

Technology Enabled Learning at UMS Center For E-Learning

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By Dr Fong Soon Fook

KOTA KINABALU: The Center for E-learning, Universiti Malaysia Sabah, has been actively engaged in the establishment and promotion of Technology Enabled Learning (TEL) across the university.

TEL has become an essential component of the process of teaching and learning as it is in keeping with the national education blueprint which aspires to establish globalised online learning as a norm in Malaysia.

TEL caters to the current generation of digital natives, which refers to students who have been acculturated to digital technology at an early age, as well as the needs of industry which requires life-long learning and the upgrade of skills to meet current demands.

Cyberspace now dominates human and social interaction as we adapt to a new paradigm in which essential social functions such as communication, trade and finance move into the online realm.

The process of teaching and learning (T&L) is no exception when it comes down to the onward march of technology.

This new offshoot of pedagogy has been termed as Technology Enabled Learning (TEL) and what it essentially involves is the application of the tools of technology to facilitate the process of teaching and learning.

This combination empowers both students and lecturers with powerful tools to facilitate the process of T&L. Conventional teaching approaches involve the delivery of instructions using the traditional chalk and board.

Students are expected to take notes during the lecture, following which the content of the lectures is distributed via printed copies of lecture notes. The students are then assessed for their degree of competence by measuring learning via formative and



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summative evaluation, both of which involve tests of cognition, physical dexterity and affective development.

This process has its limitations as the lecturer is not able to make effective interventions in order to address the limitations of individual learners.

The emergence of technology and big data has transformed the conventional classroom into a hybrid physical and virtual environment via blended learning (BL).

This new approach to teaching involves the lecturer recording his or her lectures using a video recording facility which are available to students at any point in time for review, the students can in turn communicate with the lecturer using online chat and commenting tools.

The classroom component of the lecture now transforms into a collaborative learning space in which the lecturer facilitates learning via student centered learning which may involve solving of problems and the deployment of higher order thinking skills.

Analysis of big data which is generated when students participate in online learning facilitates tracking of student progress. For example, if the data indicates that most of the students are reviewing a video lecture many times over may indicate a lack of understanding of a specific topic covered in the video tutorial.

The lecturer can then make suitable interventions by modifying the content so that it

can be understood more easily.

Learning analytics can also be leveraged to improve students' performance by monitoring the scores during assessment and providing assistance to learners who may not be able to keep up with their peers.

The fact that this is all done privately contributes to the self-esteem of the students as they communicate directly with the lecturer or with a selected group of their peers. T&L has moved on from the constructivist model to the connectivist model in recent times.

The constructivist model involves the delivery of content by the lecturer, the student buildup, or constructs knowledge based on blocks of content, and is assessed based on the content. The connectivist model is based on sharing knowledge via social networks, and this gains relevance in a world in which knowledge is constantly evolving and new information networks are accessible to both students and lecturers in real time.

Connectivism has led to the evolution of the lecturers into a curator of knowledge as the role of a moderator is essential in order to ensure that students are guided appropriately amid the vast ocean of information that is available today.

UMS commenced the implementation of online teaching and learning way back in 2008 with the launching of the UMS learning management system SMARTUMS which was hosted on campus based servers and facilitated communication between lectures and students.

The UMS learning management system is based on the open source platform MOODLE (Modular Object-Oriented Dynamic Learning Environment) which was developed by Martin Dougianas and distributed online via a GNU licence. The MOODLE platform is now the most widely used platform in the world and has been customized by educational institutions to address their specific teaching and learning needs.

The UMS LMS has evolved

from SMARTUMS to SMART2UMS and the latest release has now been branded as SMART3UMS.]

This is in keeping with the current developments in TEL and the needs of the teaching and learning community at UMS. SMART3UMS is an interactive TEL platform which facilitates communication between lecturers and students.

The lecturers are required to upload pertinent content which the students can access and review. Students can upload assignments and comments onto the platform which improves communication and permits the quick review and assessment of students' progress during a course.

Students can collaborate within a class using platforms such as the collaborative wiki which tracks the contribution of each student to a collaborative writing project.

The platform also permits live classrooms via the open source platform Big Blue Button which has been fully integrated into the system.

Lecturers can also develop interactive content via the H5P plugin which has been installed onto the platform. All of these facilities ensure that UMS is on par with its global and national peers in the field of TEL.

CEL essentially serves as a resource management and service center to ensure the evolution and implementation of the TEL agenda at UMS.

Guided by the UMS vision to become an innovative university of global standing, CEL is constantly in the process of identifying and addressing developments in TEL and the way forward for UMS. This is in keeping with the Ministry of Education, strategic shift which emphasize globalized online learning and lifelong learning.

CEL implements the vision and mission of UMS via action plans. These action plans focus on improvements in the TEL infrastructure, training for lecturers and support staff and the establishment of national and international linkages in TEL.

The sustained implementation of TEL training at UMS has led to an

exponential increase in the percentage of courses which are delivered via Blended Learning at UMS with five of the faculties achieving 100-percent Blended Learning in the current academic year.

CEL was given an additional impetus with the collaboration with the international intergovernmental organization, The Commonwealth of Learning (CoL) which established a working relationship with UMS in 2018 by signing a Memorandum of Agreement to build capacity among UMS academic and support staff and to provide online learning courses for the benefit of students.

CoL has been instrumental in the development and establishment of the UMS Technology Enabled Learning policy which was launched in 2018.

This policy has now set the direction for the evolution of TEL at UMS in times to come. CoL provided training to more than 20 lecturers via a five-day training program with follow-up training over a one year period. These lecturers are now trainers of trainers who are propagating the culture of TEL at their respective faculties across UMS.

In a joint effort with the Department of Information, Communication & Technology (JTMK), CEL has established a repository for Open Educational Resources (OERs) at UMS. OERs developed by the lecturers and students are released under an open licence and currently available via the OER repository.

Open licensing permits the development, repurposing and redistribution of online content by licensing the content under a Creative Commons license. For example, a lecturer can write an article or deposit images at the OER repository, these images are available for free download and reuse, provided that the name of the first author is cited and his contribution is acknowledged by the user.

This form of licensing is gaining traction globally as higher educational institutions, funded by public

funds envision the need for the distribution of their knowledge across learning networks.

This facilitates access to students and researchers from poor and developing countries who do not have access to printed material and the funds to procure such material.

One of the areas which CEL has championed is inclusivity. This is in keeping with the spirit of the United Nations Sustainable Development Goals (SDGs), two of which focus on reduced inequalities and quality education for all Malaysia.

UMS Centre for e-Learning has been instrumental in the development of a draft policy on inclusive open educational resources (iOERs) in collaboration with United Nations Scientific and Cultural Organization (UNESCO), MEIPTA, MyCEL, public and private higher educational institutions and non governmental organizations involved with differently abled people.

This draft policy is being developed under the guidance of the Ministry of Education and will have a significant impact on the development of open educational resources for differently abled learners in Malaysia.

The implementation of the policy will encompass the development of teaching and learning material for all manner of impairments ranging from visual, auditory, hearing and physical limitations and combinations of these.

This is in keeping with the Ministry of Education's commitment to differently abled learners in Malaysia and extends to a zero-reject policy for special needs students. This will benefit the community of differently abled students in Malaysia which currently has more than half a million registered citizens with disabilities (OKU).

CEL constantly strives to excel and our role as a service provider and hub for TEL is testament to our key stakeholders, which is the student community at UMS.