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Managing Diversity in Educational and Community Settings

PLENARY

**ADDRESSING DIVERSE LEARNER NEEDS AND LEARNING STYLES:  
THE OUM EXPERIENCE**

BY

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# ADDRESSING DIVERSE LEARNER NEEDS AND LEARNING STYLES: THE OUM EXPERIENCE

## 1. INTRODUCTION

One of the greatest challenges facing higher education institutions in this millennium is to provide equitable access to the rapidly growing population. The problem is further compounded by the fact that learners are increasingly more *diverse* in nature and more demanding in terms of the quality of education that they receive. To rise to this challenge, higher educational institutions must be more creative and innovative in delivering its programmes and services to their learners. The traditional modes of delivery still have their strengths and relevance, but they need to be continually upgraded and improved upon. At the same time, new modes of delivery need to be explored to cater more effectively to the varying needs of the diverse learners.

Open and distance learning (ODL) provides a complimentary avenue for increasing access and equity while at the same time offers the flexibility to meet the needs of such diverse learners. ODL institutions are better placed to create learning experiences that capitalize on the richness, creativity and complexity of human learning by adopting a learner-centred approach that is, placing learners at the centre of the learning process.

It is generally agreed that technology presents a potential learning solution to catering for individual differences in terms of providing communication capabilities and interactivity that extends teaching and learning strategies and opportunities beyond those achievable using conventional means. Along with the appropriate software and system, contemporary technologies now provide teachers and learners with a range of powerful mobile communication devices for learning including PDAs and laptops with seamless wireless internet and network connectivity. The preponderance of such technology, by design, has led to the immense growth of ODL institutions worldwide.

## 2. DIVERSE LEARNER NEEDS AND LEARNING STYLES

In today's higher education environment, diversity of learners can be categorised according to the following characteristics:

- ethnicity, gender, religion, disability;
- language, culture, communities;
- prior knowledge, pre-determined learning style, and individual approach to learning;
- personal motivation and expectations;
- social contexts of education; and
- learner's personal life style.

Diversity of learners has attracted increasing attention among educators when it was found that attention to learner diversity does enhance learners' academic achievement as well as their attitude, interest and motivation towards their study. Learning styles have been defined and categorized differently by different experts. However, most agree that learning styles can be divided into three types, namely, *visual*, *auditory* and *kinesthetic learners*. Visual learners are those who prefer to convert language to pictures (Willis and Hodson, 1999). For these learners, technology can help by allowing pictures and other visual aids to be used in their learning process. Programs like Microsoft PowerPoint and Microsoft Word are good examples of applications that have many color options. Auditory learners prefer to learn by listening and hearing information. They also like to learn through listening to music and the radio. In this regard, books on tapes or CDs, which are called audio books, and video-on-demand can help these learners immensely. Finally, we have the kinesthetic learners who learn better by touching and manipulating objects. For these learners, I-Mate PDA phones, iPods, laptops, electronic boards, electronic pens, and electronic dictionaries will greatly help in their learning.

### **3. THE OUM EXPERIENCE**

I am privileged to be associated with a newly emerging ODL institution in a developing economy blessed with an inherently diverse population. OUM has accumulated a considerable experience in meeting the needs of its diverse learners with different learning styles. Let me share with you these experiences with the objective of providing useful insights into our practices and in turn obtaining valuable inputs and feedback on them.

OUM was established as the first ODL university in Malaysia in 2000 and took in its first batch of 753 learners into four academic programmes in the following year. It now has more than 70,000 as its cumulative intake in 51 academic programmes. In terms of teaching and learning, it utilizes the blended delivery mode that combines self-managed learning (in which learners are equipped with printed modules and other self-instructional materials) with face-to-face interactions (fortnightly tutorials conducted at learning centres) and e-learning (via a specially and internally designed learning management system, known as myLMS).

The exponential growth of OUM in terms of its student numbers has been attributed to several factors. The country's Internet penetration has improved tremendously to 60% at the end of 2007 with internet user growth of 302.8% over the last 7 years. Concomitant with this trend is our learners' increasing acceptance of e-learning and the blended mode of delivery of its programmes. Recognizing that additional skills, on top of the normal traditional university skills required by ODL learners, the "Learning Skills for Open and Distance Learners," course have been made a compulsory university course for all new learners. This module, which has been awarded the *Award for Excellence in Distance Education Materials by The Commonwealth of Learning in November 2006*,

has definitely enhanced learners' capacity to adapt and adopt to the OUM way of learning.

The wide acceptance of the use of ICT in learning among our learners has also been shown by the results of the e-learning survey conducted by the Centre for Student Management. It was found that OUM learners' readiness in e-learning is rather high; over 50% and in some cases 75% of our learners are competent in using the various ICT tools in their learning. Their positive perceptions on the use of ICT in learning (mean value of 3.2 out of 4) are however accompanied by positive perceptions towards learning via the traditional face-to-face mode. This implies that while they are appreciative of the advantages that ICT can bring, they still value the face-to-face interactions in learning.

#### **4. LEARNER DIVERSITY AT OUM**

OUM prides itself to be an all-inclusive institution in that it has a well-diversified group of learners. Let me illustrate this point by sharing with you the different aspects of diversity of our learners.

OUM's learner population comes from different professional backgrounds such as teachers, nurses, sportsmen, members of the armed forces, policemen, businessmen, and even politicians. It also includes housewives and unemployed young school leavers.

In terms of gender, 46% of our learners are male while 54% are female while in terms of age, the distribution of our learners is as follows: 2.6% are 20 years and below, 28.1% are between 21-30, 44.9% are between 31-40, 22.1% are between 41-50 and 2.4% are above 50 years of age.

The variation in entry pathways also adds to the diversity. For example, in the most recent intake of May 2008, 78% of new learners were taken in through the *normal entry channel*, coming in with O-level/A-level/Diploma certificates and 22% through the *open entry channel*, with a minimal qualification of 9<sup>th</sup> Grade, supplemented by at least 5 years of relevant work experience.

Diversity of our learners is also reflected by the level of programmes they enroll in. The diploma learners make up 7% of the population, bachelor degree learners, 91% and post-graduate learners, 2%.

Currently, OUM has 178 learners who are in-service teachers in the remotest parts of the country and they make up a group of learners that requires a special kind of attention. They are taken in via a special programme in collaboration with the Teacher Training Division of the Ministry of Education (MOE). This new programme provides an opening that these teachers have never dreamed of. For this group of learners, the

tough and difficult surrounding which lacks basic facilities such as electricity, telephones and Internet access, does not act as a hindrance, instead they take it as a challenge.

Yet another special group of learners is the disabled learners. This group is given a substantial discount of 75% on their tuition fees to encourage them to pursue higher education at OUM.

## **5. IMPLICATIONS OF THE ABOVE DIVERSITY**

The diversity of OUM learners as mentioned above has several implications. Being an ODL institution that needs to cater for the mass market and contribute towards democratization of education, OUM needs to fully understand these implications.

Learners from diverse background differ in terms of prior learning experiences, background knowledge, skills levels, learning independence, motivation and enthusiasm for learning. Teachers, for example, generally have a better background knowledge, more motivated and goal-oriented. They are fully sponsored by the Ministry of Education (MOE) and the continuance of their scholarship is dependent upon their academic progress. The in-service nurses are also highly motivated but their training requirements differ from those of the others in that they are more hands-on and practical-oriented. The rest of the learners who come from different professional background have different sets of learning skills and degree of learning independence depending on their vocation.

From the gender point of view, the female learners have greater challenges compared to their male counterparts primarily because they have a greater amount of responsibility by being housewives, career women and mothers.

As for the different age groups, the younger learners are found to be more active, adventurous and computer savvy ("digital natives") but lack the necessary enthusiasm and perseverance as compared their older counterparts.

The open entry learners generally lack the necessary academic skills but richer in practical experience and possess higher level of enthusiasm and motivation. They need greater support compared to the normal entry learners in going through their studies.

Most of the diploma learners are younger, single and not working. They also have to rely on private loans or own funding. They generally lack the necessary experience and maturity and face difficulty in being independent learners which is deemed essential in an ODL environment. They need to be appropriately guided to be responsible for their own learning. On the other end, the post-graduate learners are more matured, rich in professional experience and can easily adapt to independent learning. This group of learners is able to better manage their learning. The bachelor programme learners lie in between these two extremes. Some are able to readily cope with their learning while others do need some learning support.

Teachers in the remotest parts of the country have their own set of challenges such as living in a surrounding which lacks basic facilities such as electricity, telephones and Internet access. They also take many hours by roads and rivers to reach their learning centres. As a result they can only leave their remotest locations once a month, this means the teaching, learning and administrative processes need to be modified to overcome their difficulties.

These teachers are fully sponsored by the MOE and are also given special allowances which vary according to the remoteness and the living conditions of their locations. Among the factors that drive them to pursue their education with OUM include are to upgrade their academic qualifications and to be able to contribute better towards the improvement of the education of remote communities. Thus far, these learners are coping well with their studies.

The disabled learners present a unique set of challenges to OUM. Not only our physical infrastructure needs to be designed to cater for their needs, the teaching and learning facilities have to be tailor-made to suit their special requirements. This group of learners also needs special personal attention and motivation to keep their spirits high so that they will continue to persist in their study.

## **6. OVERCOMING LEARNER DIVERSITY AT OUM**

Having understood the implications above, OUM has undertaken a number of measures to ensure that these diverse learners obtain the quality education that they aimed for while at the same time given equitable access with minimal challenges.

### ***Blended Mode of Delivery***

OUM's blended mode of delivery provides learners the flexibility of choosing the appropriate mix of learning modes that suit their learning styles. Even though the blended mode involves three different types of learning, it is seamless in that learners can focus their learning on a certain topic without being interrupted by moving on to a different type of learning mode. Regardless of the learners' learning style, he/she has the flexibility to choose either the self-instructional modules, go online, participate in the face-to-face interactions or a combination of any of the three types of learning modes. Thus, the blended mode of delivery serves different categories of varied learners.

The blended mode of delivery is most appropriate in cases where the number of students is sufficiently large for it to be economically viable. To cater for small number of learners who happen to be in isolated locations or those who are very busy and could not afford the time to come to the face-to-face tutorials, OUM introduces the *Modified Blended Mode* of delivery. In this mode, learners have the option of attending fewer tutorials but are more involved in online interactions with their peers and tutors.

OUM also offers *Pure Online Mode* of learning to those learners who, due to work, family constraints and personal reasons prefer to forego the face-to-face, and instead to go through the whole course online. In such a case, OUM provides online tutor support to guide them through their studies.

### ***E-learning***

The e-learning component offers *flexibility, interactivity, effectiveness* and *efficiency* to diverse groups of learners regardless of their learning styles. In terms of flexibility, e-learning transcends time and place, allows self-paced learning, provides financial and economic flexibility by making it possible for working adults to study without having to leave their career, and enables just-in-time and just-enough learning. E-learning offers interactivity which contributes towards learners' knowledge-gathering and improved understanding from the use of multimedia and online formative assessment. E-learning also offers efficiency in terms of savings in tuition fees and time in obtaining information. The benefits of e-learning are therefore tremendous and the beauty is that it enables a more personalized learning suited to every learner's learning style.

In an e-learning environment, a learning management system typically contains e-mails, bulletin boards, and chat rooms. For a diverse group of learners, the use of these features can sometimes be more effective than face-to-face communications because some of the barriers to communication are removed. These barriers include making judgments about a person because of their gender, race or appearance which colour the way their opinions are received and judged by their peers. For students who lack English language proficiency it is sometimes easier for them to participate in an online discussion because they can read and write easier than they can speak and understand English.

In an online discussion, it is also easier for a facilitator/moderator to make sure that certain individuals do not dominate, while at the same time assisting the more reticent to be given "equal time". This capability would be particularly useful in ensuring that weaker learners, who often shy away during face to face discussions, are encouraged to participate in discussion on an equal footing. The platform also encourages learners, particularly the good ones to develop a more analytical mind, since they have the time to think through (Koory, 2003). It has also been found that higher order thinking takes place in threaded discussions (Meyer, 2003).

### ***Learning Materials***

The materials that learners use for their learning have to be tailor-made to meet their varying needs if we are to ensure that they get the best out of their learning. At OUM, the learning materials are presented in redundant formats so that learners can choose the ones they feel would benefit their learning style most. Static and dynamic visual and audio media are used to complement textual representations of course contents. The

redundant formats are all derived primarily from the print module, which forms the basic learning material and provides the scope of their learning in a particular course.

The redundant formats, as mentioned above, include CD-ROMs, power-point slides, videos-on-demand, i-tutorials, learning objects and i-radio broadcasts. These learning resources are carefully written and professionally developed to ensure that they cater to the various learning styles and strategies. The availability of the Digital Library provides a tremendous advantage to our diverse learners; they can access any material, from anywhere, anytime and from any place. Though the usage of the digital library was low at the initial years of OUM's establishment, the number of hits by learners has grown impressively from 61,959 in 2003 to almost 600,000 in 2007, representing almost a ten-fold increase.

Let me touch a little bit on learning objects. Learning objects are small chunks of learning material that has been designed creatively, and each learning object is associated with a specific learning objective. They come in digital and web-based form, thus the advantage is that they can be used and re-used to support learning. Learning objects offer a new conceptualization of the learning process: rather than the traditional "several hour chunk", they provide smaller, self-contained, re-usable units of learning (Wikipedia). Teachers and learners find online curriculum with appropriate learning objects engaging, interesting and effective and have a positive effect on learning outcomes. Learning objects also "provide learning customized for each specific learner at a specific time, taking into account their learning styles, experience, knowledge and learning goals." (Schatz, 2000)

Visual labs which are jointly developed by the Centre for Instructional Design and Technology (CIDT) and Faculties are also made available to learners, particularly those who are taking Science, Technical courses and also those in the nursing programme. Learners are able to obtain sufficient hands-on practical exposure before going into the actual laboratories, where they would then apply the knowledge gathered from the virtual labs and complete their experimental tasks accordingly. For the nurses, they use the virtual lab for their practical training before sitting for their clinical examinations (*Objective Structured Clinical Examination, OSCE*) which are conducted at our partner-hospitals. Another initiative that is in the pipeline is the development of the "Trauma and Emergency" virtual lab for the Trauma and Emergency Nursing.

### ***Flexible Assessment***

Adopting different forms of assessments is another strategy to meet the needs of learners with diverse skills and learning styles. This is particularly true for adult learners who are not well-equipped to reproduce their knowledge on the final examination papers as opposed to applying their knowledge to good purpose in problem-based or work-related assignments or projects. At OUM, the assessment system allows flexible distribution of marks in the form of continuous assessment and final examinations to cater for different courses and levels. For example, for the Oral English course, part of the examination is in the form of oral presentation, for the Nursing and other Science

and Technical courses, part of the assessment is in the form of practical training and laboratory work and for business and management courses, the assessment includes case studies.

An integral part of the assessment system is in the form of formative assessment, where learners' learning is enhanced by improving their performance based on the feedback that they get from their tutors, via online or face-to-face. Through the online forum, tutors actually help develop their learners' skills in evaluating their own work, while at the same time encouraging them to give relevant and constructive feedback to other learners. The process of getting learners involved in self and peer assessment is to develop independent learners, to make them responsible for their own learning.

### ***Institutional Intervention***

OUM undertakes various learner support interventions/activities to ensure that each learner has a fair share of his/her opportunities in improving his/her academic performance. In this regard, we identify weaker learners whom we refer as "at risk", that is, those with CGPAs of less than 2.0, and provide them with appropriate academic counseling, (face-to-face and online) and examination clinics sessions to help them raise their grades. Our analysis of the results of these interventions reveals that they have helped "at risk" learners not only in improving their CGPAs, but also encouraged them to continue to study with us. At the end of 2007, OUM's retention rate stood at 89.8% which compares well with that of other ODL institutions such as STOU (50%-60%).

For new learners, learning skills workshops are conducted to expose learners to the concept of ODL as well as their expected roles as an ODL learner before the beginning of their study semester. This is to equip the various groups of learners with the necessary ODL skills to facilitate their learning. An assessment of learners' time and resources is undertaken during the workshop and on the basis of hours available to be devoted to study, advice is given on an appropriate study load. Learners' progress are then monitored and regularly assessed to guide learners to course or programme completion within a reasonable time.

### **WAY FORWARD**

The measures elaborated above are efforts on the part of OUM to provide sufficient degree of flexibility to its learners to meet their diverse needs and capabilities. In many cases, we have met with significant degree of success. However, we will not be complacent and will continuously strive to meet the needs of our diverse learners.

The blended mode of delivery is readily acceptable among our learners. However, we would like to see more of our learners becoming more independent learners. In this regard, we would develop more learning materials in different formats so that they can

choose the learning materials most appropriate for them and consequently become less dependent on the tutors.

In e-learning, learning objects are powerful learning materials in addressing diversity. Currently, OUM is embarking on a major project to build a learning object repository. In this project, we train our academic staff to develop learning objects on their own and use them in their teaching.

Flexible assessment is also necessary to ensure that learners are fairly and adequately assessed based on their different learning skills and academic backgrounds. In this regard, OUM is exploring the possibility of introducing greater degree of flexibility in our assessment system. However, we need to convince our accreditation authority to allow us to do so.

With regard to institutional intervention, the use of i-radio will be enhanced to deliver small packages of learning materials to be delivered to learners. The use of video conferencing will also be increased to cater learners who prefer to learn by listening and interacting synchronously even though they are at a distance. Mobile phones will be used for wider coverage of counseling and advising activities, particularly in areas which are inaccessible to internet and fixed-line phones.

## **CONCLUSION**

In conclusion, I believe that one of the major contributions to the success of OUM in the meeting its diverse learner needs lies in the provision of a flexible learning environment. The flexibility is in terms of learning, administrative and assessment processes. Flexibility does not preclude quality. In fact, at OUM, quality lies at the very heart of all its programmes and services. This is achieved by ensuring that our processes conform to the highest international standards or benchmark against the industry's best practices.

OUM's learner-centered approach has been effective in catering to the needs of our diverse learners as shown by the high satisfaction rating in our annual Importance-Satisfaction Survey conducted on our learners. Finally, the issue of diversity no longer becomes a problem to be solved but an opportunity to be exploited if an educational institution pays adequate attention to learner-centered design principles and adopts a flexible mode of delivery by leveraging on ICT and e-learning.

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