

# **Appraising the transformative power of OERs for learner-centred teaching at the University of Mauritius.**

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## **Abstract**

Barriers to using OERs include lack of awareness about OERs and intellectual property rights, academic resistance and lack of motivation to adopt technologies in their teaching owing to increasingly heavier teaching and administrative workloads and availability of just-in-time and just-in-context alternatives through search engines. A pre-workshop questionnaire was devised in parallel with an online reflection forum to evaluate to what extent academics at the University of Mauritius are aware of OER sources, how, if at all, they are using Open access material, to what extent they integrate technology in the classroom and how this could transform their teaching practices. Results show that academics access OER courseware, but could do with more training programs. In terms of teaching transformation, academics are willing to “step down” and acknowledge students with more “power” and responsibility for learning but also allowing them to evaluate their learning. This move towards learner-centeredness can be achieved with the right support - professional development programmes in educational technology and encouraging policies at the University of Mauritius.

## **Keywords**

Open Educational resources, Mauritius, Teaching practices, Transforming education, learner-centred teaching.

## **Introduction**

When the International Council for Open and Distance Education (ICDE) launched its global Open Educational Resources (OER) Task force in November 2006, it was said that: “One of the main driving forces for efficient and quality e-learning in the future is likely to be OER, which is a tremendous opportunity for everyone to share, use and reuse the world’s knowledge.” (ICDE, 2006). The main assumption here was that e-learning has a major presence in the teaching practices of academics and that the latter are aware of the potential improvement in the quality of the design and delivery of their content. At the University of Mauritius (UoM), the Virtual Centre for Innovative Learning Technologies (VCILT) provides the main e-learning facilities with Moodle as platform and the regular organisation of workshops to guide lecturers for better design and delivery of their online course. Another initiative towards increasing quality teaching at the UoM is the Post Graduate Certificate in Teaching and Learning (PGCert TAL) where it is mandatory and university policy for new academic recruits to go through the first module TAL 5010 Academic Induction to be accepted on a permanent post since 2003. The Certificate level also comprises a module (TAL 5012) on Educational Technologies which is run totally online so that the lecturers experience this mode of delivery as would their students and so that they design more technology-enhanced learning activities for their students. While these opportunities serve to improve teaching and learning at the UoM, attaining the level of post graduate certificate requires that we wait for seven years before graduating with a PGCert in Teaching and Learning which demonstrates a very inefficient program. Also, we have very little information as to means and ways, or whether at all, academics integrate OERs for their classroom interactions. We anticipated on academic teaching practices in relation to Open Educational Practices (OEP)

through a questionnaire survey. A total of 45 academics responded to the questionnaire out of the 98 invitations sent. The low response could actually point to apprehensions or aversions of academics with anything to do with Educational technologies. In the Open e-Learning Content Observatory Services (OLCOS) roadmap, Geser (2007) had warned about the insignificant impact of OER in teacher-centred dominant practices, and emphasised the need to foster open practices of teaching and learning that are informed by an educational framework supported with digital content, tools and services in the learning process based on:

1. competency-focus,
2. the constructivist paradigm of learning and
3. creative and collaborative engagement of learners

These three main approaches, were then integrated in a follow-up workshop with academics who were following the TAL 5012 Educational Technologies module.

### **The University of Mauritius Context – and why we should start thinking seriously about OERs.**

Established in 1965 as College of Agriculture, the University of Mauritius (UoM) currently dominates the Tertiary Education Sector in Mauritius with a Gross Tertiary Enrolment Rate (GTER) – of 43%, that is 11,900 students. The university's vision is to be a leading international university, bridging knowledge across continents through excellence and intellectual creativity (Herana report, 2007). The university's current strategic plan, Strategic Directions 2006–2015, has the following six strategic directions:

1. Knowledge creation
2. Knowledge diffusion
3. Investing in resources
4. Quality culture and good governance
5. National, regional and international collaborations
6. Community outreach

The University of Mauritius enjoys a good reputation with local employers and excellent feedback from external examiners hailing from reputed international academic institutions. A public university, deriving much of its income from public funds, the UoM also attracts the best students freshly out of secondary schools as well as highly qualified personnel.

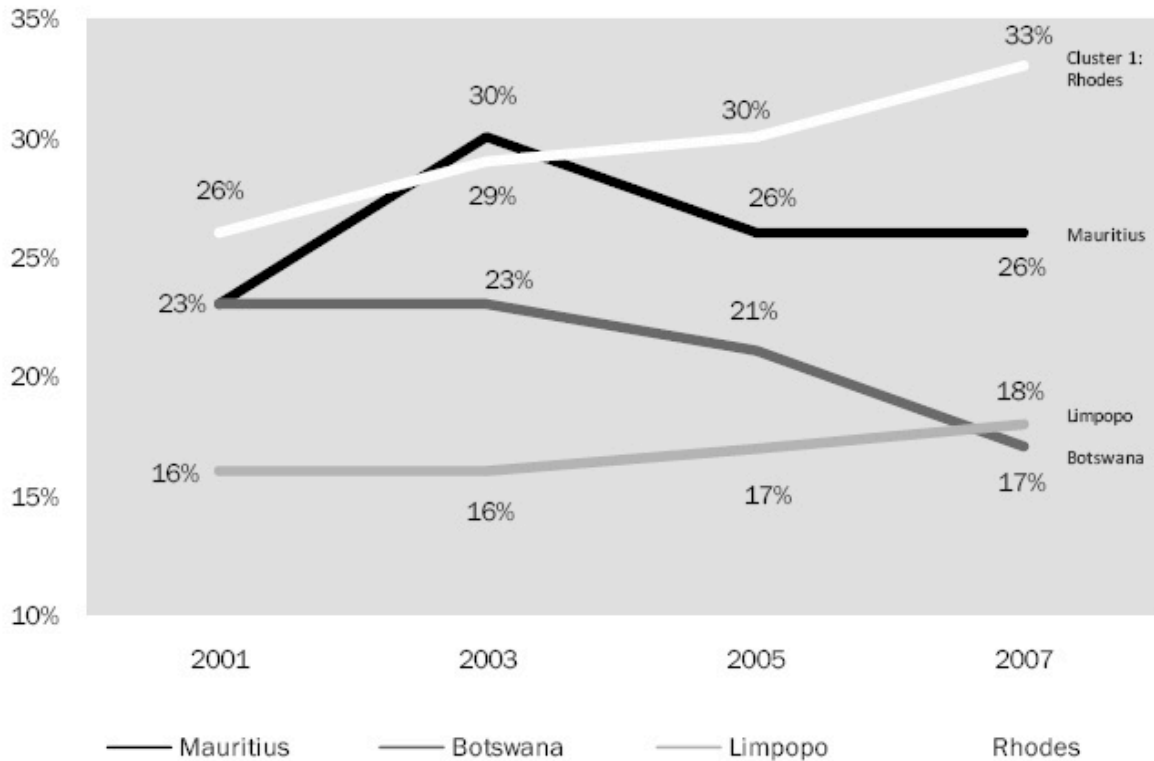


Figure 1: Comparison of science and technology graduation rates in four African Universities.

Figure 1 shows that UoM's and Rhodes' performances in producing SET (Science, Engineering and Technology) graduates were well above those of the other two universities of Botswana and Limpopo. UoM's average cohort success rate for 2001–2007 was 78%, Botswana's 55%, Limpopo's 50%, and Rhodes' an exceptionally high 88%. The data indicate that UoM was, in terms of its SET graduate outputs, an efficient university (Bailey et al, Herana report, 2007).

At present, the University receives around 8000 applications for its courses and the actual intake is around 4,000 students every year. It is not clear whether the other 4,000 students are not admitted because of unsatisfactory levels to be able to join the courses, or whether they would have meanwhile opted for other universities- what is clear however is that the UoM will not enjoy this position of dominance for too long. Mauritius has set itself the target to increase the gross tertiary enrolment ratio from 43% to 70% by 2015. The island is also targeting to attract 100,000 foreign students by 2020. According to UNESCO, sub-Saharan Africa has the highest growth in tertiary enrolment. Mauritius can be an ideal platform to attract students from Sub-Saharan Africa for higher education. The regulatory framework is already in place to allow foreign universities and tertiary educational institutions to legally start operations in Mauritius. The Board of Investment (BOI), a governmental body, organised the Mauritius International Knowledge Investment Forum (MIKIF) 2012 on the 30th January at the Intercontinental Resort, Mauritius with the objective to showcase the various investment opportunities in Mauritius to the global education community. The event saw the participation of Investors and CEOs of property development firms, policy makers, university administrators and academics from India, Singapore and the UK keen to forge strategic alliances and make inroads into new markets. In the face of such tremendous competition from tertiary education international giants (Amity

University, Middlesex University (UK), Vatel Hotel School (France), Birla Institute of Technology (India), London of Accountancy (UK), NIIT (India), Limkokwing University (Malaysia) and JSS Academy (India) who have set up campuses on the island. The University of Mauritius is poised at a crossroad where internal university politics (with the current restructuring), omnipresent technological transformations in education and government policies of democratising tertiary education force us to reconsider the learners' perceptions of the contemporary higher education scene and perceive these learners more as "partners" for our further development. Reports from Universities that have "opened up their content" prove that OERs are an invaluable means of showcasing institution's intellectual outputs, promoting university profile and attracting students. Butcher (2010) mentions that "it is clear that universities should understand that their real potential educational value lies in their ability to provide effective support to students through their ability to provide intelligent assessment and critical feedback to students on their performance- the focus being less on the content, but more so on the quality of service." The efforts of universities like the Massachusetts Institute of Technology and the Open University, UK to release their content as OER reflects an understanding of the needs of today's students, as well as an effort to lead the OER movements and benefit from the publicity that such leadership generates. Butcher (2010) predicts that "in such an [competitive] environment, it is foreseeable that reputation will grow by making Open Educational Resources and Higher Education content available as a way of publicising competence in providing support, assessment, and accreditation." However, Geser (2007) had already pointed out that "the established culture of academic and higher education institutions does not particularly foster the creation, sharing and re-use of Open Educational Resources. In universities, greater value is often attached to research than to teaching, in particular when it comes to academic promotion. Hence, there is usually little incentive and support for faculty to experiment with innovative IT-enhanced forms of teaching and to excel in producing and sharing educational material."

### **The Survey Instrument to evaluate Use of digital resources and faculty penchant for innovative teaching methods.**

An online questionnaire was developed using the free online tool 'Survey Monkey'. The questionnaire is attached in Annex 1 and can also be found on WikiEducator <http://wikieducator.org/File:OlnetQuestionnaire.odt> . The questionnaire (inspired by a similar doctoral study on OER use and reuse by Dr Chris Pegler comprises of elements from Areas 1 and 3 of the document presenting the official list of best practice in the implementation of open educational practices, as defined by the Open Educational Quality Initiative (OPAL 2011). It has to be mentioned, however that the term "Open Educational Resources" was refrained from being used since this would have constituted a technical jargon that many academics would not have understood. "Digital resources" or digital material were used instead, while pertinently asking about OERS. The questions were implicitly directed at finding out whether, at all, academics were aware of Open educational resources and how they integrated these into their lectures. Of main interest, the following dimensions were investigated:

1. Extent of using and repurposing OER.
2. Availability of a process for OER creation.
3. Degree of sharing of OER and OEP

4. Extent of working with open learning architectures
5. OEP usage: This dimension describes the degree to which open educational practices are embedded as a reality in the organization's teaching, learning, and other everyday processes
6. Quality concepts for OEP: 'Value' of teaching (in comparison to research activities in the institution)
7. Level of knowledge and skills:
8. Digital literacy

Relating to the proportion of digital material used for their classes, shows that 66% of the academics use only or mostly digital material – showing a definite shift from physical text-books towards digital resources.

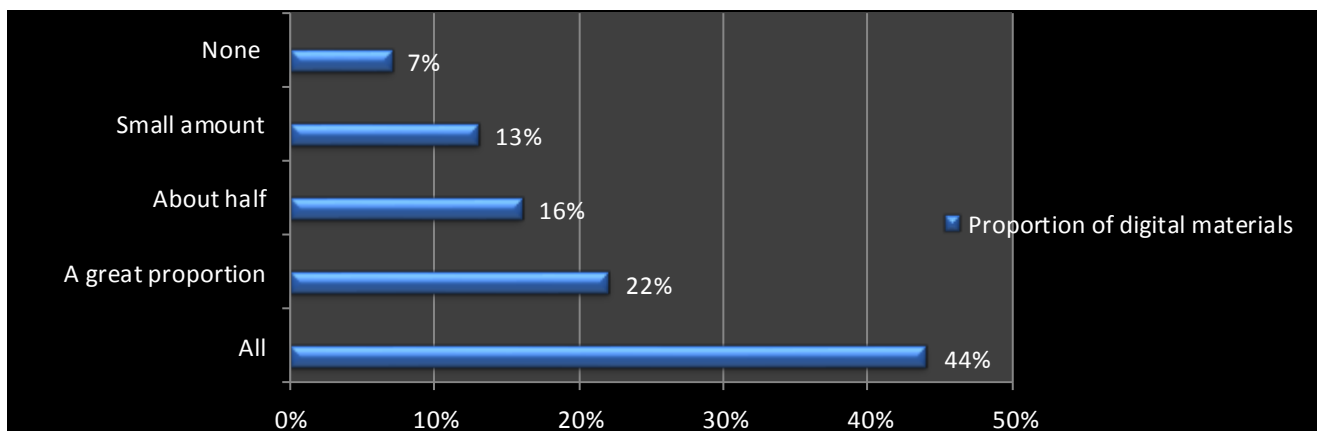


Figure 2: Proportion of digital material used for classes

Only 9% of the lecturers provide content online, which means that most of the time (67%) they are delivering face-to-face lectures using mostly digital material. The question then arises whether the lecturers are creating their own resources from scratch or using resources available online.

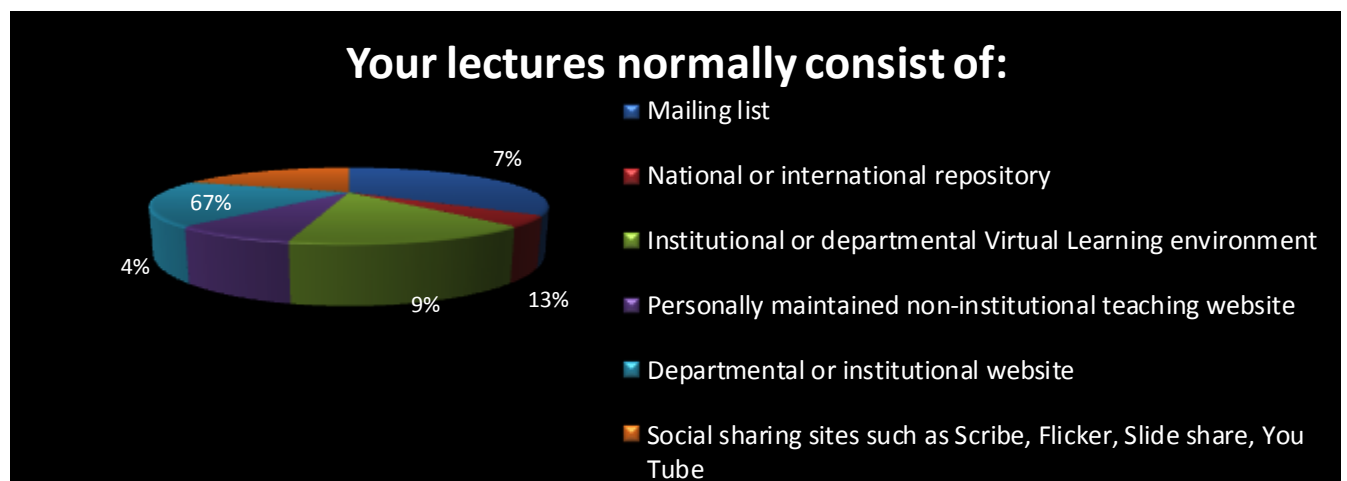


Figure 3: Lecture Delivery methods

Question 9 addressed this issue of reuse by looking at the perceptions of academics at the UoM with respect to using and reusing content online. The question was formulated as “9. Please indicate whether you agree, are indifferent, or do not agree with the following statements pertaining to using material available on the internet. Please specify any other concern you may have. “

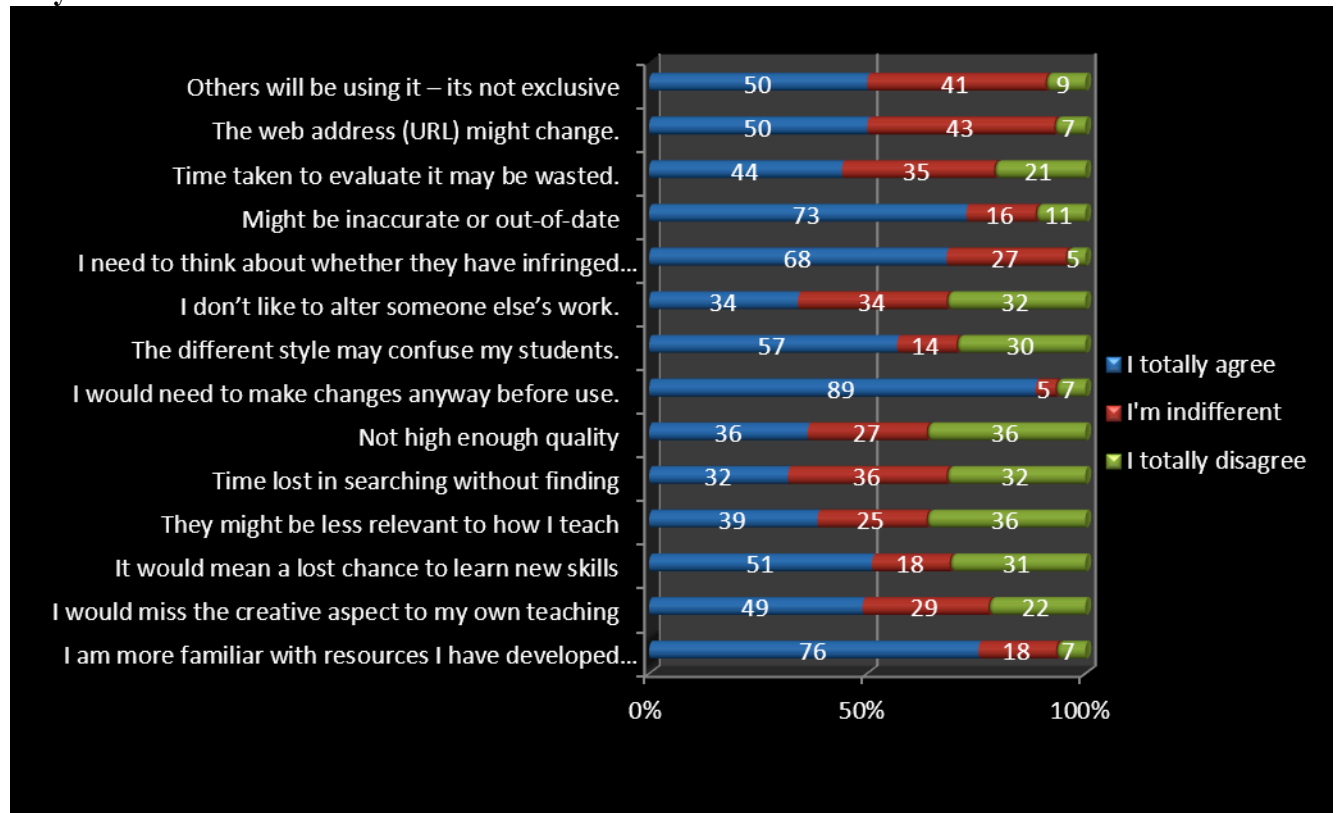


Figure 4: Perceptions of repurposing Online material

Looking closer at the results, it is found that opinions are pretty much divided: 76% academics prefer creating their own resources since they are more familiar with the contents. Half of them would miss the creative aspect, and they prefer the chance of learning new skills. 89% mention that they would need to make changes to existing material, while 68% do think of copyright infringement. On the other hand, most of the academics are either indifferent to relevance of the materials to their teaching, or are not so much concerned about quality of existing resources. 66% would not find it unethical to alter someone else's material and a similar proportion do not think that time is being wasted in searching for material online.

Two academics sent additional comments :

Comment 1

*“Personally, I "dont care much" (without any bad connotation) about online materials because I noted most students do know how to get information online; sometimes better than myself, more up to date info ... Thus, even though these online mats are not "officially" included in my course, students do HAVE ACCESS to them; after all, internet facilities are provided to them, and most do have ADSL at home (I dont!). My main emphasis for effective teaching to the "rather" weak students in Physics is to make them understand the basics and for these, I do have additional tutorials ... Also, in absence of "someone" present, they do not concentrate on what is written; ie they look at things but do not see things! Eg, Nelkon and Parker have written a very good HSC physics book where things are explained in good and clear english. When studying Phenomena like thin film interference during lab sessions, I noticed that students still cannot understand what happen, cannot understand the physics behind the phen., even though everything is clearly explained. I usually have to force them to read aloud and translate in creole each sentence and explain. Then we discuss. So, even though online mat would be most interesting (even to myself!), this may not be applicable to most "youngsters" who are not capable of looking at something "sincerely, without bias".*

#### Comment 2

*“Materials on the net may not be accurate and it has to be used with caution after careful evaluation and verification.”*

The fact that students are more proficient at searching for resources on the net is not surprising, however, it should be noted that academics are provided with refunds for their internet usage at home as incentives for more research and enhancing their teaching with e-learning material.

In an attempt to evaluate the culture of sharing and collaboration at the UoM, a question was formulated pertaining to sharing resources other than with their students and more in relationship to research and scholarship:

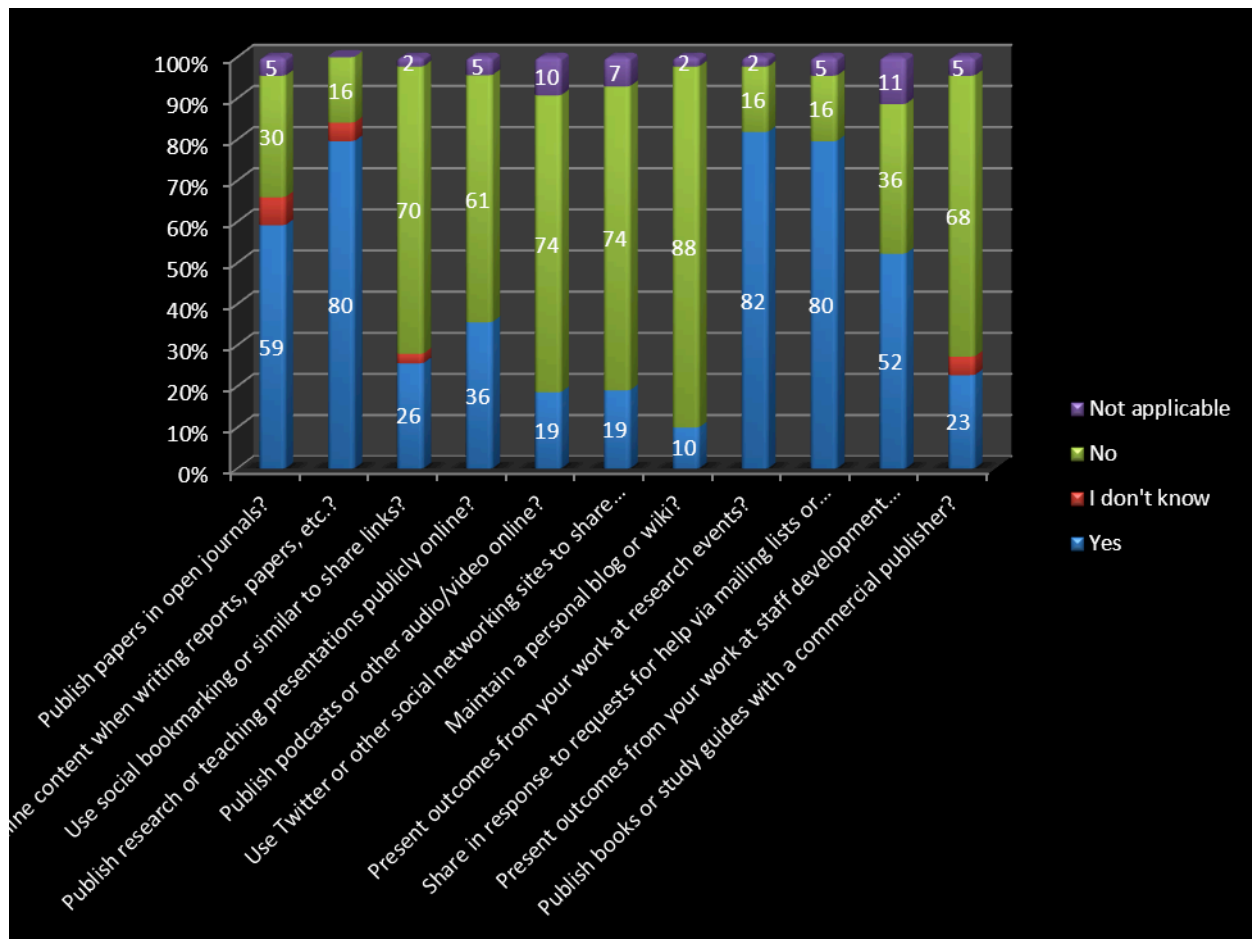


Figure 5: Academic web-presence and collaboration

While it came as no surprise that most of the academics do disseminate results at research seminars and conferences, 36% of UoM academics do publish research or teaching presentations online and 19% do use social networking sites for sharing information.

Incidentally however, awareness and use of existing Open educational resources is quite disappointing. As the chart below shows, while 43% of the lecturers are aware of MIT OCW, only 2% actually use their contents, and around 7% use material from Open learn. Although the numbers are quite small in themselves, the reusability factor in the design of materials might have contributed to this “preference” for OpenLearn material.



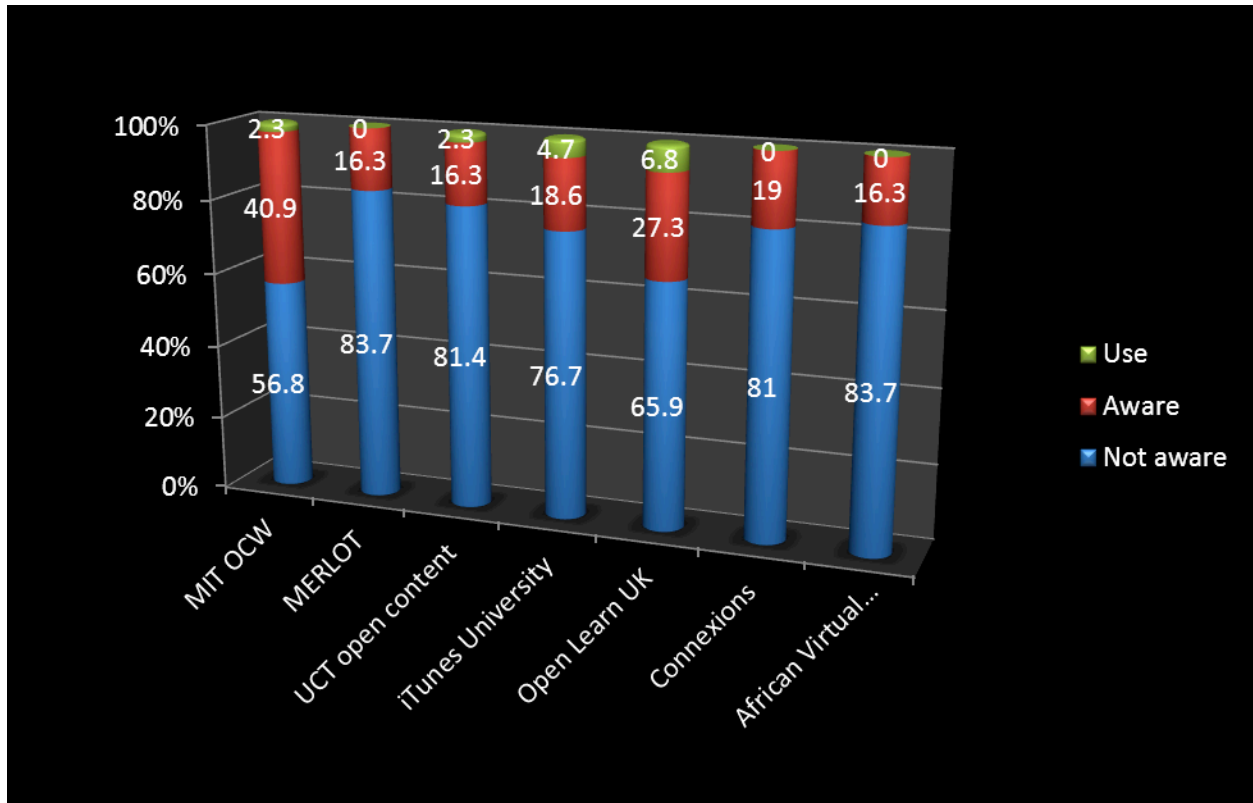


Figure 6: Awareness of OER Institutions

Ehlers (2011) relates this reluctance in OER uptake in higher education to that fact that the current focus in OER is on expanding access to digital content with little consideration for pedagogical approaches and enhancing quality and innovation in teaching and learning. He recommends that beyond access to OERs we should be thinking of embedding OERs into our teaching and learning practices. This reinforces Butcher's (2010) idea that simply providing content freely available for use and adaptation will not necessarily improve higher education delivery and that "effective use of educational content demands, amongst other requirements, good educators to facilitate the process" who in turn need to be equipped with the necessary knowledge and tools to be able to harness the transformative potentials of OERs.

Open educational Practices entailed designing an online workshop which was competency-focused, based on the constructivist paradigm of learning and required the creative and collaborative engagement of learners. The parallels with learner-centred teaching and learning are clear and we drew upon this paradigm for the formulation of discussion topics in the reflective forums created in the Moodle platform at <http://learningspace.co.za/moodle/login/index.php>.

### Open Educational Practices and Learner-Centred teaching and learning.

Learner-centred teaching is an approach to teaching that is increasingly being encouraged in higher education. Rather than focusing on simply delivering their lectures to their classes, learner-centred teachers employ multiple teaching strategies. This approach emphasises a variety of different types of methods that shifts the role of the instructors from givers of information to facilitating student learning. Learner-centred approaches are characterised by the three main factors:

- constructivism (based on the belief that learners develop new knowledge through building on previous knowledge and experience),
- deep learning (where learners actively engage with meaning), and
- learner self-responsibility.

Bonk and Reynolds(1997) had suggested that for learner-centred approaches, institutions needed “to create challenging and novel environments that help the learners link new information to old, seek meaningful knowledge and think about their own thinking. Creation of challenging and novel environments entails changes in perceptions of higher education teaching, “where learners given the freedom to explore areas based on the their personal interests, and who are accompanied in their striving for solutions by a supportive, understanding facilitator not only achieve higher academic results but also experience an increase in personal values, such as flexibility, self-confidence and social skills” Rogers (1983).

Building upon aspects of the learner-centred paradigm, the next paragraph describes the objectives and results of the online workshop which formed part of the TAL 5012 Educational technologies.

### **TAL 5012 –Educational Technologies and the opportunity of integrating learner-centred teaching at the University.**

The *Postgraduate Certificate/Diploma/MSc Teaching and Learning in Higher Education Programme* was approved at the 431<sup>st</sup> Senate meeting in November 2001. Since its launch, the delivery was carried out by overseas resource persons, mainly South Africa. UoM academics have been unanimous in seeing the benefit of this module which was in fact commended by the Quality Assurance Audit in 2005. The aim of this module is to provide an overview of developments taking place in Educational Technology as applicable to Higher Education, through the different ‘generations’ of mode of delivery. It provides broad insight into the use and implementation of various strategies in the learning environment. It is expected that as a result of working through this module, the lecturer will be able to :

- Distinguish between methods and products of new Technologies.
- Determine the role of new Technologies in enhancing Teaching and Learning.
- Identify conventional and modern techniques of Teaching and Learning.
- Assess the limitations of Educational Technology.

In contrast to previous sessions, the current TAL 5012 was held totally online since the facilitator had unfortunately had an accident and was unfit for travel.

Thanks to the marvels of educational technology and with the assistance of the VCILT, the module was still run as scheduled and in a Trojan horse tactic, dimensions of Open Education Practices were incorporated in the module through learner-centred approaches. The main topics to be covered during the module pertained to:

1. Social Presence
2. Automated assessment
3. Authentic assessment
4. Collaborative learning.

At the end of the program, there was a noticeable change in the way that these academics perceived online education and how they would use educational technologies to enhance their teaching.

The topic of social presence in an online environment was introduced, carrying dimensions of openness in communication pathways and creating a suitable atmosphere for respectful exchange (Gunawardena & Zittle, 1997). Of particular interest, one of the participants summed up what she had learnt from this session mentioning:

*“Social presence is crucial in the creation of a communal, group-specific ‘language’. This is especially helpful in the creation and maintenance of friendship in the virtual classroom. Enhanced solidarity between participants leads to the creation of a “community of practice” (Wenger 2001) where the e-learning space acts as the social glue between facilitator and students.”*

The shift towards providing more authentic learning experiences and giving more ownership to the learner as a reflexive thinker and active participant in the learning process were captured in the following reflection:

*“As I went through the toolbox, one activity titled ‘fairy tale letter’ caught my attention. I was also impressed by the detailed illustration about how students can be familiarised with rubrics so that they can carry out self-assessment tasks. I am planning to introduce a combination of both activities in one of my oral skills session. I would like to ask students to ‘write to your favourite theorist letter’. Then, similar to the toolbox, I would like to provide them with simplified rubrics that should help firstly in peer assessment and secondly in self-assessment. At the end of that session, tutor assessment, peer assessment and student assessment can be compared to each other. The tutor can then explain the implications of the findings. I’m hoping that this activity will give rise to a degree of reflexivity in my students’ performance.”*

On the topic of increasing collaboration, participants mentioned:

*“ Heterogenous groups work better... (I was not fully convinced about that before tackling this activity)... We need to ensure that problems which arise from within a group are tackled as quickly as possible before they get out of proportion and spoil the group dynamics. This can be ensured by informal meetings with the members.”*

## ***How is the new knowledge and/or skills, about collaborative learning going to influence my classroom practice?***

*First of all, I must admit that after 8 years of lecturing, it's only during the past few days that I read extensively about collaborative learning. During 8 years, I had my own opinion about collaborative learning. Right now, there are so many things just crammed, and which I'd like to put into action, experiment, and see the results...I found this extremely enriching:*

*“Teachers activate students' prior knowledge by asking them what they already KNOW; then students (collaborating as a classroom unit or within small groups) set goals specifying what they WANT to learn; and, after reading, students discuss what they have LEARNED. Students apply higher-order thinking strategies which help them construct meaning from what they read and help them monitor progress toward their goals.”*

## **Conclusion**

As current waves of openness in education will surely hit the shores of our insular classrooms through globalisation and the World Wide Web, we need to be prepared by acknowledging, channeling and correctly harnessing newer paradigms in education. For now, the paradigm is still to lock away the content produced by academics for classroom diffusion. In a blog report by Vollmer (2010), Wayne Mackintosh Director of the OER Foundation in New Zealand, aptly puts it, “Any researcher worth their salt knows that a thorough literature review of existing knowledge is the natural starting point in resolving a research question. In our research, we have no issue with sharing and building on the ideas of others, yet in our teaching there is a perception that we must lock our teaching materials behind restrictive copyright regimes that minimize sharing.” However, times are changing, and whether it would be our learners who would be pointing us to the right direction is yet to be seen, however, opening up our teaching to encompass the learner (as a guide) will surely improve the quality of teaching. There is a great potential for transforming current academic practice at the University of Mauritius through Open Educational practices. The culture of sharing and collaboration is being fostered through open and online technologies. More and more academics look towards digital material for creating their course content and are less resistant to new methodologies. They see the benefits of inculcating learner-centred approaches both in their teaching and learning practices. They find that being the “sage by the side” has tremendous leverage for increasing student responsibility and engagement in the classroom. While the results of the study are quite conclusive, further research needs to be done through OER workshops to create awareness about the legal and pedagogical gains of using OERs in teaching. Also, to what extent would academics allow external scrutiny into their teaching is still to be determined. The phrase “Build it and they will come” (from the movie “Field of dreams”) clearly does not relate to repositories for open content. Larson and Murray (2008) more appropriately rephrased it to: **“Build it and they will not come unless you design a system to promote and encourage access”**. Many of the problems with reuse of open content in developing countries can also be found in developed countries but the problems are much greater in developing countries.

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