, especially amongst students and in universities north of South Africa, remains frustratingly slow. Access is expanding, but ICT penetration both on and beyond campuses is relatively slowly compared to other parts of the world. This is the case despite many optimistic predictions having been made in recent years about the speed of technological penetration in African societies. On university campuses, recent developments in the work of the Tertiary Education Network (TENET) have registered significant gains in ICT access on campuses and this is evident in rapidly changing behaviours amongst students, but ICT access for distance education students such as those enrolled at Unisa is still highly variable. In the Kenyan and Tanzanian universities, though, ICT infrastructure gains even on university campuses tend to be incremental rather than exponential. This places significant limits on the extent to which openly licensed content can be harnessed to introduce many of the innovations documented in *OER Africa* publications and other writings on OER.

Despite this, there is a growing focus on harnessing OERs 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 content to integrate into courses. Of course, 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, but it is equally clear that there is a growing sense that judicious use of OER can help to improve the quality of courses. This imperative was particularly strong in discussions on OER at Unisa, but is also a core part of the rationale for developing the capacity of CTL support staff to harness OER during course design activities that they undertake with academics at UFS. It is also the case that when academics know their material is going to be made open for everyone to see, they tend to be more careful about its design.

As growth of OER and eLearning continues, content management is becoming a significant problem, a problem that is noted across all participating universities. Paradoxically for institutions that are ostensibly at the forefront of the knowledge society, there is relatively little emphasis on institutional content management solutions being implemented to store and share digitized content amongst staff and students. At Unisa, significant investment was being made in implementation of an Enterprise Content Management (ECM) system, but oddly this seemed to focus primarily on administrative documentation rather than managing the institution’s core IP, its ODL materials. At other institutions, the problem of establishing some kind of ECM system is reported and discussed, but relatively little progress has been made in this regard, at least as far as teaching and learning materials sharing is concerned. Effective storage and management of digitized teaching and learning materials is a significant and growing problem at universities, especially as it leads to significant duplication of efforts, loss of IP, and weakened collaborative practices during content development.

Notwithstanding the focus of the *OER Africa* grant, there is limited evidence in most project activities of any significant shifts in pedagogy yet. Typically, OER is still mostly being harnessed to support traditional pedagogies, even in cases where it forms part of a broader shift to e-learning. This does not mean that the work is not of value, especially noting the emphasis on harnessing OER to improve quality, but quality is still largely perceived in quite traditional terms. Of course, there are exceptions to this. For example, Onderstepoort is introducing use of OER to support a shift to a block teaching method in its flagship veterinary sciences degree programme, while ANU was introducing use of OER to develop distance education modules as part of an institutional expansion of that teaching and learning mode.

However, efforts to introduce innovation, even when initially successful are often slowly strangled by the weight of tradition and scale of bureaucracy. The most extreme example of this was possibly Unisa’s College of Accounting Science’s MOOC, which represented a highly ambitious attempt to introduce new ways of teaching and learning to supplement mainstream courses. Despite initial support, internal politics unrelated to the MOOC activity eventually led to the freezing of funds for the project. Related to this has been a reminder in projects in the time needed to complete work, especially those pertaining to course design and development. The time required is often surprising, even for those used to working in universities. This is not a criticism of project partners, but rather a reflection on the extent to which university staff in African universities face multiple competing demands on their time that constrain their ability to focus on activities of the kind being prioritized in the *OER Africa* partnerships. A key driver of this is the extent of academic administration now required in most universities, which occupies a significant (and possibly growing) portion of academics’ workload. Equally, it demonstrates that, at least structurally, there is relatively little weight attached to activities focused on improving teaching and learning, even where there is apparently strong in-principle commitment to it.

As a consequence, efforts to introduce and grow OER practices remain heavily reliant on individual champions. This can have highly disruptive consequences when that champion leaves, even where focus on OER has been introduced into institutional plans. For example, at Onderstepoort, OER activities are integrated into the Faculty Plan, but the departure of the Deputy Dean responsible for these activities has led to significant disruption and required extensive advocacy to seek to regain the momentum. In some cases, it is apparent that projects would not exist were at all it not for the OER Africa relationship, which raises some concerns about their sustainability at the end of the project.

#### Policy issues

Across all institutions, OER policy issues remain intertwined with ICT, IP/copyright, and human resource (HR) issues. 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. Nevertheless, policy development and/or review processes are underway at all institutions and largely appear on track to deliver sustained results in the form of adopted policies by the end of the project. The only possible concern to flag in a context in which policies from other institutions are readily accessible online is a slight tendency to rely a little too much on ‘copying’ of policies from elsewhere. Although this has the positive benefit of building on best practices, it sometimes comes at the expense of widespread policy consultation and discussion, which has potential to reduce ownership and effectiveness of policies once they are approved.

At all institutions, there is still much discussion about the incentives for academics to participate in OER practices and materials development for their course. This suggests that there is still a misalignment between OER practices and institutional priorities and HR policies. This problem is much bigger than OER, as it reflects the relatively weak status of teaching and learning as a core university function in relation to research and university administration, and it has the effect of people perceiving OER practices as ‘additional work’ rather than as a 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.

## Conclusion

The work done by *OER Africa* and its partner universities in the current grant reflects a diverse range of activities and approaches to investigating and institutionalizing those activities. It reflects a growing willingness amongst institutions to engage with the concept of OER and harness OER practices to improve quality, as well as 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. However, it also shows that universities still place relatively limited focus on the importance of improving teaching and learning practices relative to other academic activities (particularly research activities and academic administration) and have typically not established a strong culture of improving educational experiences for students through systematic research and investigation – and this remains this case despite 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 requiring that the cost materials development and renewal becomes a key line item in institutional budgets.

These problems create significant problems for driving effective pedagogical transformation, as they mean that such efforts have to fight against the weight of institutional culture and longstanding traditional practices, rather than operating within an environment in which a culture of improvement is structured into the processes and operations of the institutions. 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.

1. Pain, R. et al. Participatory Action Participatory Action Research Toolkit: An Introduction to Using PAR as an Approach to Learning, Research and Action. Durham University. [↑](#footnote-ref-2)