

Harnessing OERS for Professional Development Programmes: The Case of TESSA Materials Use in the Diploma in Primary Teacher Education of the Open University of Tanzania

Cornelia K. Muganda

The Open University of Tanzania

Cornelia.muganda@out.ac.tz or [mundibalema\(a\)vahoo.com](mailto:mundibalema(a)vahoo.com)

Abstract

The potentials of Open Education Resources (OERs) especially in widening access to education is increasingly being acknowledged and more types and forms of OERs are being developed; meanwhile discussions on challenges and new ways of improving the development and use of OERs are ongoing. This paper attempts to add onto the literature on the dynamics of harnessing OERs for professional development programmes. The paper is anchored on the lessons learned in the process of integration and use of Teacher Education in Sub-Saharan Africa (TESSA) materials in the Diploma in Primary Teacher Education (DPTE) programme of the Open University of Tanzania (OUT); as well as the evaluation of the use of TESSA materials by DPTE students that have recently been undertaken. The paper discusses the dynamics of integrating OERs including the mindset on OERs (buying in), capacity building and resources. It also analyses the challenges and innovative ways of improving access to OERs in terms of physical reach, understanding, adaptation/adoption and application. Finally the paper suggests areas that need further research and urges for collaborative research and networks of researchers in the issues of OERs to enhance its contributions to the development of education in Africa.

Keywords- OER, teacher education, TESSA, formal and informal learning, professional development, higher education

Introduction

Most professional development programmes in Africa are provided at higher institutions of learning including universities and other tertiary institutions. However, such institutions have been facing challenges of

limited or inadequate resources in terms of physical space, human, financial and teaching and learning resources (Saint, 1995; Bates, 2008; Tella, 2011). Literature on open education resources (OERs) have indicated that OERs can contribute significantly towards addressing these challenges. The acknowledged potentials of OERs include broadening sources of knowledge; bridging the gap between formal, informal and non-formal learning (OECD Report, 2007; Susan D'Antoni, 2009); promoting lifelong learning; strengthening the education system; encouraging multidisciplinary; enhancing positive competition and encouraging learner-centred teaching and learning (Mushi and Muganda, 2011). The literature, however, also indicates a number of challenges. Limited access due to limited or lack of supportive infrastructure, skills and policies as well as un-affordability (D'Antoni, 2009); encouraging neo-colonialism in knowledge creation and consumption (Bates, 2011); possibility of postponement of thinking resulting from inappropriate use; and limited or lack of awareness about OERs (Mushi and Muganda, 2011) have been highlighted as major challenges.

This paper attempts to add to the literature on the dynamics of harnessing OERs for professional development programmes. It explicates the potentials of OERs in widening sources, reducing cost and expanding access to teaching and learning resources as well as expanding avenues for immediate application of what is learned. Discussions in the paper are anchored on the lessons learned in the process of integration and use of Teacher Education in Sub-Saharan Africa (TESSA) OER materials in the Diploma in Primary Teacher Education (DPTE) programme of the Open University of Tanzania (OUT); as well as the evaluation of the use of TESSA materials by DPTE students.

What are Open Educational Resources (OERs)?

Open education resources (OERs) are both a concept and a movement. The concept of open education resources (OERs) that was invented at the 2002 'UNESCO Forum on the Impact of Open Course Ware for Higher Education Institutions in Developing Countries' originated from the Open Course Ware that were developed at the Massachusetts Institute of Technology (MIT) in the 1990s. In the 21st century, the concept of OERs has expanded to include teaching, learning and research materials developed for public knowledge consumption; the tools needed to support

OERs: comprising of software tools to develop, use and distribute content as well as implementation resources such as ‘Creative commons licenses’, the basic philosophy and guiding principles (William and Flora Hewlett Foundation, 2008; OECD, 2007; Mushi and Muganda, 2011).

The concept of OERs is premised on the understanding of education as common good and the ethos of open and distance learning, especially the philosophy of openness. OERs are thus, not only guided by principles of ‘non-commercial’ and ‘non-monopolistic’ but also are open and free to people, content, places, methods, ideas and tools (Mushi and Muganda, 2011). Creators and users of OERs can adopt, adapt, mix, remix and redistribute courseware, contents, courses or programmes according to the agreement expressed under respective open licenses including ‘creative common licenses’. OERs cut across disciplines and can be disseminated through online sites as well as through the common media such as the print, CD-ROMs, artifacts and performing arts.

The OERs movement is growing in terms of support (UNESCO. 2002; OECD, 2007; Cape Town Open Education Declaration, 2008) and forms (William and Flora Hewlett Foundation, 2008; D'Antoni, 2009). The forms of OERs have expanded to include courseware, content, programmes, consortia and the most recent formation of open education resources university (OERu) (Wikieducator, 2011).

TESSA Materials at the Open University of Tanzania

Staff of the Open University of Tanzania (OUT) individually or in groups participated in the development and use of OERs including the AVU Science and Mathematics teaching materials, the TESSA materials and some of the OERs sponsored or organised by the Commonwealth of Learning and UNESCO. In this paper, however, the author focuses on OUT’ involvement in Teacher Education in Sub-Saharan Africa (TESSA) materials.

Teacher Education in Sub-Saharan Africa (TESSA) materials are open education resources(OERs) that were developed by a consortium of experts in teacher education to assist in the provision of quality teacher education in sub-Saharan Africa. TESSA materials can be freely downloaded, adapted, translated and integrated with other materials in

courses and programmes for teachers and teacher educators at no cost (TESSA, 2011).

The participation of the Open University of Tanzania in TESSA came about partly because of previous partnerships with the Open University of UK and other Higher Education Institutions (HEIs) in sub-Saharan Africa. OUT was among the founding members of TESSA. The OUT participated in the research, writing, versioning, translation and use of TESSA materials as well as monitoring and evaluation of TESSA materials in use. The focus of this paper, however, is on the integration of TESSA materials in the Diploma in Primary Teacher Education programme (DPTE) and the monitoring and evaluation of use of TESSA materials by DPTE students.

Integration of TESSA Materials into DPTE Courses

The needs analysis carried out in 2005 by OUT (Muganda & Babyegeya, 2005) identified the need for a diploma which focused on primary teaching. The diploma was envisaged to provide a certificate of professional development (a Diploma in Primary Teacher Education) and a higher qualification for those primary school teachers who were already qualified for the certificate. The open and distance learning mode pioneered in Tanzania by OUT was considered the most appropriate to ensure that the programme was available to serving teachers and helping to ensure speed of change in practice in the classroom. The teaching materials for the diploma courses would incorporate TESSA materials and the Institute of Continuing Education would take the lead in teacher training, using the materials where appropriate.

Dynamics of Integrating OERs in the Programme

Integration of TESSA materials was a process of team-building, sharing of expertise, networking and teamwork. At the beginning, meetings were held with prospective authors of the Diploma in Primary Teacher Education (DPTE) instructional materials, some representatives of TESSA from the Open University UK, Makerere University, Kyambogo University and Edgerton University as well as OUT staff who participated in the development and versioning of TESSA materials. The main objective of the meetings was to share and create a common understanding of TESSA materials as open education resources (OERs). Another

objective was to create a positive mindset regarding OERs and TESSA materials in particular. At the meetings, concerns over ownership of the courses and the DPTE programme, plagiarism, recognition of authorship and intellectual property in general were discussed. Whether DPTE will be a TESSA or OUT programme; if the extensive use of TESSA materials would be construed as plagiarism; and whether team authorship will be recognised by OUT in the process of individual assessment for promotion were some of the issues raised in these meetings.

Through these meetings, integration teams were formed according to expertise and interests. After the identification of the teams, two workshops were planned. Consequently, the main participants in the workshops were the OUT teacher educators. The workshops were funded by TESSA programme in collaboration with OUT. The aim of these workshops was not didactic but as a means of learning from each other. The first workshop was held in May 2007 in Tanga. This was a week's workshop for about 25 people, who included subject course teams plus representatives from the OUT publishing unit. It was at this point that the diploma course outlines were mapped out. Each group was provided with the relevant TESSA materials and in groups of 3 or 4 they mapped out what they thought should be included. Each group made presentation to the workshop. The shared experiences of the teams provided a kind of template for the course outlines (a course description, course objectives, expected learning outcomes, topics/content and references). After the first workshop, course teams continued to work on course outlines and identifying topics in which to integrate TESSA materials. Once the course outlines were ready, writing commenced. This process was monitored through meetings and exchange of information through a variety of communication channels such as email, SMS and phone calls. The second workshop was held in Iringa in November 2008 to share reports on progress and try to complete the drafts. After the second workshop, procedures for review, editing and publications were followed. When the Diploma in Primary Teacher Education was launched in January 2009, TESSA integrated modules were used as advance copies.

As an integral part of the creation of the 21 units which make up the DPTE programme, relevant TESSA materials were incorporated when each course module was written. The decision was made in each case by the particular team responsible for the specific course. In this way, TESSA

materials have been used flexibly and have been completely integrated into the overall DPTE course materials. The courses which are most closely linked to TESSA are those which teach pedagogical skills and competencies:

- ODC 044 General Teaching Methods and Strategies
- ODC 045 Numeracy Teaching Methods and Strategies
- ODC 046 Literacy Teaching Methods and Strategies
- ODC 047 Science Teaching Methods and Strategies
- ODC 048 Social Studies Teaching Methods and Strategies
- ODC 064 Vocational Skills Teaching Methods and Strategies
- ODC 053 Classroom Management - (life in the classroom)

Typically, the TESSA materials used include a combination of teaching and learning strategies, key skills, key resources and case studies. Thus, for example, in ODC 045 and ODC 046, 3 lectures out of the 7 in each course make extensive use of TESSA materials; slightly less TESSA materials are used in ODC 048 and much more in ODC 047 where 6 out of the 7 lectures draw heavily on TESSA materials. Typical of this approach would be the introduction to ODC 047 (Science Teaching Methods and Strategies p. viii), which sets up an overall framing of the course rooted in the pedagogy of TESSA. The course is dynamic as it exposes learners to syllabus analysis, lesson planning and designing, and preparing of teaching and learning materials, pupils' assessment and evaluation in science. The student teachers are also expected to be able to analyse and select relevant Teacher Education in Sub-Saharan Africa (TESSA) sections and resources and use them in teaching science in their schools. Another example is ODC 044: 'General Teaching Methods and Strategies' course: there is extensive use of TESSA materials such as the 'characteristics of a good teacher', questioning techniques, mind maps, brainstorming, explanation of group work and the case method.

The presentation above indicates that integration of OERs in the course or programme is a process which involves commitment ('buying in') through clear understanding of OERs, team- building, networking and teamwork. The following are suggested steps that can assist in the process of OERs integration in the course or programme:

- i. establish the need for the course or programme
- ii. set the framework for the course or programme
- iii. Create awareness and common understanding of the concept of OERs and how they can be used
- iv. build integration team(s) according to expertise and interest
- v. in teams, assess the quality of OERs you intend to integrate
- vi. identify the value that can be added by integrating OERs
- vii. plan for integration including course mapping, writing, developmental testing, reviews, editing, proofreading and publishing
- viii. establish a timeframe for integration with important milestones
- ix. review the progress regularly
- x. follow institutional procedures for publishing.

Monitoring and Evaluation of TESSA Use in DPTE

The Diploma in Primary Teacher Education (DPTE) came into being in 2009. The first intake of students was in January 2009. The DPTE programme is grounded in the OUT programme requirements and specification. The basic qualifications to begin the DPTE are a pass in the Teachers' Certificate (grade A), 5 passes or 3 credits at Ordinary Level. On the diploma course, some materials (the Academic Advancement courses) are shared with the Foundation Course (OFC) and this helps to ensure that diploma students have a current means of progression into undergraduate programme after the diploma.

Methodology

A survey, Focused Group Discussions (FGDs) and participant observation approaches were employed in the study. A set questionnaire was sent to the DPTE students at the beginning of their second year of study. Lesson observation schedules were also administered to DPTE students in their classrooms. Focus group discussions were also conducted with OUT staff and teacher educators at the Teacher Training Colleges used by the DPTE programme. Four (4) members of the OUT staff were also interviewed for the evaluation. A lesson observation schedule was also used to assess the application of TESSA materials in practice.

Data Collection

The student questionnaires were administered only to second year DPTE students, so questionnaires were sent with OUT central teaching staff during the April 2010 face- to- face teaching sessions and were filled in and returned by hand at these sessions. A total of 83 questionnaires were administered and returned from 6 regions out of the 10 regions that had students in the first cohort. The regions were Lindi, Kigoma, Mtwara, Kinondoni, Iringa and Shinyanga. The questionnaire was written as a means of collating student perceptions of the first year of the diploma, so the reaction to the TESSA materials is set into their reactions to the study of the diploma as a whole.

The lesson observation schedule was part of students' teaching practice assessment tool used by teaching practice supervisors. The tool contained 17 criteria, grouped under 4 headings. The second heading on '*Performance: the Learning Process*' assesses the students in terms of 6 criteria which are very much rooted in the TESSA approach. These include ability to: arouse and sustain interest during the lesson; promote full participation of all the students through group work or other procedures; arouse and handle students' questions; use of both recall and thought- provoking questions; devise and use an adequate variety of procedures to evaluate progress in all of the objectives of the lesson; and engage students in critical thinking and problem solving.

The focused group discussions (FGDs) were conducted with the tutors at the TTCs that are participating in the DPTE as 'intensive face- to- face centers'. Most of the tutors were participating in the tutoring of DPTE students during intensive face- to- face sessions.

Participants in FGDs included: Bunda TTC in Mara Region - 5 (4 academic staff & one IT technician); Patandi TTC in Arusha Region - 5 (4 academic staff & one IT technician); Iringa TTC in Iringa Region - 4 (3 academic staff & one IT technician). Four (4) members of the OUT staff were also interviewed for the purpose of evaluation by a colleague from Open University (UK). Discussions and interviews focused on the number of computers available for use by DPTE students; whether the teacher educator and the students accessed TESSA materials and how they

accessed them; challenges related to DPTE students' access to computers, connectivity and suggestions of strategies for improving access.

Results and Discussion

Access to TESSA Materials

The evaluation indicated that DPTE students are accessing TESSA materials through a variety of ways. As Table 1 indicates, students accessed TESSA materials in the DPTE teaching modules, (80.7%); the print form of the full range of TESSA Materials (50.6%); the TESSA website (42.2%); and on CD-ROM (32.5%). Students obtained TESSA materials at Study Centres (65.1%) where they share the copies they have; OUT regional centres (59.7%); OUT Computing centres (48.1%); Teacher Training College laboratories (41.8%) and Teacher Resource Centres (34.9%).

Table 1: Ways of Accessing TESSA Materials

S/N	Ways of Accessing TESSA Materials	Number of Students	%
1.	DPTE teaching modules	67	80.7
2.	Study Centres	54	65.1
3.	OUT Regional Centres	49	59.0
4.	Print form	50	50.6
5.	OUT Computing Centres	40	48.1
6.	TESSA website	35	42.2
7.	Teacher Resource Centres	29	34.9
8.	CD-ROM	27	32.5

Data on student profile indicated that DPTE students had very limited capacity to access TESSA materials electronically. The student profile in relation to access to computers revealed that the majority of students (over 80%) do not have computers at their, work places or at home. Only a few (43%) can access computers at an internet cafe. As a result, some email addresses that students had acquired during the first intensive face -to-face session had expired due to non-use. A recent move by OUT to make the "Introduction to Computer Skills" course compulsory to all OUT students is an opportune move to remedy such situations.

The main challenges to access are: production/copying of print materials is expensive due to bulkiness of the materials. There is limited access to materials due to limited access to computers and poor connectivity. OUT/TESSA integrated materials include only a part of TESSA materials so students can access only a selection of materials. There are generally limited computer skills among students, thus limiting their access to electronic materials. Most of the students are accessing computers at OUT computer laboratories which are steadily being established but have not yet reached all centres.

As Figure 1 depicts students' current strategies include: photocopying a part of the materials that they need at a time; using a variety of ICT centres/laboratories including the internet cafe, computer laboratories at OUT regional centres, teacher training colleges computer laboratories and some teacher resource centres; using computers which belong to friends and relatives; using mobile phones; making effective use of the face-to-face sessions; making effective use of TESSA Teachers' and Tutors' Guide handbook to assist them select relevant parts.

Ways of Access	Limitations	Innovative Way of Access
(i) Print form	• Expensive due to bulkiness	<ul style="list-style-type: none"> √ Copy a part of the material at a time √ Use of teachers' and tutors' handbook as a guide to select relevant sections and cases.
(ii) TESSA Website	• Limited by access to computers, electrical power, connectivity	<ul style="list-style-type: none"> √ Use ICT laboratories at OUT centres and teacher training colleges √ Use internet cafe. √ Use computers of friends and relatives; √ Use mobile phones
(iii) CDs	• Limited by access to computers, electrical power	<ul style="list-style-type: none"> √ Use ICT laboratories at OUT centres, teacher training colleges √ Use internet cafe. √ Use computers of friends &
		<ul style="list-style-type: none"> √ relatives
(iv) OUT integrated materials	• Only part of materials integrated	<ul style="list-style-type: none"> √ Use of teachers' and tutors' handbook as a guide to select relevant sections and cases.

Fig. 1: Innovative Ways of Accessing TESSA Materials

All cooperating tutors had accessed TESSA materials through print, website or CD- ROM. Tutors have accessed print version related to their curriculum areas especially parts of TESSA materials that are integrated in DPTE course/ study materials. The tutors revealed that their colleagues who were not participating in the intensive face -to- face were not familiar with TESSA materials.

TESSA Materials Use

Using the lesson observation schedule, teaching practice supervisors Observed the DPTE students at their schools. Lesson observations revealed that DPTE students were applying more learner- centred teaching and learning. Pupils were more active and there were more guided group work. The following are some of the comments on the observation tool by teaching practice supervisors:

- “Use of local resources was good. Students were well motivated.”
- “Learners were actively involved in the lesson.”
- “Creativity of the teacher in lesson presentation.”
- “A well prepared lesson, competent and high mastery of the subject content.”
- “Good pupil participation, competent and good voice.”
- “Managed very well to promote participation of pupils in the learning process.”
- “The lesson was interesting with vivid tangible examples and teaching aids. If student teacher would maintain this, he will be an excellent teacher.”
- “Pupils actively involved in the lesson; the classroom instruction was active and successful.”
- “She has a good rapport with her pupils. All pupils were involved in their own learning which is good”.
- “Participatory methods used to develop addition of fractions with different denominations.”
- “Very well prepared and presented lesson. Promoted full participation of pupils in the learning process i.e. calculation of areas of rectangles.”
- “Aroused pupils to make them active to ask questions.”

- “Use of provoking and thinking questions. Arousing pupils’ interest during the lesson”.
- “Group work to help each pupil participate and visiting each group to check progress. Evaluating understanding by giving exercises at the end”.
- “Use of group work to help each pupil to participate. Evaluating understanding by giving quizzes and cutting whole into pieces, visiting each group to help in difficulties”

All these comments indicate that the DPTE students are employing interactive approach to teaching; hence, reinforcing pupils’ active participation in their learning process. Promotion of interactive teaching was one of the major objectives of TESSA materials. The implication, therefore, is that TESSA materials were effectively used by DPTE students in the teaching and learning process.

The FGDs also revealed that there was more teacher cooperation across schools, districts and regions. Teachers were increasingly gaining ICT skills and competences.

Teacher educators at OUT and cooperating tutors in TTCs were also using TESSA materials across teacher education programmes. Through discussion with teacher educators at OUT and OUT management, it was revealed that TESSA had provided them an opportunity to understand OERs and how to use them.

Suggestions for Improvement

The tutors suggested that it would be good to introduce TESSA materials to tutors who are currently not participating in tutoring DPTE students because the materials could also be used in teaching courses at the teacher training colleges.

More collaboration between OUT and the teacher training colleges beyond the intensive face- to -face period was also suggested so that DPTE students could continue accessing computers and computer training at TTCs at a reduced price or at no cost.

It was also suggested that students and tutors be encouraged to use a variety of ways to access TESSA materials.

Teacher educators at OUT explained that the message about TESSA and the DPTE programme was being spread gradually but unevenly. The message about the benefits of TESSA and DPTE needed to be spread to all education stakeholders.

Lessons Learned from Development Integration and Use of TESSA Materials

Perhaps the major lesson we can learn from the Open University of Tanzania's participation in the integration and use of TESSA materials is an understanding that OERs indicate a give and take process that signify gains and challenges. It is the argument of this paper that processes addressing challenges and maximising the gains can create avenues for harnessing OERs for professional development programmes in Africa

The Gains

The participation of the Open University of Tanzania (OUT) in the Teacher Education in Sub-Saharan Africa (TESSA) programme has benefited the institution and Tanzania. OUT has been able to work with other higher education institutions in Africa to develop a shared understanding of interactive approach to teaching and how to improve the quality of teaching and teacher education for primary schools. The launching of the diploma in primary teacher education (the first in Tanzania) in which TESSA materials are extensively used has opened up avenues for primary school teachers' professional development and upgrading to levels which were otherwise out of reach. The DPTE students are exposed to a variety of ways to access education resources including: websites, CD-ROM, print and internet. OUT staff who have had opportunities to participate in TESSA activities have gained experiences not only in working collaboratively but also in engaging with OERs including authoring, versioning and integration of OERs into course materials and programme.

The Challenges

The challenges revolved around lack of awareness about OERs, lack of supportive policy and procedures, fear of the unknown and limited access. Most of the academic staff are not aware of what are OERs, how to access them and the various creative commons governing a variety of OERs. For staff who participated in the writing and versioning of TESSA it was the first time they had heard of OERs. Thus, the process of developing TESSA materials was also a process of learning about OERs. Due to limited understanding, OERs are normally equated to e-learning. This was a challenge at the integration stage because there were arguments that DPTE students would always require connectivity to access TESSA materials. There were also misconceptions that authors of DPTE study materials could be guilty of plagiarism if they used TESSA materials extensively. Lack of awareness of TESSA and OERs in general was observed during evaluation. At the collaborating Teacher Training Colleges (TTCs) only tutors participating in DPTE had exposure to the TESSA materials although the materials could be useful in the courses other colleagues were teaching at the TTCs. A similar phenomenon was observed by Mushi and Muganda (2011) regarding OUT staff. It is also worth noting that although local governments who are funding DPTE students have noted the positive changes and are very enthusiastic about the DPTE programme, awareness about the programme and TESSA materials are not yet wide spread to all education stakeholders.

There were also fears that the TESSA materials would dictate the Diploma in Teacher Education programme (DPTE) of OUT. At the beginning of the integration process, the incorporation of TESSA materials was interpreted as creating dependency, postponement of thinking of OUT academic staff and OUT loss of autonomy over its programmes. The main fear was that it was an installation of the roots of neo-colonialism. Arguments like “The aim is to develop an OUT programme and not a TESSA programme” were aired. This was a real challenge which assisted in the shaping of the integration process. Consequently, the DPTE programme specification and course sketches were set first; hence, followed identification of areas where TESSA materials could fit in.

Another challenge was lack of policies and procedures supportive to OERs and collaborative publications in general. Authors thought of collaborative authorship as a waste of time that they could use to write something from

which they could earn more points for promotion purposes. To date, the procedures at OUT for example, are silent about OERs and co-authors are expected to share points during assessment for the purpose of promotion.

Access to TESSA in particular and OERs in general also pose challenges. Limited access to computers, connectivity and unreliable electrical power supply were the major challenges especially to students. Limited or lack of computer skills and competences constituted another set of challenges to accessing OERs. OUT is addressing this through making the Introduction to Computer Skills course compulsory and establishing computer centres in the regions. Collaboration with other institutions such as the teacher training colleges is also assisting. The bulkiness of the materials also made it more costly to print or photocopy the materials. Production of loose-bound copies so that users could at a given time print what they needed could assist in addressing this challenge.

Harnessing OERs for Professional Development Programmes

The above presentation explicates the dynamics of integration and use of OERs namely TESSA materials into a professional development programme (DPTE) at the Open University of Tanzania. The discussion indicates gains and challenges to the institution and individual participants in the integration and use of the materials. The following presentation denotes some mechanisms that can be employed to address the challenges and maximise the gains, thus set strategies for harnessing OERs for improving the situation of teaching and learning resources for professional development programmes.

Organising forums, meetings and seminars to explain what OERs are and increase understanding of various forms and their role in education is an important step in raising awareness about OERs and gaining advocates, developers, users and supporters. This will assist in opening up the minds which in turn can lead to changing the negative mindset.

Capacity building in OERs creation, adaptation/adoption and use as well as research and evaluation entails equipping African prospective participants in OERs with requisite knowledge, skills and competences to participate fully in the knowledge cycle through OERs. This will not only assist in democratisation of education but also reassure African

intellectuals that they shall not be trapped into intellectual neo-colonialism through OERs. Learning by doing is a viable strategy for capacity building. Participation in TESSA for example, created avenues for capacity building in OERs creation, integration, use, monitoring and evaluation.

Support for sharing expertise in developing, integrating, monitoring and evaluation of OERs is important because resources in terms of commitment, time and finances are necessary inputs for OERs development, integration and effective use.

Advocating, formulating and implementing OERs supportive policies at international, national and institutional levels is another strategy. Study international, national and institutional policy and procedures governing intellectual property, plagiarism and patents to ensure that participation in OERs does not lead to disadvantaged positions or unprecedented advantages. This indicates a need for example, to ensure that what is offered freely today will not be patented by someone else in future. There is also a need to review policy and procedures for awards, promotions and remunerations to ensure that they are supportive to OERs of quality standards. Policies that are less supportive to collaborative/teamwork can be counter OERs.

Issues of quality assurance of OERs should also be addressed. Advocacy for OERs therefore, should go hand in hand with silent campaign through ensuring quality and continuous review of OERs, supporting networks of developers and the users so that others emulate because the quality and value of OERs is evident. The OUT for example, decided to use TESSA materials into its DPTE programme because they are quality materials.

Collaboration is also an important aspect for harnessing OERs because most of the OERs are a product of collaborative efforts. Collaboration will not only reinforce sharing of expertise but also assist in setting a benchmark for quality and continuous peer and self-assessment.

Proactive dissemination of research findings at various levels will enhance quick communication. Do not wait for the conferences or in the internet. Use a variety of means within your reach e.g. staff meetings, induction and professional development seminars, bogs etc. Advocate against the

conference, workshop and journal syndromes. A simple survey conducted by OUT staff indicated for example that the majority of OUT staff had limited awareness about OERs (Mushi and Muganda, 2011). Most likely, scarf members who have not participated in any OERs- related conference workshop still have limited awareness regarding OERs.

Creating and supporting enabling environment to learners is another important aspect in harnessing the potentials of OERs. Assist learners to gain and retain computer skills and competences. Distribute relevant OERs through various media and technology including mobile phones, CDs that do not require connectivity and loose print copies that may allow a user to print what they need for immediate use on top of articles, e-books, cases and module in websites. Most importantly, equip students with knowledge and skills to engage with OERs and how to use them in their learning process. A guide, manual, handbook or unit on how to use OERs can be useful to students.

Perhaps the most important strategy for harnessing OERs is a change of mindset about teaching and learning towards learner- centred approach. Assist learners to be in charge of their learning process while institutions, lecturers, tutors and support staff provide facilitation, guidance, monitoring and evaluation. This will leave time for academics to undertake other equally important activities of research and community services; which in turn will enhance knowledge creation and use. In this way, OERs can contribute to making students independent and creative learners.

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