

OPEN EDUCATIONAL RESOURCES UTILIZATION IN TANZANIAN HIGHER LEARNING INSTITUTIONS

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ABSTRACT

Tanzania has recently embarked on application of Information and Communication Technologies (ICT) in teaching and learning especially in Higher Learning Institutions (HLIs). Despite the observed countrywide ubiquitous use of internet, access to plenty of open educational resources (OER), several challenges on OER use are yet to be identified and clearly addressed. Necessary changes in the curriculum, teaching methods and institutional management procedures are required. While OER are designed as “learner centred”, “teacher-centred” method is predominant in Tanzania. Incompatibility between OER and the educational system may culminate into confusion among students, instructors and educators. The changing role of lecturers, tasked in forging parity between the OER and the situations in HLIs forms another challenge. The origin of OER used in Tanzanian HLIs probes on both their quality and utility. All these issues need to be addressed. This paper explores the teaching/learning system in the verge of vast utilization of the OER in Tanzania using meta-analysis that combines facts, data and findings from previous studies. It identifies the nature and character of teaching/learning process in Tanzanian HLIs, locates the OER use, uncovers challenges facing effective accommodation of OER; and highlights policy implication to Tanzania. The findings indicate high accessibility of OER to lecturers, students and educators in Tanzania, with the evident lack of national policies and guidelines on OER use. The education system is not in conformity with OER requirements in terms of both syllabi and pedagogy. Therefore major adjustments are recommended on the transformation of the educational system for countrywide sustainable OER utilization.

Keyword: Open Educational Resources, Higher Learning Institutions and Learner-

INTRODUCTION

Open Educational Resources (OER) are teaching and learning materials that are freely available online for everyone to use. The prime users are teachers, students, self-learners (OER Commons, 2014), and others. Typical examples of OER include full courses, course modules, syllabi, lectures, assignments, classroom activities, and laboratory activities which are kept in digital format prepared in different parts of the world (Atkins, Brown & Hammoud, 2007; UNESCO, 2012). Moreover, OER includes software, tools, materials and techniques that are used to support access to knowledge (Atkins *et al.*, 2007). To be specific, OER consists of fundamentals of education, which in this case, refer to the content and tools for teaching, learning and research. OER are teaching/learning and research resources intended for public use, but, under intellectual property license, however, they are used for free. From the above definition, OER are free resources in terms of access and permission to use (UNESCO, 2011; Atkins *et al.*, 2007).

The philosophy behind “open access” is based on a simple and powerful idea that world’s knowledge is a public good and that technology in general and the World Wide Web in particular provides extraordinary opportunity for everyone to share, use, and reuse (*ibid*). The rationale for terming the online educational resources as “open” is based on five open qualities, namely; open access, open content, open course ware, open source software, and open learning, in other words, e-learning (UNESCO, 2012; OPAL, 2008). Despite their being open, the users are keenly reminded that intellectual property rights remain basic and operative.

To be specific, the OER types referred in this paper are courses, course materials, content modules (syllabi), learning objects (teaching aids), collections, that is, teaching/learning notes, and journal articles. The main issue this study tries to uncover and address is on how OER should effectively be accommodated for more positive educational outcomes in Tanzania. The need to promote ICT/connectivity strategies becomes a necessity since it is the basis for reliable access within and between higher education institutions (COL, 2011). The main question the study seeks to address is whether or not HLIs have any management and infrastructural systems in place to guide effective utilization of OER at an institutional level. The need to establish the existence of open licensing frameworks in Tanzania and in the developing world at large is of

importance (COL, 2011). In its absence, there is likelihood of having limitations in the adoption of OER development and utilization, thus limiting academic growth and development in the area. In this way, scholars from Tanzania and elsewhere in the developing world shall permanently remain to be the persistent users of OER from developed world. Contextualizing teaching resources is critical for a better understanding or acquisition of requisite practical skills (Omollo, 2011).

Literature indicates that OER types are currently being utilized in Tanzania without national guidance (Bateman, 2006). For instance, a “Survey on Governments’ OER Policies” explicitly indicates that among African countries that showed less interest in OER is Tanzania (COL & UNESCO, 2012). However, the survey noted the need to adopt OER strategy or policy for appropriate and uniform line of action pertinent to OER use. Besides, the application of the UNESCO supported documents titled “A Basic Guide to OER” and “Guidelines for OER in Higher Education” (UNESCO, 2011; COL, 2011), in the Tanzanian context has not been evaluated, and therefore little is known about compliance to the same guidelines.

According to the Commonwealth of Learning (COL, 2011), governments have interest in ensuring that public investments in higher education make useful and cost effective contribution to socio-economic development. In this regard, governments have the mandate to guide the production of useful educational materials and make them available under open licenses. At pedagogical level, both students and instructors have to be trained on electronic resources use, with particular emphasis on the sources, quality of resources and related ethical issues. The tendency has been to arbitrarily use OER, while linking it to old teaching methods which base on teacher to student flow of materials, backed by lopsided power relations which incline towards the teacher (OLCOS, 2012). In this case, the learners may not achieve much as they have unlimited educational resources but lack requisite guidance on how to benefit from them optimally. Understanding how OER may be effectively utilized constitutes the crux of academic achievement in the Tanzanian context especially in this era of scientific development whereby classroom situation needs to be equally transformed as motivated by technological demands.

Appropriate use of OER may take care of larger classes and coverage of syllabi, particularly for difficult topics that students may access prior to the interface with the teacher (Omollo, 2011).

Nie (2012) emphasizes that OER frameworks such as EVOL-OER are responsible for curricula enhancement. The frameworks achieve enhancement during curricula design through four stages; rapid enhancement, planned enhancement, low cost enhancement and strategic enhancement. Whether Tanzanian HLIs have OER-based curricula is an aspect to be investigated as it is critical for effective OER utilization.

The fact that OER are many cannot be contested (Toumi, 2006). However, the location of OER in teaching and learning systems that are in force in Tanzanian HLIs remain largely unknown and need an appraisal for proper planning and development. This study strives to determine quality assurance and appropriateness of OER to the national context and propose the necessary adjustments needed to the learning systems, teaching methods/techniques and assessment procedures. One of the aspects to be investigated is whether or not the national policies exist and support the use of OER in higher education (COL, 2011; UNESCO, 2013). If yes, then there is a need to establish whether there are any modalities put in place on the operationalization of OER use at national or institutional levels.

In practice, OER constitutes inert “learner centred” system which exposes various teaching and learning materials to the learner. In such a learning system, there are times whereby some learners become more exposed to materials than their respective instructors (White, Masterman & Manton, 2011). This raises contradiction to the existing traditional and “commonly acceptable” power relations between teacher and student (Yuan, MacNeil & Kraan, 2008). This aspect throws a positive challenge to the teacher to be more current and “up to a second” rather than the traditional expectation of being “up to date”. Another question raised is on what should be taught and/or studied. This is an issue that deals with the course content, which is the component part of the syllabus. Careful selection of reputable source teaching/learning material is emphasized, while observing the utility of knowledge/skills contained and the requirements of the learner and the nation at large. The issue of relevance of content is thus raised, hence highlighting the importance of the selection of the right teaching/learning materials (White *et al.*, 2011; OLCOS, 2012). A balance has to be sought so that the educational package selected and the mode of delivery to the learners becomes meaningful. According to Bateman *et al* (2012),

HLIs in developing countries, Tanzania inclusive, participate in OER movements as unequal recipients of content with no control of their origin, quality and appropriateness.

Another emerging aspect, regarding OER use, is the role of a teacher, who used to be “the one who knows” and that of the student, who used to be “the one who did not know”, hence he/she was supposed to be made to know. This necessitates the need for a change from “transfer of knowledge” from teacher to student to “knowledge sharing and/or facilitating knowledge” (UNESCO, 2013; White *et al.*, 2011, Schaffert & Geser, 2008). Such a transfer goes with the idea of “supporting learning” not “enabling learning”, typical of a cognitive process in which internal factors are considered to be more dominant especially when OER are at the disposal of the learner. Teachers are encouraged to share and collaborate on the content with other teachers, while using OER (White *et al.*, 2011).

A review is, therefore, needed to determine the actual activities of the teacher and those of the student. For the teacher, aspects like preparing lessons, selecting appropriate teaching methods and tactics and how to manage the examination process are crucial. Assessment of a student, under a set-up in where the role of a teacher has changed, also has to change accordingly. The term “examination” needs to slowly but surely change to “evaluation”. In short, effective use of OER requires the designing and implementation of open pedagogic models (White *et al.*, 2011) that are more collaborative.

From the above explanation, it is evident that there is a gap of knowledge regarding circumstances in which OER are managed and utilized in Tanzanian HLIs. Knowledge on the existence or non-existence of policies, legal frameworks and educational guidelines pertinent to OER utilization remains unknown and questionable hence demanding for an investigation. More important is what actually happens in the HLIs’ classrooms, pertinent to OER use and lacks detailed explanation.

Despite the presence of abundant OER and the basic ICT infrastructure in Tanzanian HLIs, how OER are utilized within the same academic institutions remains unknown and need more detailed explanations. Among many aspects this study strives to determine, in the context of Tanzania,

quality and appropriateness of OER resources in the local context, their compatibility with the existing learning systems, teaching methods/techniques, and assessment procedures.

One of the key aspects to be investigated is whether the national policies support the use of OER in higher education. If yes then the need arises to establish if there are any modalities put in place on the effective operationalization of OER use at national or institutional levels.

Based on literature review, it is evident that the existing gap of knowledge regarding circumstances in OER management and utilization in Tanzanian HLIs need to be addressed, hence demanding for analytical investigation.

The paper seeks to evaluate the current status of HLIs pertinent to the utilization of OER in Tanzania. The specific objectives are: first to identify characteristics of teaching/learning methods as applicable in HLIs, second to locate the utilization of OER in teaching/learning process, third to uncover challenges facing the observed inertia to the requisite changes for effective accommodation of OER in Tanzania and fourth to highlight policy implications of the current state of affairs on addressing the challenges facing OER adoption.

METHODOLOGY

This paper is based on the review of previous work on OER application in various countries. It is therefore solely based on secondary sources that included various previous publications available in different libraries and online. The paper adopted meta-analysis in approaching the research gap. It involved combining findings from independent studies. Similar data and information in various literatures was analyzed based on the identified categories and themes they represented. A broad range of literature on guidelines on OER use, OER policies and applied teaching methods aspects were synthesized to determine the extent of utilization of OER in Tanzanian HLIs.

The paper links the analysis with author's 25 years of teaching at secondary school and college levels. Facts and findings from various documents were compared and contrasted to come up with own thoughts/ideas and findings based on inferences and deductions. Logical analysis of ideas and findings from previous studies and experience guided the theory underpinnings within the entire paper. It involved systematic linking of findings from various relevant studies.

The need for a study on utilization of OER in Tanzania is necessitated by the following reasons:

Wide internet availability reaching almost everywhere in the country and in most of the HLIs and other institutions requires a proper understanding of the status of guidelines on their proper utilization, avoiding misuse and abuse of resources. Findings by Ngengebule and Nonyongo (2013) indicate that in Zambia and Ghana, OER use is concentrated in HLIs other than in lower levels of education. A similar situation may be true in Tanzanian context, whose OER utilization status is not yet known.

The internet provides mixed digital resources of different types and formats which are produced by people of diverse levels of education and socio-cultural backgrounds. The resources are produced for different purposes and tailored to the specific contexts of application. This necessitates careful selection of reputable resources based on reliability of sources, validity of the

resource to the context of application. Haphazard use may result into affecting the educational process. The results of this study will likely be useful in preventing such adverse trends.

The readily availability of resources which can directly be accessed by both lecturers and students implicitly necessitates the changing role(s) of both the teacher and the student. This entails a change in the pedagogical process. The basic questions that arise are “have we, in Tanzania, changed?” or more importantly “are we ready for change?” This prompts for more detailed enquiry on the situation. It is a national step towards conformity to OER requirements for effective educational planning and national development.

The observed shortage of lecturers/ instructors, with the concomitant increase in numbers of students enrolled in most HLIs countrywide, if appropriately planned, may likely be resolved by OER through resource sharing. HLIs being the focal points for innovation, creation, organization, dissemination of knowledge (Bateman *et al.*, 2012) require a study to be carried out in a move to support efforts of providing quality education.

The outbalanced OER production between the north and south may only be addressed in cases where individual countries of the developing world, such as Tanzania, embark on OER adoption in their policies. This would call for the enhancement of internet infrastructure for high and reliable connectivity, a prerequisite for effective OER utilization. It has been evidenced that effective production and dissemination of OERs enhances access to knowledge, knowledge sharing, personal and institutional reputation (Omollo, 2011).

LITERATURE REVIEW

OER Defined

The term “open resources” was coined at UNESCO 2002 Conference on Open Courseware designated teaching, learning and research materials in any medium, that are in the public domain and released under open license permitting non-cost access to use, adapt and redistribution (UNESCO, 2012).

According to Downes (2007) there is much debate on Open Educational Resources concerning the definition of open resources”. The commonality is that various definitions tend to focus on issues of access, content, teaching/learning materials, pedagogy and the concerned intellectual property rights.

According to UNESCO (2012:1) OER is defined as “the teaching, learning and research materials in any medium, digital or otherwise, available in medium that reside in the public domain or have been released under an open license that permits no-cost access, usage, adaptation and redistribution by others with no or limited restrictions.” Open provision of educational resources is facilitated by ICT, for consultation, usage and adaptation by a community of users for non-commercial purposes.

Atkins, Brown and Hammond (2007:4) define OER as “teaching, learning and research resources that reside in the public domain or have been released under intellectual property licence that permits their free use or re-purposing by others”.

One of the most current definitions of OER, according to Hylen (2007:1) is “open educational resources are digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research”. OER includes three important components as follows:

- i) Learning resources, that is, full courses, courseware, content modules, learning objects, collections, and journals.

- ii) Resources to support Teachers /Tools, software to support the development, usage, re-usage and delivery of learning content aspects which involve searching and organizing content and content management systems.
- iii) Implementation resources, such as intellectual property, licenses for open publishing of materials, design principles and localization of content. These are resources to assure quality of education and educational practices.

Characteristics of OER

There are various literatures that try to refine the understanding of OER by giving an explanation of their characteristics. This is a critical area in the understanding of what OER are and particularly on how they can best be articulated in the higher education learning systems.

The first characteristic is that of being “open”. This is based on the idea that knowledge should be disseminated and shared freely for the benefit of the whole society (Yuan *et al.*, 2008). This is the essence of enabling all parties to access and use it.

Second is being “free”. This characteristic transgresses the social domain that refers to ethical consideration, which includes freedom to use, contribute and share. The concept also embraces the literal meaning that it is availed without cost. Downes (2006) outlines four freedoms, namely freedom to copy, freedom to modify, freedom to redistribute and freedom to redistribute modified versions. Omollo (2011:4) emphasises “although OER are not produced for free, they are free for access”.

“Educational” is the third characteristic, which refers to a source of knowledge in various disciplines that exist within the domains of education (*ibid*).

The fourth characteristic is that of being a “resource”. This emphasizes on various formats in which the OER may be availed, for example, software, course content, course modules, teaching materials and the like. The materials may be focused on students, educators, self-learners as well as researchers (OECD, 2007).

It is the conviction of the author that the above mentioned characteristics sound positive as they seem to enable the learner through improved access and cost effectiveness; hence likely to encourage various parties and countries to join such a movement, while reasons for Tanzania not being engaged in such a movement is an avenue for other studies.

Advantages of Using OER

Several advantages of using OER in teaching have been widely documented and discussed at various conferences (Downes, 2006). Some of the advantages can be summarized as follows:

Wide Availability

The Internet is now available in vast parts of the world; hence, the possibility of accessing such resources is guaranteed. This ensures access to more learners hence effectively curbing shortage of learning materials.

Free availability on the internet

Having free license to use, adopt, re-use and distribute resources facilitates their access to academic institutions all over the world. This provides an environment whereby all humankind has access to the OER, an aspect which could be difficult for people in the developing world to manage taking into account high cost involved (*ibid*).

Participatory use, referring to Open Educational Practices (OEP)

Since the use of OER requires a change of *locus* of power from “teacher centred” to “learner centred”, the role of a teacher has to change accordingly. This pedagogical change implies that the student is guided to perform most of the learning activities, while the teacher has to support the learning process. Such educational system, which applies participatory learning, enhances learner’s understanding of the subject matter, particularly skills acquisition.

Shared among many institutions

Course Modules, teaching materials and journal articles resolve the scarcity of instructors /resources in some countries or institutions within a single country. OER utilization standardizes materials and methods hence enhancing quality of education. In the context of Tanzania, where shortage of academic staff is overt in majority of HLIs, OER would provide a lasting solution. Between 2002 and 2007, the number of academic staff grew by 30% as opposed to 113% growth in student enrolment (where??) (Tettey, 2010).

Encourage Production of OER over vast parts of the World

Different parts of the world require different types of educational resources. Therefore, the adoption of other institutions' OER calls for customization, an aspect that enhances OER production skills among teaching staff. The original OER becomes basic and exemplary to the user institutions' staff. This reduces faculty time on lecture materials development. New programmes are a bit eased to develop as the existing OER may provide basic information.

Re-examining the Curriculum and Teaching Style

OER is considered to be a catalyst for pedagogical change. Using OER from another institution may inform the instructor on the need to change the teaching method(s). OER demands a corresponding teaching method(s) for effective results. This is the essence of improving standards of both OER and the pedagogical process.

The OER Movement

OER is a movement surrounded by various issues such as access, quality and costs of information and knowledge over the internet and provision of content and learning materials (Hysten, 2007; UNESCO, 2012, Tuomi, 2006). The unique phenomenon observed in Africa is that most of the countries appear to be more active in OER utilization in tertiary education. The most active countries are South Africa and Namibia. These have both OER policies and strategies. Zambia actively participates in Open Educational resources for Open schools (OER4OS) project which enables development of all school-level materials in an electronic format (UNESCO & COL, 2012).

Countries such as Mauritius, Botswana and Seychelles are also actively involved in OER movement through projects such as OEROS and the Virtual University Programme. Some countries that are in the initial stages include Rwanda and Nigeria. However, Tanzania is one of the countries that has not yet expressed interest in OER (*ibid*).

Educational System in Tanzania and OER Requirements

Tanzanian education system at lower levels is basically teacher centred, though there have been different steps towards changing the paradigm towards more participatory methods. That is a move towards ‘learner-centred’, a move which was managed by the Stockholm Institute of Education (SIE) and Open University of Tanzania in 2003 (URT, 2008).

According to Whister (1997:9, cited in Hanson 2003), “learner-centred” education is the perspective that combines a focus on individual learners (their heredity, experiences, perspectives, backgrounds, talents, interests, capacities and needs) with a focus on learning the best available knowledge about learning and how it occurs and about teaching practices which are most effective in promoting the highest levels of motivation, learning and achievement for all learners.

“Learner-centred education” faces several challenges in Tanzania, these include orientation of teachers who have been taught on the teacher centred system hence it becomes difficult for them to change. Such teachers believe that they have adequate knowledge required to be transferred to learners. Some teachers advocate that participatory methods take a long time hence they limit completion of the syllabi that are long. Educationists tend to strongly believe that the curriculum has to change from “knowledge based” to “competence-based”. This change has to go concomitantly with a review of teaching methods and methods of students’ assessment. The fact that teaching and learning is examination oriented makes it difficult for “learner centred” educational system to be accommodated as students and teachers focus on passing examinations not acquiring knowledge and skills (URT, 2008). A paradigm shift is compulsory for educational system based on the fact that learning is influenced by the surrounding community. The trainer is only a guide to the learning process. This calls for the system which makes the learner much more involved in partnership with the teacher in constructing new meanings. In this way, the

teacher has to play the role of a facilitator, and on the other hand students' assessment system has to change from "examination" to "evaluation".

On OER licensing, the process is unlikely to officially operate in Tanzania, as the country has not registered itself in the African OER movement and utilization (UNESCO & COL, 2012). However, various Tanzanian scholars were observed not to be active participants to OER production through research and publication in both local and international journals. Production, utilization and dissemination of such knowledge and skills are limited to conditions of the journal publishers. This demonstrates the need to include issues of licensing for effective production, dissemination, and use of OER in Tanzanian context.

The current information skills training programmes, conducted in Tanzania, which make use of subscribed educational resources, such as PERI and TERNET tend to support teacher centred approach which appears to be ineffective in skills transferring. However, the observed paucity of effective OER management and utilization guidelines does not imply that the country is doing nothing to this effect. The OER Movement has begun and the process is underway towards improving teaching/learning process. Some efforts to integrate OER into teacher development programme are underway at Mkwawa University College of Education (MUCE) and at the University of Dar es Salaam's Centre for Virtual Learning (CVL). However, the only disciplines covered are agriculture, health and education.

Another example is the non-governmental organization called OER Africa which uses website address www.oerafrica.org for disseminating OER materials worldwide. This is the continental movement towards bridging the gap of OER production and utilization. OER Africa aims at promoting sustainable education through OERs, as OER is perceived as having the potential to expand access to education in the continent (Nagashima, 2010). Nagashima (*ibid*) differentiates OERs basing on the types of media used, the level of education and the context of utilization. However, as a matter of fact, individual lecturers from Tanzania are reported to be involved in this movement.

The introduction of Digital Library Systems and digital repositories at Sokoine University of Agriculture (SUA), Muhimbili University of Health and Allied Sciences (MUHAS) and at

Nelson Mandela Institute is an aspect that signals utilization of OER (Lwoga, 2012). However, the rest of Tanzanian HLIs tend to lag behind; hence there is need to initiate such a move. On the implementation of e-learning in Tanzania, it is only the University of Dar es Salaam which has managed to do so, despite the fact that other universities such as Mzumbe University and Sokoine University of Agriculture as well as other academic institutions, including CBE, have the necessary infrastructure (Sife *et al.*, 2007).

6.6 Emerging Issues on the OER Application

The proliferation and ubiquitous use of internet is cited to be providing opportunities for improving access and transfer of knowledge and information from academic institutions to various users. However, the confusion arises in terms of reliability and validity of the sources of information and quality of the disseminated materials. More confusion can be noted in terms of ownership, which entails compliance on international property rights and the right to use and re-use the same. In this regard, Hylen (2007) poses four basic questions, which are: 1. How to develop sustainable cost/benefit model for OER initiatives? 2. What intellectual property rights are linked to OER initiatives? 3. What are the incentives and barriers for universities and faculty staff to deliver their material to OER initiatives? 4. How to improve access and usefulness of the users of OER initiatives?

It is thought that understanding the right responses to the four questions would place the user of OER in a position of appreciating the quality and utility of the resources for educational purposes, worldwide. Taking into account scarcity of teaching/learning materials and human capital, particularly in the developing countries, the “free access” alone contributes enormously to the educational sector.

The fact that OER are beneficial cannot be contested. The other characteristic is that OER constitutes vast materials of which without appropriate selection may lead into total academic disarray. One may need to be reminded that not all the materials which are on the internet are of the quality that guarantees them to be useful in all contexts.

That most of OER are developed from the North, as contended by Kanwar, Balasubramanian and Umar (2009), is another aspect that poses challenges to the developing world. This is an aspect demonstrating digital divide that intrinsically calls for scholars from the developing world, Tanzania inclusive, to engage in changing current state of affairs in education sector. Such a step may be attained through developing capacity for OER so that scholars from developing world can participate fully in research and publication so as to reduce the gap towards attaining information balance.

Customizing OER is both necessary and indispensable (Nie, 2012). A careful selection should be done on the kind of OER to be used. This may be accomplished based on appropriateness of the materials and whenever possible the adopted OER should be customized to suit the requirements of the local education society. It is the contention of the author that appropriate OER policies and strategies will allow for the promotion of knowledge and skills on OER production and use.

Another challenging area is effective use and re-use of OER. This is pertinent to the compliance of intellectual property rights and articulating OER in the National Educational Policy and in practice. The fact that OER are free does not mean that they may be used without appropriate acknowledgement. The author reiterates the need for such important aspects as intellectual property rights, copy-rights and plagiarism to be clarified to students, free learners and young academics so that they comply with the requisite academic writing standards.

There is need to improve access, to be attained through development of ICT infrastructure and reliable internet connectivity. In most African countries Tanzania in particular, internet connectivity is still intermittent, in addition to low bandwidth. This state of affairs needs to be addressed so that the utilization of OER, between and among academic institutions is enabled especially in during this period, characterized by shortage of specialized staff in some disciplines. This is the gist of forging collaborations among HLIs in the country and outside. Although there is The Tanzania Education Research Network (TERNET) and the internet consortium of Universities and Colleges in Tanzania, their emphasis is mainly on sharing the cost of the internet connectivity infrastructure and subscription of membership for journals which are to be paid for. To be specific, TERNET has no focus on OER utilization.

User Education emphasizes that the *educational community* should appreciate the benefits of education provided. This goes with appropriateness of the content, course planning, participatory pedagogical methods and evaluation systems. The role of academic administrators, instructors and students need to be revisited so that students are kept at the centre so that they are fully engaged in teaching/learning process in the manner which is output/competency based (OLCOS Roadmap, 2012).

The conceptualization of OER requires an extension to Open Educational Practices, that is, OEP (Schaffert & Geser, 2008). The actual utilization of OER in higher education sector needs to be streamlined and promoted so that it becomes more effective. The same materials may be of use in lifelong learning. According to Schaffert and Geser (*ibid*) OEP is defined as the use of OER in such a way that the quality of education experiences is raised. While OER emphasizes on content and resources, OEP represents the practice in which an educational method is employed to create educational environment in which OER are used or created as learning resources (White *et al.*, 2011). While OER deals with how resources can be made available, OEP deals with how OER can be used in the educational context. The two aspects need to be articulated in the educational management for more practical results.

In the literature, it is observed that several issues about OER utilization have been mentioned; but none has been addressed concerning the organization of OER utilization in Tanzania. There is no mention about OER policies and guidelines hence posing a question as to how Tanzanian HLIs can benefit from vast knowledge available from the web without having controls that are critical in selection of quality resources for use. OER status and utilization call for a common understanding among learners, instructors and educators on more effective educational process.

PRESENTATION AND DISCUSSION OF FINDINGS

Based on the existing literature, there is abundance of educational resources which vary in terms of quality and utility from one resource to another; and from one context of application to another (Hysten, 2007; Yuan *et al.*, 2008). It has also been noted that ICT has not transformed education due to the apparent lack of streamlining of educational packages based on available OER. Students are not well guided on how best to identify and select reliable resources that are critical for educational purposes. Yuan *et al* (2008) see the need to promote creation and use of open resources as an integral part of education. It is noted further that the use of OER does not go together with giving it accreditation preference, in that way, its adoption is not enhanced.

Furthermore, the author observed the dominance of “teacher-centred” teaching methods in Tanzania, which in a way, demonstrates lack of parity between the vast online resources which are “learner-centred” and the existing educational system which is “teacher-centred”. This raises the likelihood of adversely affecting both educational output and outcomes. According to Bateman *et al* (2012) lack of innovative, alternative methods of instructions are the factors inhibiting HLIs potential as catalysts for development in Africa. Some major adjustments are required so as to make use of OER more effectively. Schaffert and Geser (2008) established a failure on the use of ICT in promoting “student centred” and “collaborative approaches” to teaching/learning.

In this paper, based on the existing literature, we have observed paucity of national and/or institutional guidelines on classification and utilization of various sources of OER hence raising the issue of quality of educational packages dispensed and or used (Bateman, 2006). The current OER situation in Tanzania contradicts the finding by Geser (2007) that underscores OER as an important element of policies that leverages education and lifelong learning for the knowledge of the society and the economy (Schaffert and Geser, 2008). The point is justified by the large investment in ICT that has led into slow change in educational practices in Tanzania. This is evidenced by the continuity of teacher centred methods (Lwoga, 2012) and the observed paucity of National OER Policy, OER utilizing guidelines in HLIs countrywide and in the African continent at large (Bateman, 2006). The same findings were true for Ghana and Zambia, among the participating countries in COL and William and Flora Hewlett Foundation projects but have

no OER policies (Ngengebule and Nonyongo, 2013). Lack of national policies and guidelines is also evidence through the dominance of institutional initiatives and engagement of individuals in some specific projects.

A mismatch was observed between teaching and learning as framed and maintained by typical educational institutions and the fabric of work in knowledge based the economies out there. This is the type of educational system that emphasizes on development of competences and skills that are produced through innovative educational practices based on open sharing, and evaluation of ideas, fostering creativity, and team- work among learners. In this regard, OER plays the role of a catalyst. This, according to Schaffert and Geser (2008) and White and others (2011) ineffectiveness of an educational system can be attributed to lack of appropriate Open Educational Practices (OEP) that are applicable at local or national levels, hence demonstrating lack of synergy between OER and OEP. In Zambia and Ghana, lecturers who participated in ODL were responsible for course development but were not involved in OER and policy development. Academics should be champions in both OER development and utilization (Ngengebule & Nonyongo, 2013). The OER situation in Tanzania has not even reached this level .

Adjustments or reviews that are needed to educational procedures of administering courses and the syllabi are not effected in the context of Tanzania. Some indispensable changes on the pedagogical principles and techniques that necessitate a change in teacher's role requires a paradigmatic shift from tradition of "imparting knowledge" to "facilitating or supporting learning" have apparently not been effected. This finding reflects the Tanzanian situation whereby the dominant model is "teacher centred" or "knowledge transfer". This is against the perception held by Schaffert and Geser (2008) that associates it with little effect on equipping teachers, students and workers with competences, knowledge and skills. We reiterate that lack of OEP is likely to be the main reason behind paucity of observing educational management procedures. Unlike OER, which deals with the supply side, OEP deals with the demand side. OEP asks questions like where are ICTs used to create, modify and reuse resources (While *et al.*, 2011)? OEP also guarantees quality in the learning process.

Author's twenty years' experience in teaching at college level in Tanzania evaluates that users of OER, instructors, students, educators and self-learners have little understanding on issues of

international property rights and copy rights as required by academic and legal frameworks. This is in line with the findings of studies in other African countries as observed by Hylen (2007), Toumi (2006), Kanwar *et al* (2009), and Bateman (2006). As the materials are termed to be open, they are exposed for usage, misuse and abuse by not acknowledging the source. In Tanzania, misuse and abuse of sources including plagiarism needs to be addressed through affirmative educational measures. In many colleges countrywide no stern steps are taken against academic theft and contravention of intellectual property rights. In many instances, there are no mechanisms of tracking perpetrators of plagiarism, hence promoting the thinking and practice that all OER are available for unaccountable copying and pasting.

Little knowledge, if any, is extended to instructors on how to use, produce or customize the resources made by others in the context of Tanzanian and developing world learning requirements (Bateman, 2006; Kanwar *et al.*, 2009). The direct use of resources, without customizing may implicitly result into “rote learning” or wastage of time, money and other resources for dispensing useless educational packages. This goes with the observation on the lack of OEPs in Tanzania. For example apart from passing institutional OER policy, Kwame Nkrumah University of Science and Technology has gone to as far as making OER production to be among the criteria for academic staff promotion (Omollo, 2011). is this linked to Tanzania?) Paucity of professional guidelines on OER in Tanzanian higher learning institutions signals absence of technical knowhow on the utilization of OER. This calls for collaboration among academic institutions to facilitate capacity building in the utilization of OER and development of OEP (White *et al.*, 2011). AVU preferred “consortium approach” for Sub Saharan African countries since it is cost effective (Bateman, 2006).

Taking College of Business Education (CBE) as an example in Tanzania, where the author of this paper works, majority of lecturers and students have not been exposed to techniques of using on-line resources in terms of search engines, reputable academic links, such as journals and e-books. This concurs with the findings of a study by White *et al* (2011) conducted in the United States of America whereby students just typed on the search engine and whatever appeared on the screen was considered to be the right content for use. The above observed situation might not

be unique to CBE. In several other academic institutions in Tanzania, OER is left to be a choice of individual lecturers (Lwoga, 2012).

As for students, paucity of knowledge on intellectual property rights and copyright, among them, allows students to properly handle other people's work thus ending up contravening academic and legal rights of authors. It may be observed that the College of Business Education (CBE), possibly even other Tanzanian HLIs put little emphasis on anti-plagiarism measures. CBE, for instance, at the time of production of this paper, had no any documented guidelines and measures against plagiarism. As a result, it does not recognize plagiarism as a form of cheating and a crime that is punishable by law and is in contravention of the College Examination Regulations. The current status, which is characterized by lack of professional guidelines on OER use, has manifested itself in terms of a number of students copying other student's theses, reports and improper acknowledgement of sources. This could make some of the college graduates academically and professionally immature due to vivid lack of both knowledge and competence. This state of affairs raises concern on how can OER be utilized effectively when basic conditions for their use are not understood and/or enforced by academic institutions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Effective utilization of OER in Tanzania is partly due to lack of parity between the dominant teaching method which is “teacher centred” and the required methods for OER use, that is, “learner centered”. This depicts a contradiction between OER requirements and the existing educational system at syllabi, courses and pedagogical levels thus causing confusion among instructors, learners and self-learners on the selection of sources, grading the quality of materials and how to use them effectively. Further still, it may lead into misuse or abuse of OER which includes contravening intellectual property rights and burgeoning tendency of students using the internet for non-academic activities such as games, downloading of un-appropriate and unethical materials and the like.

Despite the evidence that OER are available and accessible to instructors, students and educators of most of HLIs of Tanzania, there are no known commonly agreed guidelines on utilizing the same. This makes learners and instructors to haphazardly use such important resources in the manner that could affect educational quality. This underlines the fact that OEP, an important aspect for effective utilization of OER, is largely missing.

The organization and management of educational institution lack a structure that accommodates OER as a new and unique component that is supported by educational technology. Tanzanian academic institutions, with regard to OER use, operate in “business as usual” basis. In some academic institutions libraries have been mandated to pioneer the utilization of OER, however, due to missing OEP, the move has not been very positive. Absence of instructors re-orientation to the new era of OER use, as they need to conceptualize education in the new context of OER, limits their professional perception from “imparting knowledge” to “facilitating or supporting learning” as required by new technological developments. Low level of reading and lesson preparation among instructors is another aspect likely to result into more confusion among learners who are sometimes better exposed to OER, hence demanding for better teaching/learning support from instructors. This, however, may bring rise to a number of questions such as: Is this not the reason for the observed poor attendance in classes? Will instructors avoid teaching classes where students tend to be well informed? Or the opposite, will

students avoid classes whose instructors tend to provide more up to date materials which students have not heard of before? Students may not have reasons to attend classes for subjects they have access to plenty of free on line materials. Further study is recommended on this important area.

International property rights are found to receive less concern among instructors and students in Tanzanian HLIs; hence raising greater likelihood of contravening intellectual property and copy rights. On the use of OER, there is still a need to change this adverse state of affairs.

The paper observes that most of the OER used in Tanzania are produced from the developed world. This is characteristic of most developing countries (Kanwar, Balasubramanian and Umar, 2009). This tendency is likely to affect learners, as resources used are not tailored to their needs, hence raising the possibility for dispensation of “negative education”. The observed paucity of knowledge on how to customize OER tends to support the same conclusion. A few institutions such as Kwame Nkrumah University of Science and technology took the initiatives of institutionalizing the management of OER production and utilization (Omollo, 2011).

Recommendations

Following the findings of this study and the above discussion, the author recommends the following:

The Tanzanian educational system should be revisited so as to accommodate OER for more meaningful articulation of OER requirements at institutional level in terms of selection of officially accepted OER sources such as search engines and websites for quality materials. Educational management structures and pedagogical process should be tailored to accommodate this new requirement. For effective utilization of OER in Tanzania, it is proposed that information skills be integrated in the curricula of HLIs so that students are able to learn effectively and become more knowledgeable and skilled. This can make a significant contribution to the way learning materials, educational resources and other knowledge assets are developed and shared among several academic institutions. In this regard, teaching methods have to be transformed from “teacher centred” to “learner centred” by planning resources use, for example, course content (syllabi), guidelines on educational management (including online programmes), designing of examination system (which is more of evaluation); graduation

conditions and its ceremony. White *et al* (2011) call for the possibility to imbed OER in curriculum design initiatives, which includes the initiatives to support the use of media in teaching and learning.

Policy guidelines on the production and utilization of OER in Tanzania should be developed so that OER is best fitted in the national educational system. This should cover issues of production of OEP guidelines for standard and effective utilization of OER in HLIs.

Academic institutions are urged to develop guidelines that streamline management and utilization of OER for effective teaching/learning process and enhancement of research and publication activities.

HLIs have to transform their operations towards digital systems, for example, digitized libraries and documentation centres for the supply of reliable and recognized OER. This is critical in reducing the cost of purchasing books and promoting timely availability of up-to-date teaching/learning materials. These will form standardized, quality and acceptable sources of teaching/learning materials at institutional level. Such materials should cover the entire scope of specialties within a particular institution.

Academic staff has to be trained on OER production to be able to generate quality OER and share them with the rest of the world (OLCOS Roadmap, 2012). Academic institutions should establish fully-fledged educational technology departments or units that will coordinate OER production and utilization. This concurs with the findings by White and others (2011) who argue for embedding OER in the professional development of tutorial assistants and lecturers. Support instructors to realize their weaknesses so that they become more aware about pedagogical issues that support and motivate change for production of meaningful and sustainable teaching/learning methods.

HLIs have to enhance research and publication so as to add their contribution to the production of OER. This will act towards reducing the OER production gap between north and south. OER, in terms of content and/or systems can only be produced after quality research has been undertaken and practical results have been published and accepted.

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