Collaborating across borders: OER use and open educational practices within the Virtual University for Small States of the Commonwealth

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Collaborating across borders: OER use and open educational practices within the Virtual University for Small States of the Commonwealth

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Abstract
This paper presents the findings of a research collaboration between the Virtual University for Small States of the Commonwealth (VUSSC) and the UK Open University-based OER Research Hub (www.oerresearchhub.org) and suggests that when user communities’ needs do not coincide with those of the majority, a model of open education resources (OER) development and sharing through open, transnational collaboration can offer a solution. The VUSSC is a mechanism for 32 tiny nations to collaboratively develop, adapt and share post-secondary level openly licensed courses and learning materials in subject areas that are especially relevant to the needs of people in the participating countries - for example, disaster management, entrepreneurship, the fishing industry, life skills and tourism. Since 2005, educators from island, coastal and landlocked nations in the Caribbean, Pacific, Mediterranean and the Indian Ocean, as well as small states in Africa, have been gaining skills in the creation of learning materials and in online collaboration, and applying them to collaboratively develop a body of OER freely available to all via the VUSSC website (www.vussc.info) and published under a Creative Commons (CC) license. Survey and interview-based research with students and educators in the VUSSC member states has allowed for an understanding of the means by which open education practices (OEP) provide some of the world’s smallest countries with stronger economic opportunities and improved access to quality education, offering them the potential to become active contributors to global development. The collected data shows how the VUSSC participants are using and developing OER to meet the very specific needs of the member countries. Educators are at the heart of the VUSSC, taking a key role in resource creation and sharing, in policy discussions, in building subject-specific networks and in training peers. The survey data shows that use of the VUSSC OER has led to educators’ pedagogical development and their increased connectedness with peers worldwide. In addition, the survey data shows that OER are having a positive impact on students’ educational performance, their confidence and independence as learners, and their satisfaction with the learning experience. The benefits of the VUSSC for institutions are also explored in this paper through a case study of Botswana College of Distance and Open Learning, which has used VUSSC OER to extend its curriculum to cover higher education.

The VUSSC study also reveals that finding up-to-date, high quality, context-relevant resources remains a challenge for many, as do digital infrastructure problems in some areas. In addition, while there is evidence that openness is spreading throughout the member states the study also indicates that there is still much scope for expansion and a need for increased global awareness of the work of VUSSC. The research reported in this paper should be of value across the open education movement, adding to the growing picture of the power of OER and OEP in diverse contexts and presenting a compelling view of the potential of open collaboration in growing small states’ educational capacity and in helping increase educational and social inclusion in remote and isolated areas of the world.

Keywords
OER, open educational resources, OEP, open educational practices, collaboration, Commonwealth

Introduction
In 2014 the United Nations celebrated the ‘vibrant and distinct cultures, diversity and heritage’ of small island developing states (SIDS), acknowledging islanders’ valued contributions ‘at the forefront of efforts to address pressing global issues through ingenuity, innovation and use of traditional knowledge’ (United Nations, 2014). There are 32 SIDS globally (UNESCO, 2014), and in many of these states innovation and ingenuity has been demonstrated through the collaborative creation of open educational resources (OER) under the aegis of the Virtual University for Small States of the Commonwealth (VUSSC), which features 22 SIDS amongst its 32 participating countries (VUSSC/Commonwealth of Learning, 2010).

The VUSSC is not a brick and mortar nor a virtual institution in itself. Rather, it is a mechanism for tiny nations to collaboratively develop, adapt and share openly licensed post-secondary courses and learning materials in subject areas that are especially relevant to the needs of people in the participating countries - for example, disaster management, entrepreneurship, the fishing industry, life skills and tourism. The development of the VUSSC began in 2000 and has been co-ordinated by the Commonwealth of Learning, on behalf of Commonwealth Ministers of Education. Since 2005, educators from island coastal and landlocked nations in the Caribbean, Pacific, Mediterranean and the Indian Ocean, as well as small states in Africa, have been gaining skills in the creation of learning materials and in online collaboration, and applying them to collaboratively develop a body of OER freely available to all via the VUSSC website (www.vussc.info) and published under a Creative Commons (CC) license.

The VUSSC relies on a community of practice model for its growth and development. An initial series of workshops led to 130 educators from 26 countries being trained in resource creation. These educators have subsequently formed international networks of peers in their respective areas of expertise, leading to a further 600 people being trained in resource creation through a cascade system. Capacity building is a particular focus for the VUSSC, which helps small states to build the capacity of their educational institutions, supporting the creation of accreditation mechanisms and helping to facilitate small states’ provision of educational programmes for themselves and for others. As a consequence, the VUSSC provides some of the world’s smallest countries with stronger economic opportunities through skilled human resources and improved access to quality education. Small states thus become active contributors to global development and leaders in educational reform through the innovative use of ICTs. One particularly unique characteristic of the VUSSC is its Transnational Qualifications Framework (TQF) (see Lesperance et al, 2010), which was launched in April 2010 as a response to the challenges of adapting and offering the OER-based VUSSC developed courses in many countries. The VUSSC is not an accrediting or awarding body and therefore the institutions offering its courses must accredit them locally. The TQF is intended to ensure that all the collaboratively created OER can be adapted into recognised courses that students can take for credit through the recognized institutions of the small states. As such, it acts as a translation point for modules/units and qualifications between countries.

This paper presents the findings of a research collaboration between the VUSSC and the UK Open University-based OER Research Hub (www.oerresearchhub.org). The study explores
the impact of OER and OEP in settings that are often very different from those in which mainstream OER projects operate. As such, it builds on the comparative research on OER impact already conducted by the OER Research Hub (OERRH), applying the OERRH research instruments to the VUSSC in order to explore ways in which openness can increase access to education, can improve educational attainment and can foster collaboration and resource-sharing across geographical boundaries. The study findings indicate that when user communities’ needs do not coincide with those of the majority, a model of OER development and sharing through open, transnational collaboration can offer a solution.

Methods
The first stage of the VUSSC research comprised an online SurveyMonkey survey, with versions customised to capture the experiences and views of formal students, educators and informal learners across the VUSSC member states. The survey largely comprised questions drawn from the OER Research Hub question base (www.oerrhsurvey) to allow for comparison with existing data collected through OERRH research with OER projects around the globe. Once the quantitative and qualitative survey data had been analysed Skype and email interviews were used to investigate key survey findings in greater depth.

The sample
The VUSSC survey sample spans 18 countries (see Figure 1) and is dominated by educators (68%) over formal learners (25%) and informal learners (7%), with a 70%/30% female/male gender split. Perhaps unsurprisingly, bearing in mind the fact that the VUSSC is a Commonwealth entity, 72% of respondents identify English as their first spoken language. The majority of survey respondents across all three participant groups are well qualified, as shown in Figure 2.

Figure 1: Geographical distribution of VUSSC survey respondents

![Figure 1: Geographical distribution of VUSSC survey respondents](image)

Figure 2: Sample breakdown by qualification

![Figure 2: Sample breakdown by qualification](image)
The formal students answering the survey cover full-time and part-time face-to-face, part-time online and/or distance learning, and full-time and part-time blended learning formats and are distributed over the following sectors:

- School education: 38%
- Further education/community college: 67%
- Higher education/university: 79%
- Work-based education: 22%
- Study without a teacher: 60%

56% of student respondents indicated that they are also in full-time employment, 4% that they are part-time employed, and 4% that they are unwaged and seeking employment.

**Findings and implications**

The survey and interview data reveal much about the open educational practices of VUSSC educators and formal learners and, when compared with evidence from the OER Research Hub global dataset (see de los Arcos et al, 2014), show how the VUSSC participants are using and developing OER to meet the very specific needs of the member countries, with benefits that are enjoyed on individual, institutional and national levels.

Table 1 paints a richer picture of the VUSSC educators’ and formal learners’ OER use, comparing the main sources and types of OER used, and the most common reasons for using OER. The popularity of YouTube and video echoes the OER Research Hub findings across all educational sectors (De los Arcos, 2014) while the popularity of whole courses, lectures, and elements of courses, amongst formal learners is, in part, likely to indicate their use of the VUSSC OER, which are largely whole course format.
Table 1: Comparison of educators’ and formal learners’ use of OER

<table>
<thead>
<tr>
<th>Most commonly used sources of OER outside VUSSC</th>
<th>Educators</th>
<th>Formal learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>YouTube (65%)</td>
<td>YouTube (77%)</td>
<td></td>
</tr>
<tr>
<td>iTunes/iTunesU (43%)</td>
<td>Wikibooks (45%)</td>
<td></td>
</tr>
<tr>
<td>Wikibooks (41%)</td>
<td>MOOCs (40%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iTunes/iTunesU (36%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most commonly used OER formats</th>
<th>Educators</th>
<th>Formal learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Videos (83%)</td>
<td>Tutorials (100%)</td>
<td></td>
</tr>
<tr>
<td>Images (85%)</td>
<td>Open textbooks (92%)</td>
<td></td>
</tr>
<tr>
<td>Elements of existing courses (69%)</td>
<td>Lectures (92%)</td>
<td></td>
</tr>
<tr>
<td>Lectures (67%)</td>
<td>Elements of an existing course (91%)</td>
<td></td>
</tr>
<tr>
<td>Tutorials (67%)</td>
<td>Quizzes (90%)</td>
<td></td>
</tr>
<tr>
<td>Ebooks (67%)</td>
<td>Videos (84%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Whole course (70%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most popular reasons for using OER</th>
<th>Educators</th>
<th>Formal learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal development (92%)</td>
<td>Personal development (93%)</td>
<td></td>
</tr>
<tr>
<td>To find information (85%)</td>
<td>To find information (86%)</td>
<td></td>
</tr>
<tr>
<td>Teaching (80%)</td>
<td>Leisure or enjoyment (86%)</td>
<td></td>
</tr>
<tr>
<td>In connection with HE study (75%)</td>
<td>In connection with HE study (63%)</td>
<td></td>
</tr>
<tr>
<td>Employment related study (71%)</td>
<td>and college study (71%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To improve study skills (71%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employment related study (62%)</td>
<td></td>
</tr>
</tbody>
</table>

**Educators’ use of the VUSSC OER for employment and professional development**

Educators are at the heart of the VUSSC, taking a key role in resource creation and sharing, in policy discussions, in building subject-specific networks and in training peers. The surveyed VUSSC educators are very experienced (79% have been teaching for over 10 years) and most (80%) teach full-time, face-to-face. Respondents are fairly evenly spread across K12, FE/College, HE, work-based training and personal tutoring. Figure 3 and Table 2 show the ways in which the surveyed VUSSC educators use OER compared with data collected from the following OER Research Hub surveys:


**Figure 3: Comparison of OER use by educators using OpenLearn, Saylor.org and VUSSC**
Table 2: Comparison of OER use by educators using OpenLearn, Saylor.org and VUSSC

<table>
<thead>
<tr>
<th>Purpose</th>
<th>OpenLearn</th>
<th>Saylor.org</th>
<th>VUSSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>To prepare for my teaching/training</td>
<td>62%</td>
<td>53%</td>
<td>98%</td>
</tr>
<tr>
<td>To get new ideas and inspiration</td>
<td>77%</td>
<td>72%</td>
<td>98%</td>
</tr>
<tr>
<td>To supplement my existing lessons</td>
<td>55%</td>
<td>51%</td>
<td>90%</td>
</tr>
<tr>
<td>As ‘assets’ within a classroom lesson</td>
<td>41%</td>
<td>19%</td>
<td>87%</td>
</tr>
<tr>
<td>To give to learners as compulsory self-study materials</td>
<td>22%</td>
<td>17%</td>
<td>55%</td>
</tr>
<tr>
<td>To give to learners as optional self-study materials</td>
<td>41%</td>
<td>29%</td>
<td>71%</td>
</tr>
<tr>
<td>To provide e-learning materials to online learners</td>
<td>26%</td>
<td>21%</td>
<td>60%</td>
</tr>
<tr>
<td>To compare them with my own teaching materials</td>
<td>42%</td>
<td>22%</td>
<td>70%</td>
</tr>
<tr>
<td>To broaden the range of my teaching methods</td>
<td>62%</td>
<td>36%</td>
<td>85%</td>
</tr>
<tr>
<td>To broaden the range of resources available to my learners</td>
<td>51%</td>
<td>31%</td>
<td>86%</td>
</tr>
</tbody>
</table>
To make my teaching more culturally diverse  |  40%  |  22%  |  65%
To enhance my professional development |  65%  |  53%  |  94%
To stay up-to-date in a subject or topic area |  65%  |  46%  |  90%
To learn about a new topic |  67%  |  55%  |  89%
To engage my students more fully in a topic area |  48%  |  26%  |  83%
To connect with teachers with similar interests |  37%  |  20%  |  56%
To interest hard-to-engage learners |  38%  |  19%  |  50%

The consistently high scores across all aspects of teaching and learning mentioned in the survey indicate that OER use is deeply embedded in the practice of educators within the VUSSC network. However, the high proportion of VUSSC educators using OER as study materials for their learners may indicate a shortage of resources that is not experienced by educators using OpenLearn and Saylor.org. This, in turn, may be related to the specific content needs of educators within the VUSSC states, and the fact that the VUSSC OER are intended to meet those needs and to be pertinent to the distinct challenges faced by the member nations, be it disaster management, tourism or entrepreneurship.

Pedagogical change

Figure 3 and Table 2 show that educators are not only using the VUSSC OER within their teaching; they are also using the resources to develop their professional practice to an extent not apparent in the responses from educators using OpenLearn and Saylor.org. Indeed, 94% of educators said professional development was a reason for using the VUSSC OER. In interview, Tebogo E. Seretse, an Officer in the Centre for Graduate Studies at Botswana College of Distance and Open Learning (BOCODOL) comments:

“I’m a new officer in the area of Distance Education. I’m currently enrolled in a course on Certificate in Distance Education for Practitioners and depend on the VUSSC and COL resources heavily...The VUSSC material has helped me to grow professionally as a distance learner practitioner...Not only did the material help me in my research, it also assisted me in identifying course programmes that could be adopted by my institution.

The 70% of VUSSC educators indicating that an aim for using OER was to compare others’ teaching materials with their own in order to assess their own materials’ quality is also evidence that OER use can lead to educator reflection and pedagogical change. Indeed, the survey responses indicating the outcomes of educators’ OER use (see Table 3) show that 80% of VUSSC educators feel that using OER has led to their reflecting more on their teaching and 86% say they use a broader range of teaching and learning methods as a result of using OER (compared with 61% for educator respondents of the OpenLearn survey and 56% for educator respondents of the Saylor.org survey). One educator explained how her teaching has changed due to reflecting on the different pedagogical approaches she encounters in other teachers’ materials:
Using OER puts you in contact with other teachers and you can learn from how they do things differently to you. I’ve changed a lot from using other people’s materials. You can also share your own work with many more people than you could by just publishing it in a journal and as a teacher you can benefit greatly from their feedback and learn how to improve things.

Unsurprisingly, bearing in mind the emphasis on ICT skills development through the VUSSC, 78% of VUSSC educators state that they have improved ICT skills as a result of using OER (in comparison with 35% for OpenLearn-using educators and 40% for Saylor.org-using educators). One educator explained: ‘VUSSC materials encouraged me to introduce teaching through tablets to ensure IT usage and uptake, which is one of the pillars driving my institution.’ Another commented: ‘It has changed the way I teach. First, the material has website linkages, and facilitates access to a broadened range of relevant material in the field. Second, the VUSSC content has technological orientation, e.g. online learning.’

Table 3: Outcomes for VUSSC-, OpenLearn- and Saylor.org-using educators’ OER use

<table>
<thead>
<tr>
<th></th>
<th>VUSSC</th>
<th>OpenLearn</th>
<th>Saylor.org</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have broadened my coverage of the curriculum</td>
<td>80%</td>
<td>66%</td>
<td>55%</td>
</tr>
<tr>
<td>I use a broader range of teaching and learning methods</td>
<td>86%</td>
<td>61%</td>
<td>56%</td>
</tr>
<tr>
<td>I have improved ICT skills</td>
<td>78%</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>I make use of a wider range of multimedia</td>
<td>83%</td>
<td>46%</td>
<td>50%</td>
</tr>
<tr>
<td>I make more use of culturally diverse resources</td>
<td>52%</td>
<td>44%</td>
<td>41%</td>
</tr>
<tr>
<td>I have a more up-to-date knowledge of my subject area</td>
<td>87%</td>
<td>63%</td>
<td>60%</td>
</tr>
<tr>
<td>I reflect more on the way that I teach</td>
<td>80%</td>
<td>58%</td>
<td>53%</td>
</tr>
<tr>
<td>I more frequently compare my own teaching with others</td>
<td>41%</td>
<td>41%</td>
<td>39%</td>
</tr>
<tr>
<td>I now use OER study to develop my teaching</td>
<td>54%</td>
<td>51%</td>
<td>44%</td>
</tr>
<tr>
<td>I collaborate more with colleagues</td>
<td>56%</td>
<td>30%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Sharing and collaboration
The high level of educator engagement with OER within the VUSSC could be connected with the culture of collaboration and networking that is a priority for VUSSC, whereby educators using the VUSSC resources in the context of their teaching have often been involved in creating VUSSC resources, attending VUSSC bootcamps, and training others in OER development and use. This connectedness could be particularly conducive to collective professional development and shared practice. Indeed, 56% of VUSSC educators state that they collaborate more with colleagues as a result of using OER (see Table 3).

A VUSSC educator elaborates:
I am now connected to colleagues from across the Commonwealth as a result of my participation in VUSSC. We communicate by Facebook, email and SKYPE to share information and keep current with activities in our countries whenever the need arises...I find the opportunity to share information with and seek advice and help from colleagues across the world really awesome as is the fact that students across the world are able to access education through VUSSC.

Prof. S. Tichapondwa Modesto (Dean, School of Business and Management Studies, Botswana College of Distance and Open Learning) comments:

There is uniqueness in the VUSSC initiative in that it brings together practitioners from the 32 small states to collaborate on designing a particular curriculum, then also spend no less than three weeks writing course materials. The varied backgrounds of the writers brings academic variety of style and examples from across the world. This makes the individual courses [better quality] than when examples come from one country.

Modesto outlines his own collaborative activities through VUSSC:

As a writer, I have made significant contribution to open education resources. Apart from the modules for specific programmes, I have authored 5 books. The latest was in 2013 - Preparing your dissertation at a distance (http://www.sadc.int/files/3713/7821/2867/Dissertation_PDF.pdf) - released under a CC-BY-SA license. I coordinated academics from 16 universities in Southern Africa, and each one either contributed a chapter or co-authored a chapter with a colleague. The volume was launched at a Symposium in Gaborone. The book is now widely used by both conventional and ODL institutions to help students conduct research.

Further supporting evidence for the value and extent of collaboration within the VUSSC is offered by the survey data relating to sharing and OER adaptation. Adaptation of OER remains a key priority for the open education movement and 72.5% of VUSSC educators have adapted resources to fit their needs, while 47% have created them for study or teaching. The VUSSC educators showed evidence of sharing OER with their peers, though just 22% had added a resource to a repository. 22% had made quality-related comments to a resource in a repository and just 10% comments related to OER use. One educator highlighted the advantage of English being commonly spoken across the VUSSC member states, explaining that ‘we don’t have to worry about translation, I can easily share resources with people across a wide geographical space’. Another commented: ‘The course development bootcamps were an experience that has given me new contacts and partners in materials writing. This has, thus, enhanced my skills as a distance education practitioner.’

Student performance and satisfaction
The VUSSC survey research also adds to the existing OER Research Hub data on the impact of OER on student performance and satisfaction. Figure 4 shows that while both educators and formal learners using VUSSC OER are positive about the impact of OER use on many aspects of the learning experience, the latter are consistently more positive than the former –
a finding that is echoed in the OER Research Hub global dataset (see de los Arcos et al, 2014, pp. 11-12).

Figure 4: A comparison of VUSSC educators’ and formal learners’ views about the impact of OER on student learning

Table 4 compares the views of formal students completing the VUSSC, OpenLearn and Saylor.org surveys, with regard to the impact of OER on their studies, indicating that students completing the VUSSC survey are particularly positive about their use of OER. The substantial differences between the responses of the VUSSC respondents and of those completing the OpenLearn and Saylor.org surveys could be due to various factors, for example:

- The VUSSC formal students may be benefitting from the OER awareness of a distinct group of educators, trained and skilled in the use of OER in their teaching. (The OpenLearn and Saylor.org formal student respondents will be studying in a much wider range of settings, and with a much more diverse range of educators.)
- The VUSSC survey was promoted by members of VUSSC, while the OpenLearn and Saylor.org surveys were promoted via links on public-facing websites. The sample for OpenLearn and Saylor.org will therefore be more disparate.
- It is likely that the VUSSC formal students will be using OER as their only form of study (for example the OER courses offered by many of the VUSSC institutions),
whereas OpenLearn and Saylor.org resources are more likely to be used to supplement other study.

Table 4: Formal students’ responses about the impact of OER on their studies, across VUSSC, OpenLearn and Saylor.org

<table>
<thead>
<tr>
<th>Studying OER has led to my...</th>
<th>VUSSC</th>
<th>OpenLearn 2014</th>
<th>Saylor.org</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased participation in class discussions</td>
<td>92%</td>
<td>34%</td>
<td>30%</td>
</tr>
<tr>
<td>Increased interest in the subjects taught</td>
<td>100%</td>
<td>72%</td>
<td>58%</td>
</tr>
<tr>
<td>Increased satisfaction with the learning experience</td>
<td>91%</td>
<td>74%</td>
<td>53%</td>
</tr>
<tr>
<td>Grades improving</td>
<td>90%</td>
<td>36%</td>
<td>32%</td>
</tr>
<tr>
<td>Gaining confidence</td>
<td>91%</td>
<td>65%</td>
<td>50%</td>
</tr>
<tr>
<td>Increased independence and self-reliance</td>
<td>92%</td>
<td>56%</td>
<td>48%</td>
</tr>
<tr>
<td>Increased engagement with lesson content</td>
<td>92%</td>
<td>57%</td>
<td>36%</td>
</tr>
<tr>
<td>Increased experimentation with new ways of learning</td>
<td>90%</td>
<td>67%</td>
<td>48%</td>
</tr>
<tr>
<td>Increased collaboration with peers</td>
<td>80%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>Increased enthusiasm for future study</td>
<td>100%</td>
<td>80%</td>
<td>59%</td>
</tr>
<tr>
<td>Becoming interested in a wider range of subjects</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
</tr>
<tr>
<td>Being more likely to complete my course of study</td>
<td>91%</td>
<td>58%</td>
<td>41%</td>
</tr>
</tbody>
</table>

VUSSC educators interviewed for this study were also emphatic that the VUSSC resources were helping to improve student performance and satisfaction, in addition to increasing access to learning. Tebogo Seretse, from Botswana College of Distance and Open Learning (BOCODOL) suggested that the VUSSC Transnational Qualifications Framework was connected with positive student outcomes:

As an officer in the Centre for Graduate Studies here at BOCODOL I am working with the Coordinator for MEd in Educational Management and Leadership programme which is a VUSSC course that is highly appreciated by the students...I found the use of a programme that has undergone some form of International Qualifications Frameworks is a motivating factor for our learners.

Seretse highlights the impact of the VUSSC in widening participation in education in the developing world, explaining:
The programmes offered by VUSSC are of high quality and could benefit third world countries like Botswana to improve and enhance the education system. Our institution BOCODOL is benefiting significantly from the VUSSC programmes and hence improves the lives of many who have not been successful in the conventional education system.

Other educators made similar points about VUSSC increasing access to education through its provision of flexible modes of study and no-cost, high quality resources:

There are persons in some parts of the world who depend on these materials to advance themselves educationally. VUSSC provides materials that they would not be able to access otherwise, or may not be able to afford.

Working students are able to get access to quality education through the VUSSC materials. They are also able to study at their own pace.

Precise, condensed material provided; easily readable; adds interesting variety in the material for studies.

I always provide the websites that I feel would be beneficial and easily understood by peers. I also share such sites with parents who can use them home with students as additional practice for their children in respect to information.

It provides an opportunity for students to use resources other than the prescribed textbook. In a way OER provides additional examples in other similar contexts. I can now share the resources on the ambit of the Creative Commons License.

**Discussion**

The VUSSC study adds to the OER Research Hub data about educators’ sharing practices and the impact of OER on teaching and learning and clearly shows many VUSSC educators have reached the ‘medium’ (and some the ‘high’) step of Joanna Wild’s stairway model of educators’ engagement with OER (see Figure 5, Wild, 2012 and Pegler et al, 2012).

**Figure 5: Wild’s OER engagement ladder**

In this model, low engagement involves educators using and sharing resources with no adaptation, medium engagement involves educators integrating OER into core teaching
materials and “tweaking” them to meet their own needs, and high engagement involves producing and sharing OER and becoming an advocate for OER use. In addition, the VUSSC study shows how geographical borders can be traversed through working collaboratively online, especially when communicating in a common language. However, it is clear from the VUSSC study that finding up-to-date, high quality, context-relevant resources remains a challenge, as do infrastructure problems in some areas. Table 5 shows some of the challenges faced by formal learners and educators when using OER.

Table 5: Challenges faced by formal learners and educators when using OER

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Educators</th>
<th>Formal learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding OER relevant to my context</td>
<td>87%</td>
<td>80%</td>
</tr>
<tr>
<td>Knowing where to find OER</td>
<td>77%</td>
<td>82%</td>
</tr>
<tr>
<td>Finding OER in my subject area</td>
<td>76%</td>
<td>82%</td>
</tr>
<tr>
<td>Technical problems</td>
<td>71%</td>
<td>80%</td>
</tr>
<tr>
<td>Insufficient time to find OER</td>
<td>73%</td>
<td>67%</td>
</tr>
<tr>
<td>Finding quality OER</td>
<td>70%</td>
<td>82%</td>
</tr>
<tr>
<td>No connections with OER-using peers</td>
<td>62%</td>
<td>57%</td>
</tr>
<tr>
<td>Finding up-to-date OER</td>
<td>56%</td>
<td>73%</td>
</tr>
<tr>
<td>Unsure about permission to modify OER</td>
<td>52%</td>
<td>56%</td>
</tr>
<tr>
<td>Colleagues accepting OER use</td>
<td>51%</td>
<td>50%</td>
</tr>
<tr>
<td>Lack skill to edit OER</td>
<td>45%</td>
<td>44%</td>
</tr>
<tr>
<td>Needing tutor support</td>
<td>35%</td>
<td>44%</td>
</tr>
</tbody>
</table>

One student identified challenges mentioned by many VUSSC survey respondents, and which are common throughout the developing world - ‘not being able to access internet where it is necessary [and] the purchase of equipment to access OER’, adding that ‘the gap between those who have and those who do not have has been increased’.

Benefits to institutions and to nations - the BOCODOL case study

While the VUSSC survey data showed much about how individual educators and students are using and benefitting from OER, the benefits to institutions only became apparent through interviews with VUSSC participants, who revealed that using the VUSSC OER was also helping institutions to develop and broaden their educational programmes and to meet existing and potential students’ needs. One institution for whom the VUSSC has been particularly impactful is Botswana College of Distance and Open Learning (BOCODOL). Based in Gabarone, Botswana, BOCODOL has long been a VUSSC collaborator. BOCODOL has recently ventured into higher education and offers two diploma level programmes, with plans for further expansion in this area.
Three educators from BOCODOL were interviewed for this research study, Mmabaledi Seeletso (Acting Director of the School of Education), Tebogo E. Seretse (an Officer in the Centre for Graduate Studies) and Prof. S. Tichapondwa Modesto (Dean, School of Business and Management Studies). Mmabaledi Seeletso explains that she has been involved with VUSSC in several ways:

I have created resources for VUSSC in that I was part of the team that met in Singapore to develop the Master of Leadership programme, where I was also a team leader. I have introduced the Masters programme and hopefully this July I will be introducing the second VUSSC programme in my department - The Graduate Certificate in Quality Assurance. I will be teaching both programmes. I have also co-authored book chapters for VUSSC.

Seeletso explains that being a VUSSC collaborator has helped BOCODOL to expand its provision:

VUSSC is really doing wonders for us upcoming new tertiary institutions...It has...helped my institution with content that the institution would maybe have failed to develop and offer on time. VUSSC materials have mainly helped [BOCODOL] to meet the requirements of a University by offering tertiary programmes.

Seeletso explains that the impact of VUSSC extends beyond BOCODOL to a national level in Botswana:

It has greatly helped my country with the mandate on human resources. Teacher development was a priority and it was going to be difficult to take this to external universities as our local institutions did not have the capacity. This is the main impact, as far as I am concerned. VUSSC has given us the capacity.

BOCODOL’s Prof. S. Tichapondwa Modesto has created VUSSC resources, has used them as a teacher, and has trained teams on how to write VUSSC materials. He echoes Mmabaledi Seeletso’s comments about the affordances offered to BOCODOL by being a VUSSC collaborating institution, especially in terms of quick and efficient institutional expansion:

The VUSSC material [has]...enabled me to start new programmes without having to convene a team of writers to develop new study materials. The BBE, Disaster Management are good examples of new programmes that BOCODOL adopted in their existing form.

**Future development of VUSSC**

While there is evidence that openness is spreading throughout the VUSSC member states the study also indicates there is still much scope for expansion. Furthermore, it appears that outside its member states the VUSSC is not well known and there is a need for increased global awareness of its work. Several of the survey and interview responses identified the need for further skills development as essential to realising the full potential of the VUSSC:
Personally I could benefit from a training that will equip me with skills of introducing an online programme to distance learners, and the nature of support that I could offer to the learners.

OER will be of great help to the lecturers during the development of pre-service courses. However the lecturers have limited knowledge and skill on the use of OER. They need more assistance on how to use it effectively.

The need for skills development to fully realise the potential of OER echoes the conclusions drawn by Hemmings-Buckler et al (2014, p. 231) and Perryman et al (2014) in their studies of OER localisation in the TESS-India project, namely that training in ICT skills, and in the principles of OER and openness, can help people to move up Wild’s (2012) OER engagement ladder.

The potential of the VUSSC could also be further realised by prioritising the development and strengthening of global communities of practice comprising educators experienced in creating and adapting OER in addition to people less familiar with doing so. Coughlan and Perryman (2013) suggest that self-educating communities of open practice can help provide an environment for peer support, skills development, the collaborative creation of knowledge and the sharing of resources. BOCODOL’s Prof. Modesto explains how communities of practice might work for VUSSC:

Having spearheaded the development of several programmes, and courses within programmes, it is suggested that VUSSC should keep a record of those professionals who have made significant contribution to its course, and fund them to assist in the progression of the VUSSC agenda. What is meant is that VUSSC goes through interlocutors/institutional heads to source bootcamp participants, and that is fine. However, while new participants are welcome for various reasons, it would be prudent to fund VUSSC’s experienced members to occasionally assist at Bootcamps instead of having only new people. This is irrespective of the area focused on at the Bootcamp. Instructional design is cross-cultural.

Abheenaye Chauhan Gokhool, a Lecturer and Programme Manager at the Open University of Mauritius suggests that partnership may be a route to extending the VUSSC, in addition to better promotion:

I think VUSSC is on the right track in bringing quality education to students. [But] there should be more engagement in the VUSSC to promote education worldwide and make it accessible to any potential student...Furthermore, VUSSC should be working with the private sector as a partner in creating jobs, designing programmes which fit to the requirements of the companies, encouraging their employees to pursue higher studies and also developing ideas about how to use resources more efficiently.

BOCODOL’s Mmabaledi Seeletso suggests that local advocacy could help in raising awareness of VUSSC:

So far VUSSC is doing very well. I will encourage it to also have focal persons who can advocate for use of OERs as in a country like mine, a lot of
new institutions are not necessarily offering the best content to their learners, yet VUSSC materials are there for their use. We need focal persons who can promote VUSSC programmes in their respective countries to benefit like some of us are doing.

Conclusion
The study of the VUSSC has allowed an insight into the means by which open educational practices provide some of the world’s smallest countries with stronger economic opportunities and improved access to quality education, offering them the potential to become active contributors to global development. By 2014, 49,103 educators and learners have been trained or reached using OER (see Dunlop, 2014, p.4). The collaborative creation of resources that are pertinent to the small states’ local contexts is key here, as is educators’ professional development through the VUSSC OER, their improved pedagogical practices, their increased connectedness with peers worldwide, their sharing knowledge, skills and resources across geographical boundaries, and their changing attitudes towards openness. One educator summarises her experience of being part of the VUSSC: ‘I have gained new skills, a deeper understanding of the challenges facing other Commonwealth nations, and increased confidence and optimism in the ways in which lack of funds, remoteness and lack of resources can be overcome when people collaborate’.

However, it is also apparent that barriers to realising the potential of OER still remain, especially those imposed by weaknesses in digital infrastructure, lack of ICT skills and unfamiliarity with the principles of OER and OEP. It is possible that some of these barriers could be removed through the continued development of transnational communities of practice, allowing the expertise of established VUSSC participants to be shared amongst newcomers to the VUSSC. It may also be beneficial to further localise some of the VUSSC OER to meet the needs of specific communities and even to include translation into some of the 17 languages (see Dunlop, 2008, p. 2) that are commonly used in VUSSC participant nations.

The research findings summarised above and reported in detail in this paper should be of value across the open education movement globally, adding to the growing picture of the power of OER and OEP in diverse contexts, especially in low-income countries, and presenting a compelling view of the potential of open collaboration in growing small states’ educational capacity and in helping increase educational and social inclusion in remote and isolated areas of the world. A VUSSC participant summarises:

Meeting people from so many different countries and working with them towards one aim has been a great learning experience. Small countries like ours all share a common pool of problems and needs. Leveraging technology to overcome these is good, but doing it together is great!

References


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