



**Research into Open Educational Resources for Development  
in Post-secondary Education in the Global South (ROER4D)**

**Proposal**

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## ***List of abbreviations***

<b>AG</b>	Advisory Group
<b>AVU</b>	African Virtual University
<b>CERI</b>	Centre for Educational Research and Innovation
<b>CET</b>	Centre for Educational Technology, University of Cape Town
<b>COL</b>	Commonwealth of Learning
<b>DPI</b>	Deputy Principal Investigator
<b>FGV</b>	Fundação Getulio Vargas
<b>IEP</b>	Instituto de Estudios Peruanos
<b>MoA</b>	Memorandum of Agreement
<b>MOOC</b>	Massive Open Online Course
<b>OCWC</b>	Open Courseware Consortium
<b>ODL</b>	Open Distance Learning
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OER</b>	Open Educational Resources
<b>OSF</b>	Open Society Foundation
<b>PI</b>	Principal Investigator
<b>PL</b>	Project Leader
<b>PSE</b>	Post-secondary education
<b>RCIPS</b>	Research Contracts and Intellectual Property Services unit at UCT
<b>ROER4D</b>	Research into Open Educational Resources for Development in Post-secondary Education in the Global South
<b>SAIDE</b>	South African Institute for Distance Education
<b>TBA</b>	To be advised
<b>TESSA</b>	Teacher Education in Sub-Saharan Africa
<b>UCT</b>	University of Cape Town
<b>UFE</b>	Utilization Focused Evaluation
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization

## 1 Executive summary

A number of challenges face post-secondary education in the 21st century in the so called political ‘Global South’, including ways to meet the growing demand for education in a context where universities and colleges are under financial pressure, have limited human resources and struggle to provide relevant, good quality and cost-effective teaching and learning materials. According to UNESCO (2011) secondary schools across the globe have been accommodating nearly one hundred million additional students every decade, with the total number growing by 60% between 1990 and 2009. Consequently demand for accessible, relevant, high-quality and affordable post-secondary education is increasing as more countries – especially in the Global South - approach universal primary education (UNESCO 2011).

Enabled by the ubiquity of the Internet, alternative intellectual property mechanisms such as Creative Commons, and the growing ‘open’ movement, the emergence of open educational resources (OER) has been hailed as a potentially fruitful response to some of the challenges faced by post-secondary education in the Global South. OER can be briefly defined as “teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and/or re-purposing by others”<sup>1</sup>.

Along with other ‘open initiatives’ such as open source software, open access, open data, open educational practices, massive open online courses (MOOCs), OER are increasingly becoming a visible phenomenon around the globe. OER have been made available through a range of OER initiatives, repositories and portals (e.g. MIT Open Courseware, Open University’s OpenLearn, Washington State’s Open Course Library, Khan Academy). As an indication of the expectation of the potential benefit of OER to widen access to quality education, UNESCO released the Paris OER Declaration at the World OER Congress in June 2012<sup>2</sup>, following on earlier calls for opening up education, e.g. the Cape Town Open Education Declaration<sup>3</sup>, funding allocated to OER development in the US<sup>4</sup> and more recent priorities identified by the European Commission (2012). A few governments in the Global South have developed, or are in the process of developing, policies that support open initiatives including open source software<sup>5</sup>, open access, open data<sup>6</sup> and more recently open educational resources<sup>7</sup>.

While some research is emerging on the use and impact of OER in addressing these pressing educational challenges, most of this research is happening in the Global North (Allen & Seaman 2012; Carson, Kanchanaraksa, Gooding, Mulder & Schuwer 2012). Research on the efficacy of OER in the Global South is embryonic and primarily focused on specific projects, for example the Teacher Education in Sub-Saharan Africa (TESSA)<sup>8</sup> project (Wolfenden, Buckler & Keraro 2012), the Health OER Inter-Institutional Project<sup>9</sup> (Harley 2011) and the OER project at the University of Cape Town (Hodgkinson-Williams, Paskevicius, Cox, Shaikh, Czerniewicz & Lee-Pan 2013). A recently published study on OER in Asia has yielded research on the extent and practice of OER use in higher education in Indonesia (Daryono & Belawati 2013), Malaysia (Abeywardena, Dhanarajan & Lim 2013), Pakistan (Malik, 2013), the Philippines (Arinto & Cantada 2013) amongst others. With respect to Latin America, Torres notes that OER is still in its early stages, but that the OportUnidad<sup>10</sup> project plans to provide a “comprehensive set of guidelines on pedagogical approaches,

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<sup>1</sup> Adapted from: <http://www.hewlett.org/programs/education-program/open-educational-resources>

<sup>2</sup> [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration\\_01.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf)

<sup>3</sup> <http://www.capetowndeclaration.org/>

<sup>4</sup> <http://www.doi.gov/opa/media/press/eta/eta20101436.htm>

<sup>5</sup> <http://www.info.gov.za/view/DownloadFileAction?id=94490>

<sup>6</sup> <https://opendata.go.ke/page/about>

<sup>7</sup>

[http://che.ac.za/documents/d000235/DHET\\_Draft\\_Policy\\_Framework\\_on\\_Distance\\_Education\\_in\\_South\\_African\\_Universities\\_May\\_2012.pdf](http://che.ac.za/documents/d000235/DHET_Draft_Policy_Framework_on_Distance_Education_in_South_African_Universities_May_2012.pdf)

<sup>8</sup> <http://www.tessafrica.net/>

<sup>9</sup> <http://www.oerafrica.org/healthoer/Home/tabid/1858/Default.aspx>

<sup>10</sup> <http://www.oportunidadproject.eu/>

technological solutions, organizational frameworks and procedures, institutional business models and cooperative models that are relevant to the development of OER initiatives” (2013:86).

Recent critiques of OER (Knox 2013a, 2013b) suggest that more robust OER research is required to move beyond the rhetoric and establish “if the provision of open educational resources (OER) can realistically overcome the educational gap and foster educational justice” (Richter & McPherson 2012: 201). A stronger evidence base on OER would allow governments in the Global South to move beyond the rhetoric based on appealing claims and propositions to evidence-based educational policies which effectively address the challenges faced by post-secondary education.

The general objective of this research programme is to improve educational policy, practice, and research in developing countries by better understanding the use and impact of OER. The specific objectives of the project are to (1) build an empirical knowledge base on the use and impact of OER focusing on post-secondary education; (2) develop the capacity of OER researchers; (3) build a network of OER scholars; and (4) communicate research to inform education policy and practice.

As a number of philanthropic foundations and a few governments have already committed substantial funding to OER initiatives, and international agencies such as UNESCO and the Commonwealth of Learning (COL) have called for extended commitment to OER, especially by countries in the Global South, it is necessary to search for evidence of how OER creation and use are influencing educational practices and policy in the Global South. This will help to ensure that education policy development initiatives and further expenditure by philanthropic foundations and governments are indeed achieving the outcomes of resourcing easily accessible, socially acceptable, high quality and affordable post-secondary education in the Global South.

Using desktop regional reviews, cross-regional surveys, cross regional and country case studies, action research studies and focused impact studies, the research activities and findings should help establish evidence of students and lecturers’ OER awareness, access, creation, use, non-use, reuse (revision, remix, redistribution) in a group of post-secondary institutions across South America, Sub-Saharan Africa and South East Asia.

## **2 Research problem and justification**

A number of challenges face post-secondary education in the 21st century both in the so called political ‘Global North’ and ‘Global South’. While some of them are similar, such as the increasing costs of post-secondary education and increasing costs of textbooks (Allen 2010), some of the challenges play themselves out differently in the different regions. For example with respect to textbooks the situation in the Global South is even more problematic where a large proportion of students either resort to piracy (especially in parts of Asia (Su, Lu & Lin 2011)) or depend on libraries where these are available. Wilson (2008) notes the inequalities of admission to education of those in less prosperous compared to those in prosperous countries.

### **2.1 Challenges facing post-secondary education in the Global South**

According to UNESCO (2011), secondary schools across the globe have been accommodating nearly one hundred million additional students every decade, with the total number growing by 60% between 1990 and 2009. Many students in the Global South desire post-secondary education, but are precluded due, in part, to the availability of post-secondary institutions, the cost of tuition and the cost of up-to-date learning materials that are appropriate to their context. Moreover post-secondary educators don’t always have sufficient time and/or expertise to prepare locally applicable materials that are up-to-date and in the language and/or form that best suits the learners’ needs. As countries approach universal primary education (UNESCO 2011), there is an increased demand for equitable access to relevant, high-quality and affordable post-secondary education especially in the Global South.

According to the ICDE 2009 Environmental Scan (IDCE 2009), given the combined population for Asia, South America and Africa, these regions would need to build a large number of traditional universities to reach a level of post-secondary penetration equal to that of developed countries. One of the concerns is that

the massive expansion of post-secondary education may “erode quality” (Dhanarajan & Abeywardena 2013:3). In addition to the demand for formal education, rapidly changing working environments in a period of economic instability are also increasing the need for informal learning and so-called ‘lifelong learning’. However, a range of barriers such as geographical remoteness, cultural norms, prior achievement, physical circumstances (Lane 2008), limited connectivity (Dhanarajan & Porter 2013) and lack of digital literacy (or digital fluency) (Lane 2009) may result in unequal access to post-secondary education further marginalising vulnerable groups. An additional challenge is the increasing cost of post-secondary education tuition, the growing cost of textbooks and the problems arising from student dropouts needing to seek a second chance at post-secondary education at a time when the global economic environment is very uncertain. On-going research work (e.g. UNESCO’s (2013) Education for All Global Monitoring Report) continues to highlight the variable quality of post-secondary education and the need for ways of improving the quality of education as the numbers of students in post-secondary education institutions increase. A particular challenge is the inordinate influence that institutions from the Global North exert on post-secondary education institutions, curricula and textbooks in the Global South. The power and wealth asymmetries between the Global North and Global South pose challenges to how post-secondary education in the Global South can be valued globally, yet be relevant locally and retain respect for unique cultures (see ICDE 2009; Richter & McPherson 2012).

## 2.2 Emergence of OER as a way to respond to some of the challenges

Enabled by the ubiquity of the Internet, alternative intellectual property mechanisms and the growing ‘open’ movement, the emergence of open educational resources (OER) has been hailed as a potentially fruitful way to respond to some of the many challenges faced by post-secondary education in the Global South. According to Geith and Vignare, OER “hold potential for helping to address the global demand for education, particular in higher education, by expanding access to experts, curriculum and learning materials” (2008: 1).

OER have been variously defined by international agencies, philanthropic organizations, institutions providing and using OER and researchers. According to the Hewlett Foundation, OER are “teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others”<sup>11</sup>. Wikipedia defines OER as being “freely accessible, openly formatted and openly licensed documents and media that are useful for teaching, learning, education, assessment and research purposes”. A more extensive definition is provided by Wiley, Green and Soares who conceive of OER as:

*“educational materials—textbooks, research articles, videos, assessments, simulations—that are either licensed under an open copyright license—for example, Creative Commons—or in the public domain. In both cases you have free (no-cost) access to the OER and free (no-cost) permission to engage in the “4R” activities when using them, including:*

- *Revise: adapt and improve OER so they better meet your needs*
- *Reuse: use the original or your new version of OER in a wide range of contexts*
- *Remix: combine or “mashup” OER with other OER to produce new materials*
- *Redistribute: make copies and share the original OER or your new version with others (Wiley, Green & Soares 2012:2).*

Although the term OER was coined during a UNESCO meeting in 2002 (UNESCO 2002), the concept is similar to other terms that preceded UNESCO’s attempt to standardise the term to optimise information sharing. These terms include “open content” (1998), “learning objects” (Wiley 2000), and “digital learning resources” (Margaryan & Littlejohn (2008) and “reusable digital learning resources” (Leacock & Nesbit 2007).

For this project OER will be defined as follows:

OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Examples of

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<sup>11</sup> <http://www.hewlett.org/programs/education-program/open-educational-resources>

OER include full courses, course materials, modules, textbooks, streaming videos, tests, software, massive open online courses (MOOCs) and any other tools, materials, or techniques use to support access to knowledge (adapted from Smith & Casserly, 2006: 8).

OER are increasingly being adopted as a way of widening access to quality and affordable educational opportunities through a range of OER initiatives, repositories and portals (e.g. MIT Open Courseware, Open University's OpenLearn, Washington State's Open Course Library, Khan Academy). Although access data provided by these various portals (e.g. MIT Statistics 2011, 2012<sup>12</sup>) indicate some access to these resources from countries in the Global South, the number of 'hits' do not explain how these materials are being used, by whom and to what effect in order to provide empirical evidence for the "widely shared belief that [OER] were going to be a fundamentally important phenomenon for the future of learning and education" (Tuomi 2013:59).

As an indication of the expectation of the potential benefit of OER to widen access to quality education, UNESCO released the Paris OER Declaration at the World OER Congress in June 2012<sup>13</sup>, following earlier calls for opening up education, e.g. the Cape Town Open Education Declaration<sup>14</sup>, funding allocated to OER development in the US<sup>15</sup> and more recent priorities identified by the European Commission (2012).

Recent critiques of OER (Knox 2013a, 2013b) suggest that more robust OER research is required to move beyond the rhetoric and establish "if the provision of open educational resources (OER) can realistically overcome the educational gap and foster educational justice" (Richter & McPherson 2012: 201). Most respondents to the Survey on Governments' Open Educational Resources Policies, which included many countries from the Global South, indicated that they were "not aware of research or studies on the contribution of OER to improving education, particularly on an official level" (Hoosen 2012). It is this paucity of research on the contribution of OER to improving education that triggered this research programme.

### **2.2.1 Potential of OER in increasing accessibility to post-secondary education**

Although it is hoped that OER may be a way of addressing the enrolment growth in post-secondary education in countries transitioning from developing to developed countries (Daniel, Kanwar & Uvalic-Trumbic 2006) sufficient evidence for this hope has not yet emerged.

However, despite the lack of evidence, OER initiatives in the Global South are developing quite rapidly. The African Virtual University for example, has collaboratively developed 219 teacher education modules in English, French and Portuguese (Diallo 2013) and host these OER their open education resources repository<sup>16</sup>. In China OER has generated considerable interest among distance educators in particular (Chen & Pandab 2013) and Hong Kong University reported over 7.7 million hits on its 'Free courseware' directory in 2008 (Wong & Yuen 2013). In Brazil, FGV Online has an open course that allows students to print their own completion certificate and so far nearly 2 million people have taken up this opportunity (Inamorato, Cobo & Costa 2012: 66). However, there are few published research reports on the use of these OER projects and how and for whom they are widening access to post-secondary education in the Global South and what the challenges of doing so might be.

Recent research on Sub-Saharan Africa from Wright and Reju suggests that while "OERs can serve those who may be geographically or financially disadvantaged ... it must be acknowledged that given the current lack of ICT infrastructure in Africa, the disparity between the haves and have-nots may be highlighted" (2012: 187). While there is no doubt that a lack of ICT infrastructure is a strong constraint of adopting OER, there is a need for further research on the up-take of OER using other technological devices. An example is the work of Mortera-Gutierrez (2010) from the Tecnológico de Monterrey in Mexico involving experimenting with

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<sup>12</sup> <http://ocw.mit.edu/about/site-statistics/>

<sup>13</sup> [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration\\_01.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf)

<sup>14</sup> <http://www.capetowndeclaration.org/>

<sup>15</sup> <http://www.dol.gov/opa/media/press/eta/eta20101436.htm>

<sup>16</sup> <http://oer.avu.org/>

alternative ways of delivering OER from one repository<sup>17</sup> through an indexed OER catalog<sup>18</sup> to mobile devices (Ipad, Iphone, MP3, MP4). It is unclear at this point whether different technological devices, such as the mobile phone, may make a substantial enough impact on students' access to OER and if this will lead to extending access to education in the Global South.

To determine a baseline level of “accessibility” to post-secondary Education, information about current and projected enrolment in post-secondary education in the Global South as well as current and projected access to the Internet, this study will draw on extant data from various published websites and/or reports (e.g. UNESCO Institute for Statistics<sup>19</sup>, UNESCO Global Flow of Tertiary Level Students<sup>20</sup>, Global Impact Study<sup>21</sup>) and the developing OER Repositories World Map<sup>22</sup> to complement the planned survey research.

### **2.2.2 Potential of OER in increasing the affordability of post-secondary education**

Although there are many costs in sustaining post-secondary education, the key way in which OER is suggested as a possible response is in the reduction in the cost of materials (d'Antoni 2009; Lane 2008). The belief is that reuse of teaching and learning materials can reduce some of the production costs by adapting, localising, translating existing materials or collaboratively developing materials. Open textbooks in particular have been the focus of ways to decrease costs for students given the rapidly increasing costs of textbooks (Wiley, Green & Soares 2012). Research in schools by Wiley, Hilton, Ellington and Hall (2012) suggests that adopting open textbooks can reduce costs by over 50%.

Other initiatives have explored the co-authoring (Okada et al. 2012) or collaborative development of OER in schools (Marcus-Quinn 2012) and in higher education (Lane 2012) as a way of lowering course development costs. One example of collaborative OER development is the TESSA project (Wolfenden, Buckler & Keraro 2012) in Sub-Saharan Africa. While there have been some other successes reported in the Global South, for example, Wright and Reju report that “students at the University of Nairobi and the Open University of Tanzania have reduced their textbook costs by using [African Virtual University] AVU OERs that are freely available online” (2012: 184), this potential benefit has not as yet been fully realised in practice (Hodgkinson-Williams 2010). The belief in the possibility of OER reducing cost has stimulated a range of sustainability models for OER (Downes 2007; Wiley 2007), but these have yet to be thought through and trialled for the Global South.

### **2.2.3 Potential of OER in improving the quality of post-secondary education**

OER are touted as having the potential to improve the quality of the learning materials themselves, the quality of learning outcomes, and the quality of teaching practice by opening up these materials and processes to formal peer-review or informal public scrutiny. An empirical study on the quality of OER learning materials and their reuse highlighted the importance of trust in resources, organizations, and technologies in how teachers perceive “quality” (Clements & Pawlowski 2012). Although Caswell, Henson, Jensen and Wiley (2008) hold that OER can improve the quality of learning, empirical studies in the Global South have yet to provide evidence of this promise. One of the key challenges is defining what “quality” includes. To this end Schuwer (2012) has undertaken some work to define minimum standards for “quality” materials in the Wikiwijs<sup>23</sup> initiative in the Netherlands.

Others have claimed that the use of OER can improve pedagogical practice (Casserly & Smith 2009) through collaborative development of materials, as well as by encouraging a shift in focus “from materials production to mentorship and facilitation” (Ossiannilsson & Creelman, 2012). But while there is some research on how exposure to OER resources and tools can support collaboration among teachers and encourage new conversations about teaching practices (Petrides, Jimes, Middleton-Detzner & Howell 2010), most of this has

<sup>17</sup> <http://catedra.ruv.itesm.mx/>

<sup>18</sup> <http://www.temoa.info/>

<sup>19</sup> <http://www.uis.unesco.org/Pages/default.aspx>

<sup>20</sup> <http://www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx>

<sup>21</sup> <http://www.globalimpactstudy.org/>

<sup>22</sup> <https://www.zeemaps.com/map?group=562530>

<sup>23</sup> <http://www.wikiwijs.nl/>

been undertaken in the Global North. Some successes in improved collaboration among teacher educators have been documented in the TESSA project (Wolfenden, Umar, Aguti, & Gafar 2010). But other research work has noted the existence of “socio-economic, cultural, institutional and national issues” that inhibit the realisation of OER’s “potential to make an immense contribution to teaching and learning in Sub-Saharan Africa” (Ngimwa & Wilson 2012).

To determine the ‘quality’ of post-secondary education that OER are touted to improve, this study will draw upon existing definitions of ‘quality’ (e.g. UNESCO/IIEP)<sup>24</sup> and use these in the questionnaires and/or interviews to develop measures for defining ‘quality’ of post-secondary education and ‘quality’ of OER. The latter has been addressed to some extent by OER researchers (e.g. Sanz, Dodero & Sánchez 2011) and researchers investigating the quality of learning objects (Kay & Knaak 2009).

#### **2.2.4 Potential of OER in enhancing the relevance of post-secondary education**

One of the key affordances OER is said to offer is that they can more easily be adapted to local needs so that materials can be made available in the language of choice using examples meaningful to local students. In her doctoral dissertation on OER localization in Nepal, Ivins (2011) provides some evidence on why localization is so important. Although the OECD (2007) has championed OER as a public good sometimes with specific mention of the Global South, Lane points out that OER can be seen as as ‘gifts’, and “gifts are not always wanted and not always useful to the intended recipient” (2008:2). Relevance seems to be associated with a range of other issues including social acceptance and need for self-determining curricula.

Although some key barriers to social acceptance have been highlighted in research studies, such as the “not-invented here syndrome” (Stacey 2010), there is still a range of social acceptance issues that need to be understood about OER adoption in the Global South. Richter and McPherson suggest that “OER will be of value for learners only if they fit the learners’ own context and are thus genuinely reusable or at least fully adaptable” (2012: 202).

In their report West and Victor state that “the sharing of OER cannot be a one way flow from industrial countries to the developing world. Both ‘worlds’ have knowledge to be shared with each other” (2011: 49). Due to the affordances of the Internet, countries in the Global South technically do not have as many barriers to contributing to global teaching and learning materials as in the more expensive paper-based environment. But whether and how OER can disrupt the usual flow of knowledge from the Global North to the Global South needs further exploration.

To determine the ‘social relevance’ of post-secondary education, previous research will be used to define potential measures of ‘relevance’ (e.g. World Bank project on Higher Education for Relevance and Efficiency<sup>25</sup>) in the questionnaires and/or interview schedules.

### **2.3 Adoption of OER in the Global South**

When describing how much traction OER has gained in post-secondary education the Global South, authors are still grappling with the seminal construct that describes OER practices including awareness of, access to, use of and various types of reuse such as revise, remix, redistribute, as well as OER policy development and implementation. Some studies have opted for “adoption” (Abeywardena, Dhanarajan & Chan 2012; Ngimwa & Wilson 2012), “adoption and use” (Barrett, Grover, Janowski, van Lavieren, Ojo & Schmidt 2009) and “diffusion and adoption” (Lane & van Dorp 2011). In this proposal we use “adoption” as the overarching construct to denote the wide range of OER practices and policy development.

On the basis of the anticipated benefits of OER, a number of philanthropic agencies (e.g. Hewlett Foundation), government ministries or agencies, non-governmental organisations and further education institutions have invested a great deal of time and money in promoting and supporting OER. Globally, multi-national agencies such as UNESCO and COL have been encouraging governments to develop policies to

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<sup>24</sup> [http://www.iiep.unesco.org/fileadmin/user\\_upload/Cap\\_Dev\\_Training/Training\\_Materials/HigherEd/EQA\\_HE\\_4.pdf](http://www.iiep.unesco.org/fileadmin/user_upload/Cap_Dev_Training/Training_Materials/HigherEd/EQA_HE_4.pdf)

<sup>25</sup> <http://documents.worldbank.org/curated/en/2012/12/17115990/indonesia-higher-education-relevance-efficiency-p085374-implementation-status-results-report-sequence-10>

promote OER and individuals to contribute to and use OER (see Paris Declaration). Empirical evidence on the use and impact of OER adoption in the Global South is necessary to inform government and institutional educational policy development, advocacy work, grant making, technological development for OER as well as the practice of educators and students in formal and informal contexts. This evidence is of particular importance to developing countries that are socio-economically challenged and see OER as a possible way of responding to the demands for easily accessible, relevant, high-quality and affordable post-secondary education. In addition, this evidence will contribute to the fairly limited body of scholarly knowledge about OER in the Global South and in the process develop the research capacity of a network of researchers in the Global South.

### 2.3.1 OER initiatives in the Global South

A number of OER initiatives and projects have been conceived and implemented in the Global South in the last decade. The Policies for OER Uptake Project (POERUP)<sup>26</sup> which aim to understand how governments can stimulate the uptake of OER by policy means has included reviews of the OER initiatives of several countries in the Global South.

In South America there are a number of OER initiatives, such as the following in Brazil: *Veduca, Teacher's Portal8 (Portal do Professor), International Database of Educational Resources (Banco Internacional de Objetos Educacionais, Interactive Virtual Network of Education – Rede Interativa Virtual de Educação), SENAI, SEBRAE, UNICAMP, and FGV Online.*

In Africa too there are a number of cross-country OER initiatives in the post-secondary sector including African Virtual University (AVU)<sup>27</sup>, OER Africa<sup>28</sup> and MERLOT Africa Network (MAN)<sup>29</sup>, as well as cross-country OER projects, such as the Teacher Education in Sub-Saharan Africa (TESSA)<sup>30</sup> and Health OER Inter-Institutional Project<sup>31</sup>. There are also cross-institutional OER projects such as the ACEMaths Project<sup>32</sup>, and institution-specific OER initiatives such as UCT OpenContent<sup>33</sup> and UNISA Open<sup>34</sup>.

In Asia Dhanarajan and Porter highlight the very large National Core Courses project (Jingpinke) in China, and note that the Virtual University of Pakistan has placed nearly 6,000 hours of course material on YouTube and India's National Programme on Technology Enhanced Learning has uploaded on the Web over 260 courses in text and video formats (2013: vii).

### 2.3.2 Research on OER adoption in the Global South

However, research into the use of OER in the Global South has followed only gradually. Some research studies have been part of other international OER research efforts, for example the COL/UNESCO Survey on Governments' OER Policies (Hoosen 2012), while others have been part of Global North & South inter-institutional OER projects, such as the TESSA project (Thakrar, Zinn & Wolfenden 2009; Wolfenden, Buckler & Keraro 2010; Wolfenden, Umar, Aguti & Gafar 2010), and the OER Health Project (Harley 2011). Some research has been initiated in the Global South, for example Hodgkinson-Williams and Paskevicius' (2012; 2013) which investigated ways in which senior students can assist academics in adapting existing materials into OER. However, this body of research is still fairly limited and much of it has been undertaken either by researchers from the Global North (for example: Hatakka 2009) or led by researchers from the Global North (for example: Wolfenden 2008) or is still quite limited in scope. There is therefore a need to encourage OER research undertaken by researchers from the Global South and to build a community of OER scholars in the Global South.

<sup>26</sup> [http://poerup.referata.com/wiki/Main\\_Page](http://poerup.referata.com/wiki/Main_Page)

<sup>27</sup> [www.avu.org/](http://www.avu.org/)

<sup>28</sup> [www.oerafrica.org](http://www.oerafrica.org)

<sup>29</sup> <http://man.merlot.org>

<sup>30</sup> <http://www.tessafrica.net/>

<sup>31</sup> <http://www.oerafrica.org/healthoer/Home/tabid/1858/Default.aspx>

<sup>32</sup> <http://www.oerafrica.org/acemaths/ACEMathsProjectHome/tabid/132/Default.aspx>

<sup>33</sup> <http://opencontent.uct.ac.za/>

<sup>34</sup> <http://www.unisa.ac.za/default.asp?Cmd=ViewContent&ContentID=27721>

In addition, much of the research is conceptual or anecdotal and not often deeply theorised beyond a description of OER adoption. There is therefore a need for more empirically sound research that endeavours to explain, and not just describe, the issues surrounding OER adoption and specifically how its use may be addressing educational challenges.

Theoretical frameworks embraced in some of the OER research in the Global North provide useful ways of explaining OER adoption. Pegler (2012) used Herzberg's theory of motivation to explain motivation to share and use OER; McAndrew (2011) used Activity Theory to explain changes within the educational environment; and Arendt and Shelton (2009) used Rogers' perceived innovation attributes to understand incentives and disincentives for the use of OER. In the Global South some recent research has adopted a Bourdieusian perspective (Olakulehin & Singh 2013), Activity Theory (Cox 2012), and Engeström's layers of causality (Hodgkinson-Williams & Paskevicius 2012). None have yet surfaced the key generative mechanisms underpinning the OER movement nor how it might be sustained over the long term.

In order to ascertain the rate of OER adoption and the circumstances under which OER are being used and how its use may be impacting upon education in expected and unintended ways, it is necessary to gather empirical data about the adoption of OER in the Global South.

### **3 Objectives & research questions**

#### **3.1 General objective**

The general objective of this research programme is to improve educational policy, practice, and research in developing countries by better understanding the use and impact of OER.

#### **3.2 Specific objectives**

The specific objectives of the project are to:

1. Build an empirical knowledge base on the use and impact of OER focusing on post-secondary education
2. Develop the capacity of OER researchers
3. Build a network of OER scholars
4. Communicate research to inform education policy and practice.

#### **3.3 Research questions**

The overall research question that will guide the ROER4D project is:

*In what ways, and under what circumstances can the adoption of OER address the increasing demand for accessible, relevant, high-quality and affordable post-secondary education in the Global South?*

The subsidiary questions include:

- How aware of OER are students and lecturers and what factors enable or constrain OER awareness?
- What OER do they access and why, and what factors enable or constrain OER access, discoverability and frequency of use?
- What OER are lecturers and/or students creating and why, and what factors enable or constrain OER creation, licensing, curation and distribution?
- Why are students and lecturers using or not using OER?
- How and why are students and lecturers reusing, revising, remixing, redistributing OER and what factors enable or constrain OER reuse, curation of derivative works and re-distribution?
- What are students and lecturers' perceptions of the value of OER in addressing key educational challenges?
- What is the impact of changes in practices and/or education policy following the adoption OER?

#### **3.4 Overview of projects, outputs and outcomes**

Table 1 provides a summary of the 12 projects their anticipated outputs and associated outcomes.

**Table 1: Specific objectives, outputs and outcomes. Shaded sections correspond to sub-projects with some collaborative elements**

Objective	Project	Specific projects	Outputs	Outcomes
1	#1	Desktop research of existing literature OER initiatives, policies and research in each of the regions <i>Asia: Prof Raj Dhanarajan</i> <i>Sub-Saharan Africa: Jenny Louw</i> <i>South America: Marian Eguren</i>  <i>Project Mentor: Patricia Arinto, University of the Philippines Open University</i>	Three regional reports on OER projects, policies, research & researchers in the Global South	Use as background information for the researchers in the various regions in the ROER4D project and to contribute to the knowledge base to benchmark OER activity in these regions during the period 2013-2016.
1, 2, 3, 4	#2	OER Survey in South America, Sub-Saharan African and South East Asia <i>Project Lead: Jose Dutra University of Sao Paulo, Brazil</i>  <i>Project Mentor: George Sciadas, Statistics Canada and Stavros Xanthopoulos, FGV, Brazil</i>	Survey instruments in at least three languages that can be used to ascertain creation, awareness, access, reuse & perceived value of OER by lecturers and students A cross-regional report on a cross-regional survey from selected countries in South America, South East Asia and Sub-Saharan Africa Three regional reports, one from each of the regions to highlight specific policy and practice recommendations Nine country reports – 3 from each of the regions	Contribute to the knowledge base by creating survey instruments that can be used across most of the projects in this study and be available for use by other OER researchers  Contribute to the knowledge base by establishing the current awareness of OER, access to various OER repositories, types of OER use (creation, use, reuse, curation and distribution) to provide empirical evidence to policy makers at government and institutional level of actual OER uptake of OER by post-secondary education lecturers and students in selected countries in the Global South
1 2 3 4	#3	Teachers' attitudes, motivation and conceptions of quality and barriers to OER in India <i>Project Lead: Sanjaya Mishra Commonwealth Educational Media Centre for Asia, India</i>  <i>Mentor: Prof. Cheryl Hodgkinson-Williams</i>	A country report (India) on factors enabling and/or constraining post-secondary education lecturers' creation, reuse, curation and distribution of OER A cross-country report (India & South Africa) on factors enabling and/or constraining post-secondary education lecturers' creation, reuse, curation and distribution of OER ( <i>Projects 3 &amp; 4</i> )	Contribute to the knowledge base by establishing the reasons why lecturers choose to create, reuse, curate, distribute OER or not to highlight how personal, institutional, legal, cultural, technological issues need to be addressed to optimise the uptake of OER by lecturers
	#4	Research into the social and cultural acceptability of OER in South Africa <i>Project Lead: Glenda Cox</i>	A country report (South Africa) on factors enabling and/or constraining post-secondary education lecturers' creation, reuse, curation and distribution	

		<p><i>University of Cape Town, South Africa</i></p> <p><i>Mentor: Prof. Cheryl Hodgkinson-Williams</i></p>	<p>of OER</p> <p>A cross-country report (India &amp; South Africa) on factors enabling and/or constraining post-secondary education lecturers' creation, reuse, curation and distribution of OER (<i>Projects 3 &amp; 4</i>)</p>	
1 2 3 4	#5	<p>Collaborative co-creation of OER by teacher educators and teachers in India: A participatory action research study</p> <p><i>Project lead: Guru Kasinathan</i></p> <p><i>IT for Change, Bengaluru, India</i></p> <p><i>Mentor: Dr Savithri Singh</i></p>	<p>One country report detailing a model of OER creation, reuse, curation and distribution (India)</p> <p>A cross-country report (India, Colombia, and Malaysia) detailing a model of OER creation, reuse, curation and distribution (<i>Project 5, 6 &amp; 7</i>)</p> <p>A website detailing the OER model – possibly in more than one language (<i>TBA</i>)</p>	<p>Build capacity and contribute to the knowledge base explaining how teacher educators co-create OER and by developing a model for OER creation, reuse, curation and distribution by others in the Global South or elsewhere</p>
	#6	<p>Collaborative co-creation of OER by teacher educators and teachers in south-western Colombia: A participatory action research study</p> <p><i>Research lead: Pilar Saenz</i></p> <p><i>Karisma Foundation</i></p> <p><i>Mentor: Dr Savithri Singh</i></p>	<p>One country report detailing a model of OER creation, reuse, curation and distribution (Colombia)</p> <p>A cross-country report (India, Colombia, and Malaysia) detailing a model of OER creation, reuse, curation and distribution (<i>Project 5, 6 &amp; 7</i>)</p>	
	#7	<p>Models of reuse of OER by curriculum developers, teacher educators and teachers: A participatory action research study ... institutions in Malaysia and India</p> <p><i>Research Lead: Mohan Menon</i></p> <p><i>Wawasan Open University, Malaysia</i></p> <p><i>Mentor: Dr Savithri Singh</i></p>	<p>One cross country report detailing a model of OER creation, reuse, curation and distribution (Malaysia and India)</p> <p>A cross-country report (India, Colombia, and Malaysia) detailing a model of OER creation, reuse, curation and distribution (<i>Project 5, 6 &amp; 7</i>)</p>	
1 2 3	#8	<p>Exploring the cultural-historical factors that influence OER adoption: The case of Mongolia's higher education sector</p> <p><i>Project lead: Batbold Zagdragchaa</i></p> <p><i>Mentor David Porter, BCcampus, Canada</i></p>	<p>A country report (Mongolia) detailing governmental, institutional and individual lecturer-level enablers and constraints for OER adoption</p>	<p>Influence policy by providing recommendations for national and institutional policy and build capacity and contribute to the knowledge base by developing a model of OER practice for lecturers</p>
1 2 3	#9	<p>Use of OER in developing the logical-mathematical, literacy, science and critical thinking skills of first year higher education students</p> <p><i>Project lead: Werner Westerman</i></p> <p><i>Instituto Profesional Providencia, Chile</i></p>	<p>A case-study report on student use of OER to develop the logical-mathematical, literacy, science and critical thinking skills and in educational practices.</p>	<p>Influence practice by establishing a didactic model for the use of OER</p> <p>Influence policy by providing recommendations for national and institutional policy</p>

		<i>Mentor Prof Fred Mulder</i>		
1 3	#10	Impact of the use of OER <i>Call for research to be issued</i>  <i>Mentor: Prof Fred Mulder</i>	Three pilot impact studies that provide evidence on the impact of the use of OER on cost savings, teaching practice, student performance and/or policy change	Inform policy-makers and funders about the impact of the use of OER on cost savings, teaching practice, student performance and/or policy change
1 3	#11	Mapping education expenditure – Africa <i>TBA</i>  <i>Mentor: Carolina Rossini</i>	Country report Regional meeting General report	Inform plicy makers and funders about the funding flow from public sources into educational resource acquisition and development
1 2 3	#12	<b>FUNDER: Open Society Foundation</b> Mapping education expenditure – Latin America <i>Research lead: Carolina Botero</i> <i>Karisma Foundation</i>  <i>Mentor: Carolina Rossini</i>	Country report Regional meeting General report	Inform plicy makers and funders about the funding flow from public sources into educational resource acquisition and development
1 2 3 4		Envisioned title of the consolidated report, but this will be dependent upon the Sub-Projects A cross-regional meta-analysis of the use and impact of OER by students and lecturers in post-secondary education in the Global South: An interplay of agency, structure and culture <i>Project lead: Cheryl Hodgkinson-Williams</i>	A cross-regional meta-analysis of the desktop analysis, surveys, case studies and action research studies, providing a theorised account of the current use and impact of OER for post-secondary education in the Global South explaining how and why the OER practices of students and lecturers are being inhibited or facilitated by various infrastructural, personal, technical, legal, pedagogical, socio-cultural and economic factors and what impact on policy and practice can be determined.	Contribute to the knowledge base by providing a theorised explanation of OER for development for post-secondary education in the Global South Influencing policy by providing a consolidated set of policy recommendations for international agencies, philanthropic foundations, governments and post-secondary education institutions and model/s of useful practice of OER adoption

## 4 Methodology

### 4.1 Research orientation

As most of the sub-projects either explicitly or implicitly hold critical realist assumptions, the overall study will adopt a critical realist ontology, in other words “there is a world existing independently of our knowledge of it” (Sayer 2000:2). Given that critical realists refute the notion that we can have objective or definite knowledge of the world, it follows that there are always alternative theoretical explanations of the research interest. Critical realism is what Bhaskar refers to as “epistemically relativist” (1998:6) which asserts that “all beliefs are socially produced, so that all knowledge is transient, and neither truth-values nor criteria of rationality exist outside of historical time” (2005:62-63). Consequently in this study various theories will be used in the projects to explain particular aspects of OER adoption in the Global South. As “critical realists accept the claim that all epistemological claims are temporally and spatially located” (Wight 2003:202), this study does not undertake to uncover the ‘truth’, but to provide an evidenced-based account of ways in which the creation and use of OER in particular circumstances may address the increasing demand for accessible, relevant, high-quality and low cost post-secondary education in the Global South.

### 4.2 Conceptual and theoretical framework

The foregoing discussion on the challenges facing post-secondary education, the potential benefits to students, lecturers and governments that may accrue from the widespread adoption of OER, and the various constraints

that would need to be addressed suggest that we need to better understand at least seven broad dimensions of OER practice:

- Awareness of OER
- Access to OER
- Creation of OER
- Use or non use of OER
- Reuse of OER
- Perceived value of OER
- Impact of the use of OER on cost savings, teaching practice, student performance and/or policy change

These practices are likely to be enabled by some factors and constrained by others. Broadly speaking the existing literature seems to cluster these factors as:

- Personal
- Technical
- Legal
- Pedagogical
- Institutional
- Socio-cultural
- Economic

#### **4.2.1 OER practices**

##### **4.2.1.1 Awareness of OER**

In order for OER to fulfil its potential (ICDE 2013), students and educators need in the first instance to be aware of OER. A small-scale study at De Montfort University, Leicester in the UK found that only 18% of lecturers were aware of OER (Rolfe 2012) and a recent survey of academic leaders in the US indicated that they are “at least somewhat aware of OER” (Allen & Seaman 2012:2). No such study has yet been undertaken in the Global South among academic leaders, educators or students. The concept of awareness is used very broadly in the studies mentioned and in other OER online surveys<sup>35</sup> and is understood to mean an awareness of the open movement in general (e.g. open source software), the concept of open educational resources in particular (not necessarily the actual term), OER repositories or portals and alternative licensing systems and in particular the concepts of reusing, re-mixing and sharing legally.

##### **4.2.1.2 Access to OER**

In this proposal the term “access” refers to the availability of technological infrastructure (hardware, software, connectivity, IT services), repositories (global and/or institutional portals and repositories) and mechanisms (computers, tablets, mobile phones etc.) which enable ‘physical access’ (Czerniewicz & Brown 2006) or ‘material access’ (van Dijk 2005) to OER. Although not directly used in this proposal, access issues could also refer to ‘epistemological access’ (i.e. propositional or more abstract forms of knowledge) (Lotz-Sisitka 2009) and ‘skills access’ (van Dijk 2005). Access can also refer to what van Dijk (2005) refers to as ‘usage access’, which includes the duration of use (‘usage time’) and the number and diversity of materials used.

##### **4.2.1.3 Creation of OER**

While much of OER to-date has emanated from the Global North, this study will endeavour to establish to what extent and what types of OER are being created by lecturers and/or students in the Global South and identify the constraints and enablements that either impede or facilitate the development of OER “from scratch” (Omollo, Rahman & Yebuah 2012). In this proposal the term “creation” of OER refers to the production of digital teaching and learning resources that are intended from the beginning to be shared openly and under some type of licence that allows reuse - more colloquially, teaching and learning resources that are ‘born open’. The creation of OER could be undertaken by individual educators and/or students or

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<sup>35</sup> <http://www.surveymonkey.com/s/oersurvey> and <http://www.surveymonkey.com/s/WRLS7FT>

collaboratively. Three important issues in relation to creation of OER are alternative licensing, curation or digital storage with appropriate metadata (e.g. author, licence, version) and distribution.

#### 4.2.1.4 Use or non use of OER

“Use” of OER is an umbrella concept for all types of OER reuse or specifically reuse of OER “as is” – without any changes (Sapire & Reed 2011). Some research has been done on “disincentives” of using OER and these include lack of professional support, lack of valid certification, lack of suitably designed content and lack of awareness of how to best use OER (Arendt & Shelton 2009).

#### 4.2.1.5 Reuse of OER

The reuse of OER is at the heart of the value proposition of OER and the term “reuse” has been variously defined by Wiley, Green and Soares (2012), White and Manton (2011) and Okada et al. (2012). White and Manton use the “5 D” heuristic – “deciding, discovering, discerning, designing and delivering” (2011: 10-14). Okada et al. (2012) recently elaborated upon the “4Rs” of OER use (Wiley, Green & Soares 2012) and they provide a useful starting point for understanding the complexities of reusability. They posit four levels of reusability with 12 variations of ways of reusing OER. This forms the basis of what the term “reuse” refers to in this proposal (Table 2).

**Table 2: Levels of reusability (adapted from Okada et al 2012)**

Levels of reusability	Ways of reusing OER
Recreate content & contribute to new productions	Re-authoring: Transforming the content by adding your own interpretation, reflection, practice or knowledge
	Contextualizing: Changing content or adding new information in order to assign meaning, make sense through examples and scenarios
	Redesigning: Converting a content from one form to another, presenting pre-existing content into a different delivery format
Adapt part of the content	Summarising: Reducing the content by selecting the essential ideas
	Repurposing: Reusing for a different purpose or alter to make it more suited for a different learning goals or outcome
	Versioning: Implementing specific changes to update the resource or adapt it for different scenarios
Adopt same content, but adapt structure, format, interface or language	Translating content from one language into another
	Personalising: Aggregating content to match individual progress and performance
	Re-sequencing: Changing the order or sequence
Adopt same content (whole, part or combination)	Decomposing: Separating content in different sections, breaking up content into parts
	Remixing: Connecting the content with new media, interactive interfaces or different components
	Assembling: Integrating the content with other content in order to develop a module or new unit

Three issues not directly addressed in Table 2, but indirectly referred to in the Okada et al (2012) paper is the pre-reuse process of deciding on quality and the process post reuse, i.e. storage and metadata provision (Andreatos & Katsoulis 2012) or what can be called curation and sharing or re-distribution of the derivative OER.

#### 4.2.1.6 Perceived value of OER

Although it would be ideal to be able to ascertain actual student learning outcomes and/or lecturers’ teaching practice in relation to OER use, this is quite difficult to undertake methodologically in most of the sub-projects. An alternative is to ascertain student and lecturer perceptions of the value of OER to their learning and teaching. Some of the possible value of OER that have been highlighted in empirical studies in the Global North include “enhancing teaching practice”, “contributing to professional networks or communities” and “improving support to students” (White & Manton 2011: 25). Other studies include “saving teacher effort”,

“benchmarking their own practice” and “presenting content in different ways to address students’ interests and preferences”, amongst others (Masterman & Wild 2011).

#### **4.2.1.7 Impact of the use of OER**

As impact studies are quite difficult to undertake methodologically and particularly within the time frame and resources of this proposed project, the focus on “impact” will be restricted to tightly designed empirical studies focusing the impact of the use of OER in relation to student performance or achievement, student retention, teacher practice, material quality and policy change.

### **4.2.2 Factors that may constrain or enable the adoption of OER**

#### **4.2.2.1 Personal**

Research is emerging around the constraints or barriers to the adoption of OER in post-secondary education that have to do with a personal disposition towards OER. From studies in the Global North such barriers to OER adoption include the lack of awareness (Rolfe 2012), “lack of 'opening up' to people's thinking around OERs” (De Liddo 2010: 3178), a lack of motivation (Pegler 2012), and a hesitancy to use other lecturers’ content (Petrides, Nguyen & Karaglani 2008).

#### **4.2.2.2 Technical**

Although the ubiquity of the Internet enables the sharing of OER, research in the Global North has identified the lack of knowledge about online tools for the creation of teaching and learning materials (Highton 2012), and lack of IT support (Rolfe 2012) as some of the technical issues that inhibit the adoption of OER.

Research from Africa has highlighted the challenges of “web connectivity, bandwidth, availability of peripherals (such as printers) ... [which] restricts users’ ability to share adaptations and iteratively improve the resources” and the lack of web skills which “vary greatly from locality to locality” (Thakrar, Zinn & Wolfenden, 2009).

Research in Asia has established that inability to effectively search and locate specific, relevant and quality OER from the various disconnected and disparate OER repositories ... has become an inhibitor to wider adoption of OER especially in the Asian region” and that the “inability of mainstream searching mechanisms, such as online search engines, to accurately distinguish between an OER and a non-OER material becomes a major hurdle” (Abeywardena, Dhanarajan & Chan 2012:7). From an African perspective, Wright & Reju highlight the need for “producing resources in interoperable and open formats” (2012:1).

#### **4.2.2.3 Legal**

In theory the development of alternative intellectual property rights mechanisms such as Creative Commons enable free use or re-purposing of OER by others (Bissell 2011). However, studies in the Global North have identified a number of legal issues that may constrain the adoption of OER including confusion over copyright (Rolfe 2012), the lengthy and costly process of clearing copyright (Dos Santos & McAndrew, 2010) and even the perception that there is no need for licensing that allows for sharing since educators “consider everything available in the Internet as being public – even their own products” (Richter & Ehlers, 2011:1).

#### **4.2.2.4 Pedagogical**

While much of the initial focus of OER initiatives was on increasing accessibility to teaching and learning materials, Ehlers recommends that this focus needs to be extended “beyond access, to include ‘innovative open educational practices’ (OEP)” (2011: 1). Subsequently a great deal of work has been undertaken in the Global North about opening up pedagogical practices using OER (Conole 2012). Petrides et al’s study revealed that “teachers’ engagement with OER has the potential to support enhanced teacher collaboration and curriculum development activities as well as information sharing about resources, practices, and teaching challenges” (2010:5) by encouraging a shift in focus “from materials production to mentorship and facilitation” (Ossiannilsson & Creelman, 2012).

Work on the TESSA project in Sub-Saharan Africa has also indicated the value of collaboratively developing OER (Wolfenden, Buckler & Keraro 2012) and the possibilities of pedagogical change (Murphy & Wolfenden 2013).

#### **4.2.2.5 Institutional**

Reflecting on OpenLearn in the UK, Dos Santos and McAndrew identify the importance of the “institutional acculturation process” (2010: 1) in sharing OER, while researchers in Australia have identified the importance of institutional policy for promoting OER (Bossu 2010). The role of OER institutional policies at the Open University of Sri Lanka has also been noted by Liyanagama and Vidanapathirana (2012) and by Tagoe, Donkor, Adanu, Opare-Sem & Engleberg (2010) at the University of Ghana.

#### **4.2.2.6 Socio-cultural**

A paper by Willems and Bossu (2012) highlights equity considerations as potential barriers to student uptake of OER and amongst others include concerns about the language of instruction, and the contextualization and localization of materials. Others identify organisational issues within institutions. Olakulehin and Singh specifically caution that to “deliver on the visionary goals of openness in HE in developing countries, a social theoretically informed research agenda to develop strategies for [Open Distance Learning] ODL/OERs to resolve and mediate the contradictory tensions between HE policies and practices of openness and access is urgently needed” (2013: 38).

A recent study in Brazil highlighted “concerns related to culture and inequity within the OER movement” (Amiel 2013) and Ngimwa & Wilson noted the existence of “socio-economic, cultural, institutional and national issues” that inhibit the realisation of OER’s “potential to make an immense contribution to teaching and learning in Sub-Saharan Africa” (2012:398). Ngugi concludes her paper by suggesting that “there is need to avoid a culture of dependency; African institutions must be more than consumers; they also need to be generators of new knowledge and the means of sharing that knowledge” (2011:284).

#### **4.2.2.7 Economic**

The reduction in the cost of materials is often cited as a potential benefit of OER (Wiley, Green & Soares 2012; d’Antoni 2009; Lane 2008). One way in which OERs are believed to be reducing costs is by reducing duplication and allowing for the distribution of materials at almost no cost (Wiley, Green & Soares 2012). However, some of the factors that seem to inhibit the potential cost reductions include a lack of financial incentives and staff support for the adoption of OER (Willems & Bossu 2012).

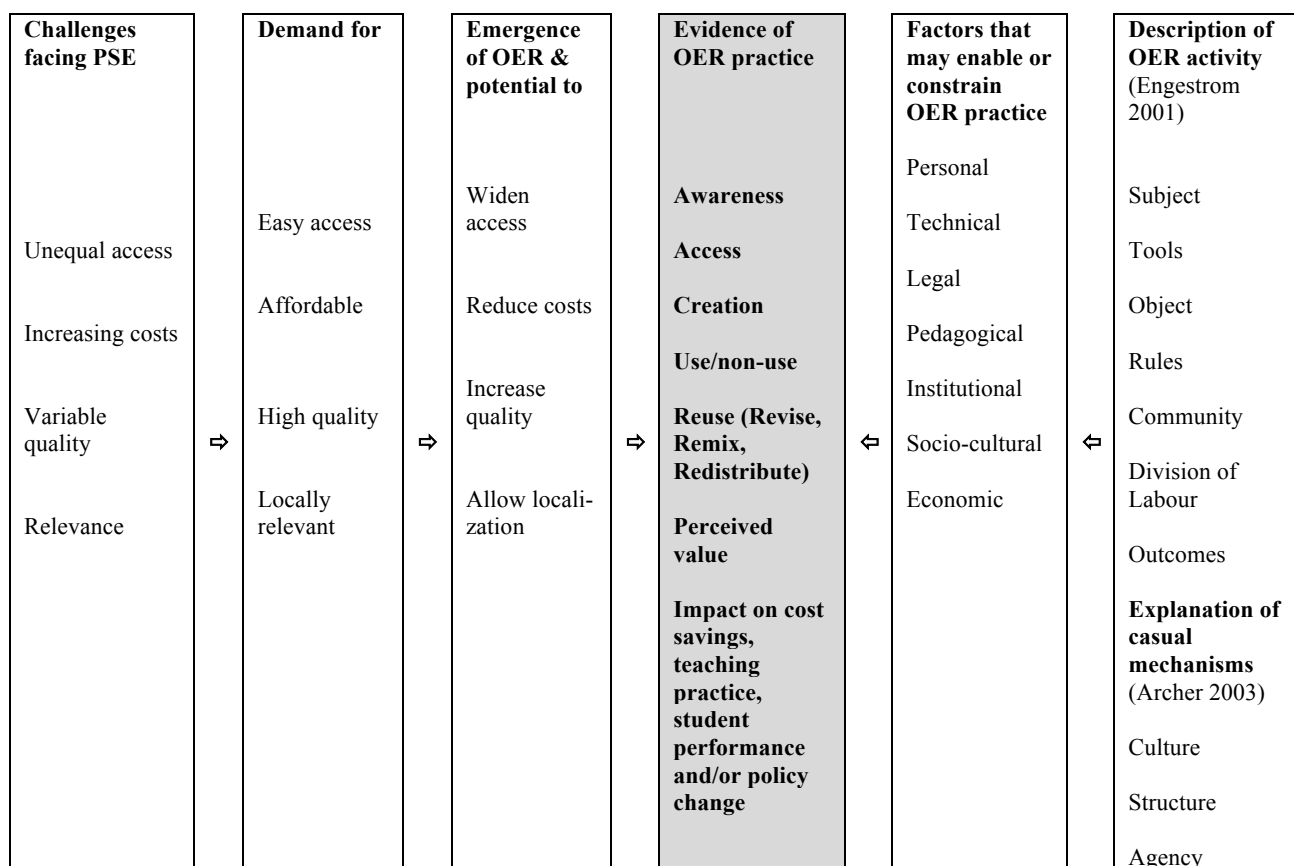
Studies in Africa have noted the time constraints for lecturers in the process of “locating materials, familiarisation, reflection, and in some cases experimentation of how OERs can be integrated into courses and programmes” (Thakrar et al. 2009).

### **4.2.3 Theoretical framing of OER practices and enabling or constraining factors**

As a number of the projects have adopted Activity Theory (Engeström 2001) as a way of describing the particular aspects of OER which they are investigating, the overall project will adopt this framework, where suitable, across the broader project. However, as Activity Theory has some limitations in terms of explanatory power (Wheelahan, 2007), the critical realist inspired social realist theory of Archer (2003) will be used to explore the casual mechanisms underlying the various OER practices so that future OER interventions can take cognisance of why certain practices are taking place or not and why certain factors are either inhibiting or facilitating optimal uptake of OER. In particular the study will endeavour to understand the interplay between culture, structure and agency and how this influences OER adoption in the Global South. Depending on the findings from the sub-projects, it will be useful to explore, amongst other issues, the influence of the emerging “open culture” on student and lecturers’ decisions to create and/or use OER; the influence of international, national or institutional structures (e.g. alternative copyright mechanisms, funding opportunities, incentives) on lecturers’ willingness to share OER; and the influence of “personal reflexivity” (Archer 2003: 9) in relation to OER adoption.

The broad conceptual framework is provided in Figure 1.

**Figure 1: Broad conceptual framework**



### 4.3 User participation

A number of colleagues from UNESCO, COL, the Hewlett Foundation, OSF, OCWC and Creative Commons have had sight of draft versions of this proposal and/or have participated in the 2<sup>nd</sup> Roundtable meeting in Jakarta in January 2013 or participated in an Advisory Group meeting in Bali in May 2013. In the preparation of the sub-projects, some of the Project Leaders have been able to directly involve government officials (e.g. Sub-project 8 in Mongolia). It is anticipated that representatives of these potential users will continue to be part of an informal reference group during the project implementation. The research communication process, supported by the IDRC-funded DECI-2 project, will assist with the identifying of additional stateholders and research users and establish suitable processes of engagement with them.

### 4.4 Data collection

#### 4.4.1 Approaches and methods

Overall a mixed methods approach (Tashakkori & Teddlie 2010) will be followed in the ROER4D project. Several quantitative and qualitative approaches will be used in the various sub-projects and in the meta-analysis to provide a “rich” account of OER adoption and triangulate the data, where possible. These include desktop research, cross-regional surveys, theorised cross-regional and country case studies, participatory action research implementation studies and impact studies.

Likewise a range of specific methods will be adopted across the sub-projects. Desk-top analysis of journals, book chapters, conference papers, reports, working papers and websites will be the main method of describing OER initiatives, policies and research in the Global South. This analysis will also draw on existing project data from other initiatives such as the OER mapping being undertaken by d’Antoni<sup>36</sup> and the Policies for OER

<sup>36</sup> <https://unescochair.athabasca.ca/oer-mapping-exercise>

Uptake project<sup>37</sup>. This desktop analysis is the focus of Sub-Project 1 and will be made available to the other sub-projects as it emerges to assist them in their country- or institution-specific literature reviews. Survey instruments in at least three languages will be used to ascertain creation, awareness, access, reuse and perceived value of OER by lecturers and students and shared as OER. This is the major focus of Sub-Project 2, but the survey will be used in full or in part, where possible, across all the other sub-projects. Interviews and focus group interviews will be undertaken across Sub-Projects 3-9 to ascertain perceptions and practices of OER adoption by lecturers and students. Work-shopping is also used by some of the sub-projects as a way of documenting OER development processes, as is the analysis of mailing lists and the content analysis of OER created or adapted by lecturers or teachers. Projects 11 and 12 are likely to include document analysis in addition to interviews.

#### 4.4.2 Research participants

The participants will be lecturers, teacher educators and students drawn from formal post-secondary institutions and practicing teachers developing and using OER in association with these institutions. One country study will include government officials and university administrators. A summary of the participants in the sub-projects is provided in Table 3.

**Table 3: Overview of research participants by sub-project**

Sub-project	Lecturers	Teacher educators	Students	School teachers	Government officials	University administrators
2	✓		✓			
3	✓					
4	✓					
5		✓		✓		
6		✓		✓		
7		✓				
8					✓	✓
9			✓			
10	✓		✓		✓	✓
11					✓	
12					✓	

#### 4.4.3 Research sites

The participants will be drawn from formal post-secondary institutions and school teachers developing and using OER in association with these institutions in three countries in South America, three in countries in Sub-Saharan Africa and five in South East Asia (Table 4).

<sup>37</sup> [http://poerup.referata.com/wiki/Main\\_Page](http://poerup.referata.com/wiki/Main_Page)

**Table 4: Research sites by region and country by sub-project**

Sub-project	South America	Sub-Saharan Africa	South East Asia
1	Brazil, Colombia, Chile, Peru	South Africa, Kenya, Ghana and Uganda	Indonesia, India, Malaysia, Sri Lanka
2	Brazil, Colombia, Chile	3 of South Africa, Kenya, Ghana and Uganda	3 of Indonesia, India, Malaysia, Mongolia
3			India
4		South Africa	
5			India
6	Colombia		
7			Malaysia, India,
8			Mongolia
9	Chile		
10	TBA	TBA	TBA
11		3 of Ghana, Kenya, South Africa, Uganda	
12	5 or 7 of Argentina, Chile, Colombia, Peru, Uruguay		

#### 4.5 Data curation

It was agreed at the Roundtable 2 meeting in Jakarta that as REOR4D is an externally funded and explicitly “open” research project, all the data gathered will be centrally stored on the UCT learning management system site (i.e. the password protected Sakai-based “Vula” site ROER4D which also allows for nominated datasets to be made public via the ROER4D website) unless a more suitable platform is identified. It was also agreed that anonymity and/or confidentiality of data is critical and that protocols for data curation will be developed in the course of the project inception phase. This protocol will also acknowledge the “moral right” of the project researcher who collected the data to have first option on publishing findings externally (i.e. beyond the required project reports and outputs) and each sub-project will be prompted to negotiate these arrangements upfront with their research team members. Some useful guidelines for sharing open data as OER are provided by Fitzgerald and Hashim (2012).

#### 4.6 Data analysis

Data analysis methods and techniques will include inferential and descriptive statistical analysis for the survey data; thematic analysis of interviews, focus groups and workshops and content analysis of OER websites, OER mapping data, OER artefacts and mailing lists. Quantitative data analysis software will include SPSS<sup>38</sup> and qualitative data analysis software NVivo (unless the group decides to use other software) to enable easy sharing of data. To optimise triangulation (to seek convergence and corroboration) and identify paradoxes or contradictions, some of the qualitative data will be quantified (Maxwell 2010).

#### 4.7 Gender considerations

Gender issues will be considered in this study as the survey and most of the case studies will deliberately select both female and male participants to provide opportunities for understanding whether and how gender issues might influence the adoption of OER. It is currently not clear how OER might address women’s access to education particularly in locations in Africa and South America where women have limited access to ICT tools (see Buskens & Webb 2009). The key issue that will be foregrounded is not to reinforce, unwittingly or otherwise, women’s disempowerment in OER adoption.

A workshop sensitising all the researchers to the gender-specific issues in OER adoption by Ineke Buskens has been arranged during the first meeting of all the researchers. This will hopefully inform not on the questions that are posed, but the way in which they are elicited and the ways in which the data is interpreted.

<sup>38</sup> <http://www-01.ibm.com/software/analytics/spss/>

## 4.8 Ethical considerations

Ethical clearance will be sought from each of the participating institutions in all the sub-projects. This may involve submitting proposals with the list of survey, interview or focus group questions to a university or college ethics committee.

Participants will be provided with an information sheet explaining the purpose of the research and use of the research data and they will be required to sign a consent form granting permission for their involvement in surveys, interviews, focus groups or workshops, the use of audio recordings and/or analysis of artefacts produced in the course of the research. Participants will be made aware that their participation is voluntary and that they can withdraw at any time and that their details will be kept confidential and use of direct quotations anonymised to protect their identity. Where appropriate, participants will be given an opportunity to view the questions ahead of an interview or focus group and be given the opportunity to validate subsequent transcriptions.

All raw data from all the sub-projects will be stored in a password protected content management system (Vula at UCT) and identifying details anonymised before being uploaded to Vula. The plan is to make the data available openly for access by other researchers once it is certain that data is both sufficiently anonymised to protect the original respondents, yet clearly enough described to ensure that comparisons with other data can be drawn.

There are no obvious risks to participants in the proposed study.

## 4.9 Training and mentoring

The Advisory Group and other mentors will be allocated to specific projects to provide support and advice (See Table 7 for details).

The Advisory Group and the researchers will meet three times during the project for face-to-face training, mentoring and feedback. To optimise costs, these meetings will be arranged back-to-back with OER-type conferences. At the first meeting, scheduled for December 2013, the researchers will present their draft research instruments and participate in a data analysis workshop. At the second meeting the researchers will present on their data collection and analysis progress and participate in report-writing and data representation activities. The final meeting will be towards the end of the project in late-2015 where the researchers, PI and DPI will present project overviews.

Although some Project Leaders have been involved in donor-funded research previously, none have participated in an extensive cross-regional study. Hence some just-in-time mentoring and/or training may be needed for specific activities such as instrument development, quantitative and qualitative data-analysis, data curation, data representation and report writing so that data and findings across regions are comparable. In anticipation of these mentoring and training needs, a **statistician** will be retained for quantitative instrument development and data-analysis advice and support. A **qualitative data analyst** with specific qualitative data software analysis skills will be contracted for for a 2-day training session with the Project Leaders.

Although most project leaders speak and write English quite well, the Deputy Principal Investigator will provide assistance with the writing and editing of the technical reports (2014, 2015) and final reports in 2016. To enable easy comparisons across the sub-projects, the PI and DPI will devise a report template to assist the project leaders to include essential information.

## 4.10 Evaluation & Research Communication

The ROER4D project will retain the services of the Developing Evaluation & Communication Capacity in Information Society Research (DECI-2) IDRC-funded project to assist with the evaluation of and research communication within the ROER4D project as a whole. DECI-2 will offer mentoring and capacity development using the Utilization Focused Evaluation (UFE) approach to a local evaluator and research communication specialist. This role could be fulfilled by one person if they have the necessary prerequisite

knowledge and skills or could be filled by two people. DECI-2 provides 15 person days in UFE and 15 in ResCom plus two regional visits.

In addition, a rapid response fund will be set aside in order to respond rapidly to open policy windows and/or to enhance research communication, if and when this occurs.

## **4.11 Organizational matters**

### **4.11.1 Programme governance**

There will be an Advisory Group comprising members of the initial Planning Group as well as representatives of organisations likely to take-up the ROER4D research findings. This group will meet annually and will assist in shaping the direction of the research and providing specific advice on OER trends and OER research, and comment on research proposals, project reports and the final report to a maximum of 20 days.

### **4.11.2 Programme management**

The programme will be managed and implemented by the Centre for Educational Technology (CET) in the Centre for Higher Education Development (CHED), at the University of Cape Town (UCT). CET has a sound track record of implementing a number of large multi-year programmes and specifically projects funded by the IDRC. The UCT Research Contracts and Intellectual Property Services (RCIPS) unit at UCT will oversee the contracting with the IDRC and UCT and with UCT and each of the host institutions in the sub-projects. The financial management of the programme will be overseen by the CHED Finance Manager. CET will be responsible for the contracting of the members of the Advisory Group and DECI-2 advisor, principal investigator, deputy principal investigator, project manager, research assistants, graphic artist, website developer, statistician, qualitative data analyst, evaluator and research communications specialist in association with the UCT Human Resources (HR) Division.

### **4.11.3 Programme organisation**

#### ***4.11.3.1 Principal Investigator & Deputy Principal Investigator***

The Principal Investigator will take overall responsibility and accountability for the successful implementation of the ROER4D in co-operation with the Deputy Principal Investigator. The role of a Deputy Principal Investigator was decided upon at the Jakarta meeting in January 2013 given the mission-critical role of the PI and the risks associated with this part-time appointment (maximum of 1 day a week for three years). The PI and DPI will be responsible for overseeing the sub-projects and overall outcomes of the programme. The PI, or in her absence, the DPI will be responsible to the IDRC and to UCT for the activities and funding associated with the ROER4D project. The PI will be the main liaison person with the Advisory Group. The PI and DPI will be responsible for the two interim reports and one final report to the IDRC, which will be informed by the four technical reports submitted by the Project Leaders. The DPI will be responsible for evaluating the technical reports and assisting with the conceptualising and writing of the two interim and the final reports.

#### ***4.11.3.2 Project Manager***

The ROER4D Project Manager (PM) will be the central point of contact and co-ordination between the IDRC, the sub-projects and the rest of the research team and be the main liaison person with associated UCT departments including RCIPS, CHED Finance Department and HR. She will be responsible for managing the day-to-day activities of the programme. In consultation with the PI, DPI and Project Leaders, the PM will be responsible for the conceptualisation, development and management of a detailed programme implementation plan for the duration of the project. She will oversee the development of the ROER4D website and be responsible for providing a monthly update (at least) on the ROER4D website (in a project blog) in association with the sub-project Project Leaders. She will be responsible for managing the research assistants, the web designer and the graphic artist. She will also be responsible for managing the research funds on a day-to-day basis in association with the CET Administrative Assistant and the Faculty Finance Manager and she will assist in the management of the technical report submission from the Project Leaders and in the preparation of the two interim reports and one final report to the IDRC.

#### **4.11.3.3 Project Leaders**

The Project Leaders (PLs) of each of the sub-projects will take overall responsibility and accountability for the successful implementation and reporting on each of their projects. They will manage the contracting of the researchers in each of their sub-projects. They will provide the ROER4D PM information about any significant changes affecting the sub-projects, upload anonymised data to the Vula site and submit four technical reports and one final report according to the template agreed upon.

#### **4.11.3.4 Mentors**

In order to provide the Project Leaders with dedicated conceptual and methodological advice as well as to ensure quality research, each group of similar studies will be supported by specified mentors mostly drawn from the Advisory Group and include the PI and DPI. Mentors will report back to the Advisory Group on the progress of the projects and alert the PI to any concerns as soon as they become evident. Mentors will each be retained for 7 days per allocated project over the three year period.

#### **4.11.3.5 Statistician**

A statistician will provide advice and support to the PI, DPI and PLs on matters relating to quantitative instrument development, data curation and data-analysis and review interim and final reports and/or papers to a maximum of 35 days over the 3 year period.

#### **4.11.3.6 Qualitative data analyst**

A qualitative data analyst with specific qualitative data-analysis software skills will run one workshop, in December 2013.

#### **4.11.3.7 Website designer**

A website designer will be retained for the development and maintenance of a ROER4D website to be the main channel for on-going external communication during the project and for curating the main project documents and resulting reports, conference papers, journal articles, book chapters, workshop notes and project blog.

#### **4.11.3.8 Graphic designer**

A graphic designer will be employed to devise a suitable logo for the ROER4D project and create graphics for the final report to enhance the visualization of the findings.

#### **4.11.3.9 Research administrator**

A part-time research assistant will be employed to assist with the development and maintenance of the research resources and data curation processes in Vula.

#### **4.11.3.10 Ad hoc student assistants**

Students will be employed on an ad hoc basis to assist with the support before, during and after the ROER4D workshops and the final ROER4D Conference.

## **5 Project schedule**

The ROER4D Project activities are listed in Table 5 below and mapped to three-month periods (quarters) within each year for a period of three years overall. The commencement date is 27 August 2013 and the end date 30 June 2016. A detailed break-down is provided in Appendix 13.

**Table 5: ROER4D Project Schedule – Main Activities**

Main Activities	2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Phase 1: Inception</b> (Months 1-6)																
• Contracting with UCT, Sub-Project host institutions and consultants																
• Administration & financial systems																
• ROER4D Website development																
• ROER4D Workshop 1: Instrument finalisation, data analysis and data curation																
• Sub-Projects' Interim Technical and Financial Reports – 27 Feb 2014					◆											
• Phase 1 Evaluation and Communication (Capacity Building)																
<b>Phase 2: Implementation</b> (Months 1-18)																
• Sub-project implementation – Project 1																
• Sub-project implementation – Project 2																
• Sub-project implementation – Project 3																
• Sub-project implementation – Project 4																
• Sub-project implementation – Project 5																
• Sub-project implementation – Project 6																
• Sub-project implementation – Project 7																
• Sub-project implementation – Project 8																
• Sub-project implementation – Project 9																
• Sub-project implementation – Project 10																
• Sub-project implementation – Project 11																
• Sub-project implementation – Project 12																
• Sub-Projects 1 <sup>st</sup> Technical Report – 15 Jul 2014								◆								
• ROER4D 1 <sup>st</sup> Technical Report 27 Aug 2014								◆								
• ROER4D Workshop 2: Data analysis																
• Sub-Projects 1 <sup>st</sup> Financial Report – 15 Dec 2014									◆							
• ROER4D 1 <sup>st</sup> Financial Report – 27 Feb 2015										◆						
• Phase 2 Evaluation & Communication Report																
<b>Phase 3: Data Analysis &amp; Write-up</b> (Months 19-30)																
• Sub-project data curation																
• Sub-project data analysis and write-up																
• Sub-Projects 2 <sup>nd</sup> Technical Report – 15 July 2015												◆				
• ROER4D 2 <sup>nd</sup> Technical Report 27 Aug 2015												◆				
• Phase 3 Evaluation & Communication Report																
<b>Phase 4: Consolidation</b> (Months 31-36)																



## 6 Results and dissemination

The planned outputs are mapped to the various dissemination channels in Table 6.

**Table 6: Outputs and dissemination**

Outputs	Dissemination
<p><b>Three regional reports</b> on OER projects, policies, research &amp; researchers in the Global South</p>	<p>The regional overviews will be made available on the ROER4D website (still to be developed) with the individual country reports possibly included on the current POERUP website (this still needs to be negotiated) and linked to the OER Knowledge Cloud<sup>39</sup>.</p>
<p><b>Survey instruments</b> in at least three languages (Portuguese, English, and Spanish) that can be used to ascertain creation, awareness, access, reuse and perceived value of OER by lecturers and students  <b>A cross-regional report</b> on a cross-regional survey from selected countries in South America, South East Asia and Sub-Saharan Africa (<i>Sub-Project 2</i>)  <b>Three regional reports</b>, one from each of the regions to highlight specific policy and practice recommendations (<i>TBA</i>)  <b>Nine country reports</b> – 3 from each of the 3 regions (<i>TBA</i>)  <b>Thirty six institutional reports</b> - one from each of the institutions that completed the survey as part of the case study or action research projects (<i>Sub-Projects 3-8</i>)</p>	<p>Survey instrument - Portuguese, English, and Spanish accessible from the ROER4D website &amp; OER Knowledge Cloud            1 cross-regional report at ROER4D conference            3 regional reports report at ROER4D conference            9 country reports to be sent directly to the Ministry of Education in each county            36 institutional reports to be sent directly to the Vice-Chancellor (or equivalent) of each institution            1 e-book edited by the Project Leader of Sub-Project 2</p>
<p><b>A country report (India)</b> on factors enabling and/or constraining post-secondary education lecturers' <b>creation, reuse, curation and distribution of OER</b>  <b>A cross-country report</b> (India &amp; South Africa) on factors enabling and/or constraining post-secondary education lecturers' <b>creation, reuse, curation and distribution of OER (Sub-Projects 3 &amp; 4)</b></p>	<p>ROER4D website &amp; OER Knowledge Cloud            1 cross-county report at ROER4D conference            2 country reports to be sent directly to the Ministry of Education in each county and to the participating institutions</p>
<p><b>A country report (South Africa)</b> on factors enabling and/or constraining post-secondary education lecturers' <b>creation, reuse, curation and distribution of OER</b>  <b>A cross-country report</b> (India &amp; South Africa) on factors enabling and/or constraining post-secondary education lecturers' <b>creation, reuse, curation and distribution of OER (Sub-Projects 3 &amp; 4)</b></p>	
<p>One <b>country report</b> detailing a model of OER <b>creation, reuse, curation and distribution</b> (India)  <b>A cross-country report</b> (India, Colombia, and Malaysia) detailing a model of OER <b>creation, reuse, curation and distribution (Sub-Projects 5, 6 &amp; 7)</b>  <b>A website</b> detailing the OER model – possibly in more than one language (<i>TBA</i>)</p>	<p>ROER4D website &amp; OER Knowledge Cloud            1 cross-country report at ROER4D conference            3 country reports to be sent directly to the Ministry of Education in each county and to the participating institutions</p>
<p>One <b>country report</b> detailing a model of OER <b>creation, reuse, curation and distribution</b> (Colombia)  <b>A cross-country report</b> (India, Colombia, and Malaysia) detailing a model of OER <b>creation, reuse, curation and distribution (Sub-Projects 5, 6 &amp; 7)</b></p>	
<p>Two <b>country reports</b> detailing a model of OER <b>creation, reuse, curation and distribution</b> (Malaysia and India)  <b>A cross-country report</b> (India, Colombia, and Malaysia) detailing a model of OER <b>creation, reuse, curation and distribution (Sub-Projects 5, 6 &amp; 7)</b></p>	
<p><b>A country report</b> (Mongolia) detailing governmental, institutional and</p>	<p>ROER4D website &amp; OER Knowledge Cloud</p>

<sup>39</sup> <https://oerknowledgecloud.org/>

individual lecturer-level enablers of and constraints to OER adoption	1 country report at ROER4D conference 1 country report to be sent directly to the Ministry of Education in each country and to the participating institutions
A case-study report on student use of OER to develop the logical-mathematical, literacy, science and critical thinking skills and in educational practices.	ROER4D website & OER Knowledge Cloud 1 report at ROER4D conference 1 PhD
An overview of the extent of changes in practices and implications for sustainability following the adoption OER policies in selected countries in Africa	ROER4D website & OER Knowledge Cloud 1 regional report at ROER4D conference 1 regional report to be sent directly to the Ministry of Education in each country and to the participating institutions
An empirical study of the impact of the use of OER on student performance	ROER4D website & OER Knowledge Cloud 1 report at ROER4D conference 1 publishable paper
A <b>cross-regional meta-analysis</b> of the desktop analysis, surveys, case studies and action research studies, providing a theorised account of the current uptake of OER for post-secondary education in the Global South explaining how and why the OER practices of students and lecturers are being inhibited and/or facilitated by various personal, technical, legal, pedagogical, institutional, socio-cultural and economic factors.	ROER4D website & OER Knowledge Cloud 1 cross-regional report at ROER4D conference 1 e-book edited by the Principal Investigator and the Deputy Principal Investigator

## 7 Institutions and personnel

### 7.1 UCT and contracting partner institutions

The University of Cape Town is currently rated as the top research university in Africa<sup>40</sup>. In 2008 UCT was one of the first institutional signatories to the Cape Town Open Education Declaration. UCT has hosted or is hosting or participating in a number of “open” researchers and/or “open” research projects in the past six years including Eve Gray, an International Policy Fellow of the Open Society Institute (OSI), the Opening Scholarship project (Shuttleworth Foundation), the Health OER Project (Hewlett Foundation), the UCT OpenContent directory project (Shuttleworth Foundation), the Scholarly Communication in Africa Project (IDRC)<sup>41</sup>, and Open Air (IDRC)<sup>42</sup>. The Centre for Educational Technology has successfully hosted four of these projects.

UCT will enter into a contract with Wawasan Open University in Malaysia; the Commonwealth Educational Media Centre for Asia in India; and four NGOs – SAIDE in South Africa, IT for Change in India, Karisma Foundation in Colombia and New Policy Institute, Mongolia - to undertake this project.

### 7.2 Personnel

The details of the project personnel, their qualifications, roles and time commitments are listed in

Table 7.

**Table 7: ROER4D Project personnel**

Person	Qualification	Role	Time commitment
Cheryl Hodgkinson-Williams	PhD	Principal Investigator and mentor for Project #3, #4 and #9,	156 days (one day a week for 3 years)
Patricia Arinto	EdD	Deputy Principal Investigator and mentor for Project #2	86 days (10 days in 2013, 25 days in 2014 and 2015, 26 days in 2016)

<sup>40</sup> <http://www.timeshighereducation.co.uk/world-university-rankings/2011-12/world-ranking/region/Africa>

<sup>41</sup> <http://www.scaprogramme.org.za/>

<sup>42</sup> <http://www.openair.org.za/>

Tess Cartmill	MPhil	Project Manager	Full-time 3 years
Thomas King	BA (Hons)	Research Administrator for Document & Data curation	Part-time 3 years
Ad Hoc Student Assistants 1 & 2	TBA	Student assistant help with workshops/conference	Part-time
Savithri Singh	PhD	Mentor for Project # 5,6 & 7	21 days (6 days in 2013, 6 days in 2014, 9 days in 2015)
Carolina Rossini		Mentor for Project # 10 & 12	14 days (4 days in 2013, 4 days in 2014, 6 days in 2015)
Fred Mulder	PhD	Mentor for Project #11	21 days (6 days in 2013, 6 days in 2014, 9 days in 2015)
Stavros Xanthopoulos		Mentor for Project #2	7 days (2 days in 2013, 2 days in 2014, 3 days in 2015)
George Sciadas	PhD	Statistician for Project #2 and for the project as a whole	30 days (15 days in 2013, 5 days in 2014 and 15 days in 2015)
Ineke Buskens		Qualitative data analyst	2 days
Ineke Buskens		Gender specialist	2 days
Thomas King		Website developer	10 days
Rondine Carstens		Graphic artist	10 days
Prof Raj Dhanarajan Mariana Eguren Jenny Louw		Sub-Project 1 – Researchers 1,2 & 3	180 days (60 days over 3 years for 3 researchers)
Mthunzi Nxawe		Evaluator	96 days (20 days in 2013, 30 days in 2014 and 2015, 16 days in 2016)
Sukaina Walji		Research Communication Specialist	96 days (20 days in 2013, 30 days in 2014 and 2015, 16 days in 2016)
Jose Dutra de Oliveira Neto	PhD	Project Leader: Sub-Project 2	
Sanjaya Mishra	PhD	Project Leader: Sub-Project 3	
Glenda Cox	MA, Registered for PhD	Project Leader: Sub-Project 4	
Guru Kasinathan	MCom, CA	Project Leader: Sub-Project 5	
Pilar Saenz		Project Leader: Sub-Project 6	
Mohan Menon	PhD	Project Leader: Sub-Project 7	
Batbold Zagdragchaa		Project Leader: Sub-Project 8	
Werner Westermann		Project Leader: Sub-Project 9	
Maria Ng		Project Leader: Sub-Project 10	
(SAIDE)		Project Leader: Sub-Project 11	
Carolina Botero		Project Leader: Sub-Project 12	(Funded by the OSF)

### 7.3 Ownership of equipment

The only equipment purchased for the ROER4D management will be one data projector as the cost of hiring is unreasonably expensive and will remain at the main contracting university. Other equipment purchased during the course of this research by the sub-projects will remain the property of the contracted institutions where the Project Leader is located.

## 8 Risks and mitigating plans

There are a number of risks associated with this project. The following have been identified and mitigating plans proposed in Table 8.

**Table 8: Risks and mitigating plans**

<b>Type of risk</b>	<b>Description of risk</b>	<b>Mitigating plans</b>
Financial	As the ROER4D project is managed by UCT in South Africa, the current fall of the South African rand is a matter of concern as participating institutions will need to be paid by UCT in foreign currency.	Request the IDRC to pay out the grant in smaller tranches than usual or in which ever manner optimises the value of the grant best.
Financial	The economic climate worldwide is unstable and estimates for a three year project may be compromised if costs escalate beyond what was anticipated. Of particular concern is the cost of international air travel.	Request the IDRC to condone a “contingency fund” that can supplement payment for necessary project activities.
Organisational	Given the number of projects in various countries and with varying types of organisations and consultants, contracting issues might be a challenge.	Ensure that the Research Contracts and Intellectual Property Office at UCT is provided all the information required timeously.
Operational	Due to the varying levels of experience of the researchers in the projects, there maybe delays in the implementation of the research projects	Have the mentors, PI, DPI and PM keep in regular contact and trouble-shoot as soon as possible.
Operational	Project Leaders may not respond timeously to requests	Have the PI, DPI and PM keep in regular contact and trouble-shoot as soon as possible.
Personnel	The personal circumstances of the PI are uncertain (her husband recently had a stroke).	Request granted by the IDRC to appoint a Deputy PI. Dr. Patricia Arinto who was part of the original Planning team has agreed to take on this role.
Communication	Due to the differences in language and socio-cultural backgrounds, communication within the project might be compromised.	Endeavour to make internal communication written in an accessible style.

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## 10 Detailed ROER4D Project Schedule

Activities	2013			2014			2015			2016		
<b>Phase 1: Inception (Months 1-6)</b>												
Arrange contract with IDRC & UCT												
Arrange contracts with UCT & Sub-project institutions												
Issue a call for research for Project 10 on the impact of the use of OER												
Establish programme management and administration systems												
Negotiate terms of reference for Advisory Group and DECI-2 advisor and job descriptions for principal investigator, deputy principal investigator, project manager, research assistants, statistician, qualitative software data analyst, website developer, graphic artist												
Arrange contracts with the Advisory Group (AG), DECI-2, principal investigator, deputy principal investigator, project manager, research assistants, statistician, qualitative software data analyst, website developer, graphic artist												
Establish programme reporting mechanisms & templates												
Establish communication platform and document curation strategy												
Communicate and problem-solve (on-going)												
Arrange for & oversee ROER4D website development												
Write monthly project updates for website (on-going)												
Develop data curation protocols for the storage and use of project data												
Assist Sub-project Lead Researchers												
Oversee development of project survey instruments & interview schedules												
Negotiate Nvivo group licences, if required												
Plan and organise research implementation workshop (Dec 2013)												
Refine conceptual framework												
Host and participate in research inception workshop with Advisory Group & LRs												
Receive sub-projects' Interim Technical & Financial Reports												
Phase 1 Evaluation												

Activities	2013			2014			2015			2016		
<b>Phase 2: Implementation</b>												
Receive sub-projects' 1 <sup>st</sup> Technical Report												
ROER4D 1 <sup>st</sup> Technical Report to IDRC												
Plan and organise data analysis & findings workshop (Dec 2014)												
Host and participate in Workshop 2												
Receive sub-projects' 1 <sup>st</sup> Financial Reports												
ROER4D 1 <sup>st</sup> Financial Report to IDRC												
Phase 2 Evaluation												

Activities	2013			2014			2015			2016		
<b>Phase 3: Data Analysis &amp; Write-up</b>												
Receive sub-projects' 2 <sup>nd</sup> Technical Report												
ROER4D 2 <sup>nd</sup> Technical Report to IDRC												
Phase 3 Evaluation												

Activities	2013			2014			2015			2016		
<b>Phase 4: Consolidation</b>												

