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***New ways of mediating learning: Investigating the implications of adopting Open Educational Resources for tertiary education at an institution in the United Kingdom as compared to one in South Africa***

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### **Abstract**

Access to education is not freely available to all. Open Educational Resources (OERs) have the potential to change the playing field in terms of an individual's right to education. The Open University in the United Kingdom (UK) was founded almost forty years ago on the principle of 'open' access with no entry requirements necessary. The university develops innovative high quality multiple media distance-learning courses. In a new venture called [OpenLearn](#), The Open University is making its course materials freely available worldwide on the Web as OERs. How might other institutions make use of these distance-learning materials? The paper starts by discussing the very different contexts in which two institutions operate and the inequalities that exist between them. One institution is a university based in South Africa and the other is a college in the UK, both delivering distance-learning courses. The second part of the paper discusses preliminary findings when OERs are considered for tertiary education at these two institutions. The findings emphasise some of the opportunities and challenges that exist if these two institutions adopt OERs.

**Keywords:** open educational resources, distance-learning, open education

### **Introduction**

Every individual worldwide should have access to the widest possible range of educational opportunities. However, inequalities of admission to education still exist (Smith and Casserly, 2006; Brennan, 2004; Bekhradnia, 2004; Badat, 2004; Open Content Initiative, 2006). This inequity manifests itself at an individual country level in the form of differences between the facilities and academic resource provided by various institutions. Comparison of one country with another in terms of provision and fairness of access to education indicates even more inequality (Smith and

Casserly, 2006). In reality, right of entry to education is much more likely in prosperous countries than poor countries (Tomasevski, 2006). Online educational resources are obtainable through Information and Communication Technologies (ICTs). However the availability and reliability of ICTs can also be unequal between different countries. Therefore the straightforward adoption of Open Educational Resources (OERs) cannot be taken for granted. Such issues of unequal access are discussed below in terms of two institutions, one in South Africa and the other in the UK.

Open Educational Resources (OERs) are shareable assets. The origin and development of OERs is discussed in detail by a number of authors (Smith and Casserly, 2006; Hylén, 2006; Downes, 2006; Geser, 2007; Wiley, 2006; Wiley, 2007). OERs can play a part in advancing the lifelong learning and social inclusion agendas (Geser, 2007). They have the potential to provide a wide variety of learning experiences for learners in different countries. They provide the possibility of increasing the range and type of learning opportunities available for those who are

- from non-traditional educational backgrounds
- travelling extensively,
- in employment,
- from under represented groups such as:
  - The vulnerable,
  - Those with disabilities,
  - The house bound,
  - Those with family dependents,
  - Those on low incomes or with no income,
  - Those from low socio-economic groups,

- Those seeking refuge from another country,
- The elderly,
- Those from minority ethnic groups,
- Those in prison.

Indeed Smith and Casserly (2006) discuss their vision of OERs contributing to the United Nations Millennium goal of basic education for all by 2014. This paper focuses particularly on the course materials category of OERs (Smith and Casserly, 2006).

The idea of sharing content is not new. MIT's course materials have been available to the world through its Open CourseWare (OCW) initiative since September 2002. Other institutions have followed this lead (John Hopkins Bloomberg School of Public Health, Rice University Connexions, Utah State University, Sharing of Free Intellectual Assets, Open Learning Initiative from Carnegie Mellon, China Open Resources for Education Initiative and Japanese OCW Alliance among others). The Open University in the United Kingdom (UK) a well-known and respected distance-learning institution has joined the OER arena.

The UK Open University has maintained excellence in the open and distance-learning field for almost forty years. It has been developing and delivering innovative course materials that have undergone a long process of peer review. It has a strong student base throughout the UK and is increasing its student numbers in other parts of the world. In a new venture called OpenLearn, The Open University is making its course materials freely available worldwide on the Web as OERs. The distinction with The Open University's contribution is that the materials are from supported open and distance-learning courses (McAndrew, 2006). Prior to OpenLearn, the majority of OERs were developed at campus-based institutions where learning and teaching often

relies heavily on the lecturer(s)' input to the course materials. The Open University distance-learning materials by contrast already embody the lecturer(s) in the form of Supported Open Learning. The high quality Open University materials include many activities (self assessment and review questions) and the materials are designed to be self-supporting to a large degree. In addition, the Moodle enhanced environment supporting OpenLearn provides freely available online forums, unit reviews, unit rating and community building tools (all advocated by Smith and Casserly, 2006).

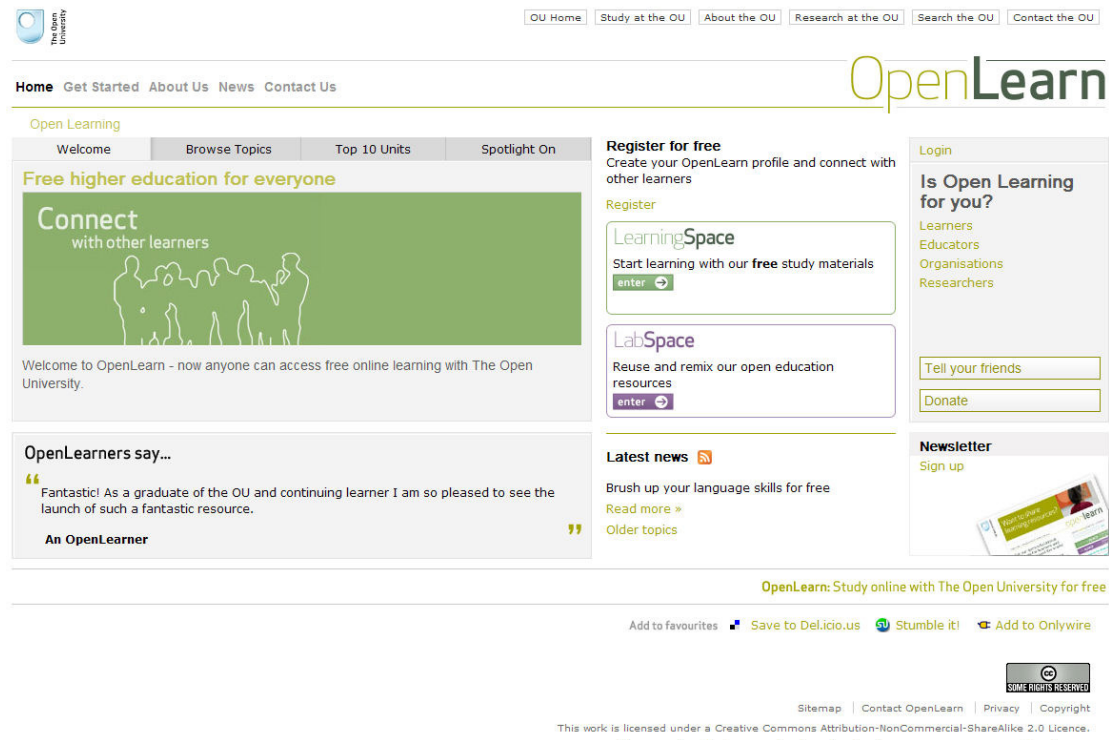
How might these distance-learning OERs be utilised in different countries worldwide and what barriers might there be to adoption in developing countries? The work reported here focuses on two institutions that deliver distance-learning courses and the circumstances in which they operate. One institution is a university based in South Africa and the other is a college in the UK. This research was undertaken at an early point in the project.

### **OpenLearn**

OpenLearn is funded by the William and Flora Hewlett Foundation and was launched on 25<sup>th</sup> October 2006. The project is adapting distance-learning materials for delivery as multimedia OERs in a Moodle enhanced environment on the Web. These materials are taken from the original Supported Open Learning version of a course (which includes tutorial support and assessment). In the OpenLearn context the materials called 'units' will be standalone, i.e. without tutorial support or assessment.

OpenLearn consists of twin sites, the LearningSpace aimed at learners and the LabSpace aimed mainly at educators (see figure 1). At launch, nine hundred study hours of material were made available in the LearningSpace. The number of units and thus study hours in each site will continue to be updated (to make 5400 learning hours available in the LearningSpace and 8100 hours available within the LabSpace by

April 2008). The LabSpace is a more experimental area where educators can download units of material, rework them and re-upload them (McAndrew and Hirst, 2007).



**Figure 1:** The OpenLearn website showing linked captions to the LearningSpace and LabSpace areas

The environment includes units of high quality accessible learning material. These are accessed by clicking on the 'Browse Topics' tab near the top of the screen (see figure 1) or by entering the LearningSpace or LabSpace. Each unit of material provides between 4 and 30 hours of study time and is specified at a particular level of study (Lane, 2006). Units contain a variety of multimedia components (see Wilson, 2007).

The learner can interact with the material in the eleven different topic areas. A learner is considered to be anyone and everyone. OpenLearn provides a vast resource, which could support different types of learning and provide valuable insights for a

diverse range of students. Individuals or collections of people can choose to work together in organised or amorphous groupings without being constrained by an organisation's timetable, policies or procedures. On the other hand a distance-learning institution may choose to use units of OpenLearn OERs as part of their curriculum and decide to give credits or not for the study of this material. This paper highlights very different circumstances in terms of access to education in South Africa and the UK. Two distance-learning institutions (one from each of these countries) enable initial research to be undertaken into their proposals for adopting distance-learning OERs to enhance the teaching and learning experience for their learners.

### **Associated issues**

First, it is important to outline the various issues that are associated with the development and usage of OERs. Although OERs have great potential to equalise access to educational materials they are not always straightforward to produce. There are issues in setting up repositories to store OERs. The initial set up, continued support, storage and updating of content for an open educational resource repository are expensive (Smith and Casserly, 2006). Ferreira and Heap (2006) discuss the development of OpenLearn OERs and the various roles within this process, including academics, who consider pedagogic and subject issues; rights specialists, who consider third party issues and the technical team, whose members assess whether assets are suitable for online delivery. Sustainability, copyright, intellectual property and unequal access are all raised as issues with OERs (Smith and Casserly, 2006; Wiley, 2007; Downes, 2006).

The term OER itself covers a wide range of different types of asset. However textual OERs are the most widely available shareable asset in OER repositories (Wiley, 2007). Mathematical and scientific notation are difficult to display within text

so PDFs are often used (Wiley, 2007). Within OpenLearn, mathematical and scientific notations are displayed as images though these are not resizable.

Certain distance-learning OERs can be developed without any major transformation being necessary. Other resources need to be converted in some way for use as OERs:

- The resource may be taken out of context and needs to be changed so that it can stand-alone.
- The original material may need to be presented in a different way to suit online delivery (examples are long audio, video sequences and software).

To ensure compatibility between repositories, OERs should be developed in such a way that they are easily reusable: technically, linguistically, culturally and pedagogically (Wiley, 2007). Wiley (2007) in discussing OERs delivered mainly by campus based institutions suggests that it is expensive to develop OERs from scratch or from the different components a lecturer might use in their course delivery at a campus based institution. Essentially he is saying that it is more expensive to develop OERs for student usage than for educators. This argument is less relevant to the Open University OERs as the material was originally developed to be standalone, primarily for student consumption. This suggests that conceivably more distance-learning materials (which already embody the lecturer in the form of Supported Open Learning) should be transformed into OERs as potentially they are less expensive to produce as stand alone materials. Issues associated with the actual transformation of Open University distance-learning course materials into OERs is discussed by (Wilson, 2007).

## **Approach**



This early stage research sets out to explore the ease or difficulty with which distance-learning OERs can be adopted by two distance-learning institutions in different circumstances. Data was collected to give early indications and feedback for the project and also to provide data that could be compared with other findings at a later date. Follow-up research will analyse what the issues are more widely and include traditional campus based institutions that wish to adopt these distance-learning OERs. The data was gathered at an early stage (less than four months after the OpenLearn environment was launched) to gather initial information from potential users. The work discussed here is part of a larger project involving twelve representatives from eleven institutions worldwide.

The two institutions discussed in this paper were identified as appropriate as they were both aware of the work of the Open University and deemed to be in a position to re-use distance-learning OERs. One institution, a university, is based in South Africa and the other, a college, is situated in the UK (the participants and their institutions are discussed further below). Both institutions are involved in distance-learning provision. By comparing an institution in the UK with one in South Africa, the conditions and implications for an institution in a developing country can be compared with those of a developed country.

In terms of data gathering in these institutions, OECD CERI (2007) reported poor results from a survey aimed at high-ranking members of organisations suggesting that OER development was perhaps a grass roots process. For that reason it was decided to contact senior members of institutions and conduct in-depth interviews rather than a wider survey of staff opinion, since requests for return of survey questionnaires can more easily be ignored than can requests for interviews.

The South African university involved in this study has been delivering a number of distance-learning courses through study centres since 1996. The university allocates funds to make education more accessible to those from disadvantaged groups. The interviewee is a Professor who represents a Faculty within the university. The Professor consulted twenty-one lecturers responsible for distance education programmes at the university and provided a summary of their responses in the interview. He/she was selected, as he/she would provide a good overview from a faculty perspective.

The UK distance-learning college involved in this study has been delivering a number of distance-learning courses for more than forty years. Students in the main are adults and study from home. The widening of participation of adults in education is at the heart of the college's undertaking. The courses available are either pre university courses or lead to professional qualifications. The interviewee is a Director of the college and he/she is representing the high level views of the whole college, the reason why he/she was selected.

To understand the implications for distance-learning institutions adopting OERs the following questions were posed:

- Which topic areas within OpenLearn would be of interest to learners?
- Would OpenLearn material fit within the present curriculum?
- Would OpenLearn material fit within the timetable of study?
- What expectations do the institutions have of using OERs with learners?
- Would the institutions provide assessment for the OpenLearn material?
- What form would assessment take?
- What implications are there in terms of policies and procedures when using OER's for accreditation?

- Would OpenLearn material be better suited to learning in cases of non-accreditation?

These questions are designed to start to address the issues of usage, unequal access, assessment, accreditation and non-accreditation, as discussed by Smith and Casserly (2006). Although many OERs have been made available worldwide little is known in terms of quality research about who is actually using OERs (Hylén, 2006; Wiley, 2006).

The interview with the participant in the South African university took place between on 15<sup>th</sup> and 20<sup>th</sup> February 2007 and the interview with the college in the UK took place between 17<sup>th</sup> January and 5<sup>th</sup> February 2007. Interviews were used to gather detailed information (Zand, 1994) and were semi-structured (as advocated by Preece et al., 1994; Zand, 1994 and Fowler, 1993). As the interviewer and interviewee were long distances apart the exchanges with each institution took place as a personal on-line semi-structured interview, termed as an epistolary interview (Debenham, 2001). The semi-structured interview schedule was piloted in advance with two researchers. This paper discusses nine questions asked in the personal on-line semi-structured interviews. Seven of these questions were of an open type, requiring ‘open-ended’ responses. Two questions were of a ‘closed ended’ type. Sub-questions or more background information was supplied online in response to queries and to overcome misunderstandings. Therefore ongoing conversations developed overtime.

The data from the interviews is comprised of the users’ opinions as expressed in mainly open responses in the personal on-line semi-structured interviews. The interview transcriptions were broken down into separate responses. The ‘open-ended’ responses from both interviewees were compared so that interesting suggestions could be identified.

## **The unequal context in which the institutions operate**

As indicated in the Introduction, the unproblematic adoption of OERs worldwide cannot be assumed and thus consideration needs to be given to the underlying circumstances and political climate that, prevails in different countries. 'Education should be free and compulsory...' but '... 'what is mandated by international human rights law reflect deep divisions within the international community... The resistance to defining education as a human right informs global education strategies' (Tomasevski, 2006 p pxvii to xix and xxiii). There is conflict between an individuals rights and governments promises (Tomasevski, 2006).

The two institutions involved in this research are delivering distance-learning courses in different circumstances. They are:

- Based in different countries,
- Using different infrastructures to access ICTs
- Working within different educational policies and
- Teaching at different levels.

This variety of circumstances allows an initial investigation into the opportunities and challenges that can arise.

Although access to OpenLearn itself would not involve a cost for learners, what method of access would learners use and how much might it cost? Let us now look in turn at the situation in each country in which each institution is based to analyse the extent to which access is equal or unequal.

### **South Africa: educational policy and access to ICTs**

Though South Africa's HE system can boast many merits, equality of access to education has not always been one of them. The ending of apartheid in the early

1990's provided a major opportunity for change (Badat, 2004; Brennan et al 2004). 'One key policy imperative of democratic South Africa is to transform HE so that it becomes more socially equitable...' (Badat, 2004, P2). Equal opportunity together with improved research, teaching and learning strategies would enable South Africa to participate more fully in the global economy (Badat, 2004).

Tomasevski (2006) argues, however that education in South Africa has not played its part in the transition from apartheid. She reports that South Africa does not have legal guarantees of free primary education.

'The post-apartheid government' of South Africa 'has not managed to universalise education or to make it free after a full decade of having in place a constitutional guarantee of basic education for all' (Tomasevski, 2006 P58). There are plans to have both fee-free and for-fee schools which, Tomasevski argues, will increase inequality in education, as the for-fee schools will provide a much better learning experience than the fee-free schools. She also reports that 11% of school age children do not even register at school.

In addition, there are inequalities of access to fixed telephone lines, modern computers and the Internet in Sub-Saharan Africa (Ivala et al. 2005; Spronk, 2001; Smith and Casserly, 2006). Internet access is not widely available and tends to be situated in large cities rather than rural areas (Ivala et al. 2005; Atkins et al. 2007). Less than 10% of the population has access to the Internet; nonetheless, this still puts South Africa ahead of Kenya, Nigeria and Tanzania (Ivala et al, 2005).

Ivala et al (2005) estimate that more than 50% of students and staff in higher education in South Africa are Internet users and higher education institutions are spending more on improving such facilities. However this figure appears not to be true for all universities as Connolly et al. (2007) report that only 2% of the students

had access to the Internet on the distance teacher education programmes at the University of Pretoria. Atkins et al. (2007) concur that ability to access the Internet in Africa would be between 2% and 5%. Also high speed Internet access is very expensive for African universities as compared to similar institutions in the developed world (Atkins et al. 2007).

However, Roelen et al (2007) argue that students (from developing countries) who studied a higher education course online found it a positive experience. The students based in Africa and Asia studied with a tutor based in Maastricht. Though Roelen et al (2007) were concerned about bandwidth capabilities in Africa and Asia. Accessing the online facilities did not prove to be difficult as students could either use the facilities of their employer (the ministry) or use Internet Cafés. The availability of these facilities suggests though that these students were based in urban or city areas rather than rural areas.

One ray of hope is that the widening availability of mobile phones in rural Sub-Saharan Africa and provision of Internet access will facilitate the adoption of OERs in rural areas. The largest increase in mobile phone networks between 2000 and 2005 in the world was seen in Sub-Saharan Africa (Atkins et al. 2007). Indeed Atkins et al (2007) propose that the mobile phone or hand held device will become the method used by most people to access the Internet. However Ivala et al (2005) reported that mobile phones have not yet been used to access the Internet in the African Continent.

In terms of policy, 'Nearly all universities had been under pressure to *reform curricula* and to introduce new forms of academic recognition and quality assurance' (Brennan et al. 2004 p8). A White Paper on e-Education was released by the Department of Education in South Africa in 2004 (Ivala et al. 2005). A key feature of

the White Paper is an assertion that all those working and learning in an educational institution should be self-assured and inspired enough in their use of ICT to develop their skills and knowledge for lifelong learning (Department of Education, 2004). Also countries in Sub-Saharan Africa have been in deep contemplation about how ICTs could be used in educational contexts from school level right through to university (Swarts, 2007).

### **United Kingdom: educational policy and access to ICTs**

Although the UK is a developed country within Western Europe, inequalities of access to education still exist. Different institutions have differing entry requirements. Their resources in terms of staff and equipment vary considerably and hence they provide dissimilar learning experiences for their students. Although, children are encouraged to stay on at school after the age of 16, they must satisfy entry requirements and be in a position to pay tuition fees. As a consequence, students from low socio-economic and minority ethnic groups still comprise a small proportion of the UK student population.

Access to ICT facilities is much more prevalent in Western Europe than in developing countries, so much so that institutions of all descriptions are adopting online learning environments to enhance teaching and learning processes, and moving towards e-learning approaches for course delivery. An integral part of this e-learning agenda is the inclusion of a Virtual Learning Environment (VLE) such as WebCT, BlackBoard, or Moodle. These VLEs host course materials and communication facilities though often access is password protected. Access to online facilities in the UK can be prohibitively expensive, however, to those on low incomes or with no income.

Student numbers have been increasing at institutions in the UK. Indeed with attempting to increase student numbers at the behest of the Government but without additional funding, institutions recruited many more students than necessary, meaning that they grew more quickly in size than was perhaps prudent (Bekhradnia, 2004).

The 2003 White paper indicates that the Government expects nearly 50% of 18-30 year olds to participate in higher education. Bekhradnia (2004) however, argues that it will take more than government policy to truly widen access to education. He suggests that higher levels of achievement in different social groupings while at school will influence a more diverse range of students to apply to institutions.

### **Availability and accessibility of high quality material**

How will the differences between the UK and South African contexts just described affect the ability of the two institutions in question to adopt OERs? The interviewees at the two institutions involved in this research were asked if they were aware of the OpenLearn website and how they had known about it. They both reported that they were aware of the website. The interviewee at the university in South Africa mentioned that they had heard about OpenLearn by word of mouth and through links on the Internet. The college in the UK was aware of OpenLearn through participation in a workshop in the UK.

The subsequent question involved the areas that are of interest to them within the environment. As mentioned above, there are eleven different topic areas within OpenLearn. These are:

- Arts and History
- Business and Management
- Education
- Health and Lifestyle



- IT and Computing
- Mathematics and Statistics
- Modern Languages
- Science and Nature
- Society
- Study Skills
- Technology

Each topic area comprises a variety of units, with different study hour and level allocations as indicated earlier. The interviewees were asked about which topic areas within OpenLearn would be of interest to their learners. It is perhaps surprising to find that both institutions (though based in different countries and teaching at different educational levels) chose very similar topics. The university in South Africa chose ten of the eleven topics (leaving out ICT and Computing) while the college in the UK chose nine of the eleven topics (leaving out ICT and Computing and Technology). This suggests that the OpenLearn topics could provide a large pool of useful OER units for both of these distance-learning institutions.

### **Opportunities and challenges when adopting OERs**

Thus a wide variety of topic areas appeared to be of interest to both institutions. Although it was also important to establish the extent to which the OpenLearn material would actually fit within each institutions present curriculum offering. The university in South Africa responded that the OpenLearn OERs would fit in with their present curriculum but implied that they would not accommodate all their learners' requirements. The interviewee also consulted the lecturers responsible for distance education programmes at the university in South Africa. The summary of the

lecturers' responses was as follows: the 'majority of lecturers [were] in favour especially for additional reading. Some material might fit in with our programmes but others are not even covered as far as we know'. These responses suggest that OpenLearn units would fit in with the curriculum as a form of supplementary material, and that OpenLearn provides units in areas that are not yet covered by the university in South Africa.

In contrast, the college in the UK indicated that the OpenLearn units would not fit directly with their curriculum 'but ... could provide some optional added interest'. This suggests that the OpenLearn material would be complementary to the present curriculum offerings. As the materials on OpenLearn are mostly at university level, perhaps they are not directly relevant to a college.

Another issue was whether the OpenLearn material would fit within the two institutions timetable of study. The university in South Africa indicated that the OpenLearn units of material would not fit into their present timetable of study. The interviewee clarified this further saying 'we will first have to look at your material and see how we can adapt it to our situation' and consider the 'time allocation' to do this. It is not surprising that time would be required to reflect on the present curriculum and how these new materials could become integral to the university's offerings. A number of other issues come into play here also. The OpenLearn materials in the main are written in English although some have been translated into other languages. They are designed for a mainly Western European audience. In adapting the OpenLearn materials the South African university would also have to consider the issue of language

- English is not the first language for most African people (Ivala et al. 2005).

and

- the need to localise content for the audience (Connolly et al. 2007).

Cultural and linguistic issues concerning the adoption of OERs are also discussed by Wiley (2007).

The college in the UK was unsure about whether the material would fit into their timetable of study, as ‘students don’t work in cohorts’ they tend to work individually and at their own pace. An option for the college might be to consider their tutors as a guide to point students to relevant units within OpenLearn.

The participants were then asked about the institutions’ expectations of how they will use OERs with their learners. The interviewee in the university in South Africa again consulted the lecturers responsible for distance education programmes at the university. The following responses were received:

- ‘Downloading from Internet’.
- ‘Expose students on an experimental basis to this type of learning’.
- ‘Personal and professional development of students can be promoted’.
- ‘To connect your subject content to some of our modules’.
- ‘Can be used as additional sources’.

These responses suggest that the OpenLearn units can be used to change the teaching practice in the university in South Africa (as advocated by Geser (2007)). This would be achieved first by promoting different types of learning, secondly by linking to subject specific content and thirdly by adopting supplementary material. The college in the UK suggested the viability of linking to specific relevant units within OpenLearn. ‘We could provide selections of links to appropriate topics from the student interest groups for each course’. Both of these institutions can see ways that they can adopt OERs for use with their students.

It seems clear that the OpenLearn units will be a valuable resource for both of these institutions. Would these institutions provide assessment for the OpenLearn material and if yes what form would this take? The South African university confirmed that they would assess the OpenLearn content once they 'are aware of the type of content'. They would assess it as 'part of an assignments as well as part of a portfolio where applicable. By means of a trial run: include some material in a section of our programme and letting students give feedback'. The college in the UK reported that it is 'very unlikely [that we would assess use of the Open Learn units] initially'. However 'if we were subsequently to provide assessment – then it could be perhaps:

- in a relatively open-ended assignment, asking learners to select material for themselves and work with it and report, back to the tutor ...or
- in the form of short accompanying quizzes'.

The next issues addressed were those of policy and procedure that, would need to be used or changed to allow the adoption of OpenLearn units for assessment. The university in South Africa reported that assessment of OpenLearn units would 'have to be discussed with the director of our faculty as well as with the director of the School ... We must also be aware of the policies and procedures at Open Learn'. It is not surprising that this is a difficult question to answer given that the university in South Africa has not had time to consider in detail how they would adopt OpenLearn OERs. In time it will be interesting to revisit this issue with the South African university. The college in the UK on the other hand was able to give a definite response. 'For formal assessment - we are tied to the requirements of awarding bodies. As a rule students are interested in studying only what relates directly to the award. So we'd be unlikely to use your material for this'. It appears that the college would use informal assessment for OpenLearn material.

The interviewees were then asked whether OpenLearn material would be better suited to learning in cases of non-accreditation. The university in South Africa was unable to say whether the OpenLearn OERs were more suited for circumstances of non-accreditation. 'This material will have to be tested in some way with our students' in a pilot form at first. The UK college response was much more in favour of the OERs being used in circumstance of non-accreditation. They could be used 'for informal assessment – eg in a quiz, or in an analysis, in our learning skills courses. No issues of policy or procedural change here, but the wider OpenLearn option (links to the site as a whole) would have to be just that, since not all our students have online access'. OpenLearn units may be used in the future for either accreditation or non-accreditation. An interesting issue, which could affect the accessibility of the OERs and thus any assessment of them, is whether all distance-learners have access to the Internet. As pointed out earlier those living in rural areas of Africa may not have a reliable electricity supply and the college in the UK has indicated that some of their students are unable to access the Internet.

## **Limitations and Conclusions**

This is early stage research undertaken less than four months after the OpenLearn environment was launched, has certain inherent limitations. The two interviewees actively involved in the study account for a very small proportion of potential users of OERs. This calls for caution in interpreting the findings. They provide initial data from the distance-learning institutions perspective on the adoption of distance-learning OERs that can be compared with data collected at a later date. Each interviewee can give only limited feedback on the policies of a complex institution. Nonetheless, this early stage study does point to areas that merit further investigation.

This paper started by relating the unequal contexts in which a South African University and a college in the UK function. The discussion covered access to education, to ICTs and government policy. Inequalities in educational achievements between developed and developing countries still exist as a result of vastly different levels of funding. Developing countries strive for primary education for all as a long-term goal while developed countries aim for secondary education for all followed by lifelong learning Tomasevski (2006). In the UK there is a legal guarantee of free compulsory education and parents receive a family allowance (Tomasevski, 2006), which can be used to offset any additional costs. However we should not forget the poor in developed countries (Tomasevski, 2006) and how this affects entry to post compulsory education.

Though communication facilities offer many opportunities to support learning and teaching over long distances (Krause, 2005; Spronk, 2001) the reality in developing countries can be rather different. Spronk (2001) highlights:

- Poverty
- Political upheaval

- High levels of illiteracy
- Unreliable access to electricity (Atkins et al. 2007; Spronk, 2001)
- Low levels of ownership of telephone lines, radios, televisions and access to the Internet (Ivala et al. 2005; Spronk, 2001)

One would expect that OERs could not be as easily adopted in a developing country given limited access to education and ICTs. The university in South Africa involved in this study reported that some of these issues are still relevant in 2007. ‘Some students in the urban areas do have access to Internet facilities while students in the deep rural areas might not even have electricity to use computers’. This is further evidence of the inequalities of access to commodities between urban and rural areas in South Africa. However the South African university did not highlight any other barriers to the adoption of OERs. Indeed Atkins et al (2007) are optimistic about improved networking in sub-Saharan Africa but stress that the supporting technology cannot be taken for granted. The importance of being able to work offline is emphasised by Esslemont (2007).

OERs alone will not solve all of the problems related to the availability of educational resources. If infrastructure and facilities are not in place to access the Internet then access to distance-learning OERs is not possible. Alternative types of OER (Connolly et al. 2007; Wiley, 2007) will need to be considered in these cases to improve distribution and access. In the UK where access to ICTs is more prevalent OERs should be made more available. For example through provision in libraries, job centres, prisons and detention centres.

OERs present a prospect of improving access to education throughout the world. Hylen (2006) argues that the sharing of information including educational resources helps to reduce social inequality. Access to updated computing facilities and

the Internet have improved over that last ten years though reciprocal changes have not occurred in teaching methods to improve graduates participation in the knowledge economy and society (Geser, 2007). If teaching methods can be changed to truly take advantage of OERs then more engaging methods of teaching may attract all types of learner. Indeed in this research the university in South Africa indicated that the adoption of OERs could change the style of teaching at the university. There is little difference in the appeal of new technology to the younger generation whether they are based in developing or developed countries Atkins et al (2007). Also students expect technology to support them with their studies while on the move (Krause, 2005).

In this study, nine of the eleven OpenLearn topics were of interest to the two institutions involved in this research. This suggests that units within the different topics could provide a large and valuable repository of units for many institutions, groups and individuals worldwide. This is in line with Vest's (2004) findings that the MIT OERs were valuable to other institutions. The OpenLearn materials seem particularly valuable to the programmes of study at the South African university. Since the materials are mainly at HE level and of a distance-learning type, perhaps this is not surprising. Though Heller and Torun (2007) support the notion the OERs are more likely to be used in the context of an educational programme. In any case accessible OpenLearn material that has undergone extensive peer review to ensure high quality is a very valuable resource in either a developed or developing country. The OpenLearn OERs would provide supplementary or complementary resources to the institutions. This corresponds with the OECD CERI (2007, P52) study, which reported that 'instructors view OER as a high-quality complement to other resources'. In the case of the South African university they would see the OERs fitting in with their present teaching commitments and curriculum. Both institutions would link to



the OpenLearn units from their own websites. Both institutions indicated that they would assess their students' use of the OER units given time to assimilate their content. While the university in South Africa would use formal assessment the college in the UK would favour informal assessment. The findings from the college in the UK with respect to using the OER material for non-accreditation concur with the reasoning of Smith and Casserly (2006). This work is also in line with that of Heller and Torun (2007) who are starting to look at accreditation issues for public health courses in developed and developing countries.

The enthusiasm of these two institutions to use the OpenLearn distance-learning OERs (with the lecturer embedded in the material in the form of supported open learning) suggests that more distance-learning OERs should be made available. As mentioned earlier the cost of transforming distance-learning course material into OERs may be less than that suggested by Wiley (2007) for OERs developed at campus based institutions.

These findings provide a basis on which to undertake further research and it will be interesting to find out how distance-learning OER units are adopted in reality in both of these institutions and in traditional campus based institutions.

A higher-level question which should be asked is: how might distance-learning institutions change to promote life long learning. How will they cater for those who want a mix of courses, some for accreditation and some without accreditation? Indeed learners desire to study for their qualifications at a number of different institutions (Krause, 2005), picking and combining a portfolio of courses/modules by which to earn their qualification. The adoption of OERs could be part of a solution to this current issue.

## **Acknowledgments**

**DELETED FOR PEER REVIEW**

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