

TO : Professor Z.G. Gong. Head of DCIS - FST
FROM : Kam H. Vat, Department of CIS – FST
SUBJECT : Feedback to ICTO Concerning Possible Improvement in Campus-Wide IS
DATE : November 22, 2010
CC : Professor C.L. Philip Chen, Dean of FST

Thanks for sharing with our CIS department the upcoming ICTO (Director) visit to FST, requesting for feedback and suggestions for the campus-wide Information System (IS) (planning and prototyping in progress) in the occasion of our university-wide initiative to enhance facilities to empower student learning and faculty teaching in support of UM's elite undergraduate education, as announced by our Rector earlier, articulating the four-component education model comprising: disciplinary excellence, general education, undergraduate research and internships, as well as learning-in-communities through UM's residential college system. On reflecting on my personal experiences accrued through years of services at UM, I have organized my thinking and feedback for your reference as follows:

Concerning the Basic Classroom Setup to Enhance IS Support in Teaching & Learning:

1. It is observed that our current classrooms are yet to be equipped with basic lecture capture facilities to keep records of lecture-discussion episodes in the form of reusable multimedia files, such as MP3 for sound records, or WMV (or MP4) for video records, comprising on-the-white-board discussion details with teacher voice-based explanation, or teacher demonstrating the thinking (or cognitive) process (such as think aloud) in topics discussion, problem illustration and solution elaboration. Such media files are increasingly found to be indispensable to enable student learning and to evaluate the quality of faculty teaching.
2. It is suggested that in order to enhance the services of our campus-wide IS support for elite undergraduate education, the following basic facilities could be integrated into our classroom setting:
 - a. Install interactive white board(s) in our classrooms to support lecture capture, comprising teaching and learning in action. Examples of such devices include: Mimio Interactive Teaching Systems (<http://uk.mimio.com/en-GB.aspx>) or SMART Boards (<http://smarttech.com/>) with onboard capture feature, as used in many of our Macau secondary schools.
 - b. Install at least two sets of screen-LCD-Projector in each classroom, so that different instructional materials could be projected to different screens (PowerPoint on one + Internet browser findings on another) from the computer installed in the classroom, or the Notebook brought in for use by the instructor. Oftentimes, such materials must also be recorded during the lecture hours to facilitate student learning after classes. To help recording such episodes, the installation of multimedia streaming and recording software (or hardware) is necessary. The former includes the services from Panopto Focus (www.panopto.com/site/Products/technology.aspx), while the later from Echo360 (<http://echo360.com/the-echosystem/>) or REACH solution (http://www.szreach.com/mail.asp?site_language=english). Both are worthwhile additions to our campus-wide IS support.

- c. To enable (b), it is also necessary to install HD (high-definition)-based video camera(s) in the classrooms to record the same, including the facilitation process by teacher and the participation process by students.

Concerning Basic IS Enhancement in e-Learning Platform for Teaching and Learning

1. It is observed that our current e-Learning platform (UMMoodle) does not support online teaching, in the form of synchronous, anywhere participation. Oftentimes, it is increasingly necessary and beneficial to involve different scholars from around the world to join our lectures during regular class hours, to involve our student learning, especially through counterparts from different regions, such as Hong Kong, or Singapore. Currently, some expedient approach is to use SKYPE (www.skype.com) video conference through individual teacher's Notebook. But that is very expedient, and it does not allow individual students to interact freely with the scholars or student counterparts. It is suggested that if we could install some basic tools such as Elluminate Live! (<http://www.illuminate.com/>) the whole sequence of learning could be improved a lot.
2. It is also observed that our current UMMoodle system does not allow individual student or teacher to have his or her own space of Web presence. Namely, individual members of the University community are not provided with any personal electronic spaces to manage their own learning/teaching/work, such as storing accrued learning/teaching/work artifacts from different courses. For students, such an electronic space should start from right after their admission into the University, through their years of studies, to the graduation year, or even beyond. Indeed, this is largely considered as a very important service provided by many a top-class university around the world, advocating holistic student development. And it is something we cannot ignore anymore given our mandate to become a world-class university, under the banner of elite undergraduate education. Thereby, it is highly suggested that we should enhance our campus-wide IS by supplementing the deficiency of our UMMoodle system with other systems (often not mutually exclusive), such as Sakai CLE (<http://sakaiproject.org/>) or Joomla-based social networking environment to support students' learning in communities (<http://community.joomla.org/showcase/sites/educational.html>), to empower the Web presence of both teachers and students, from the perspective of providing them with a usable Web presence (e-space) to function fully as collaborators and participants in realizing the potential of UM's elite undergraduate education.
3. It is further observed that our current UMMoodle system is very weak in handling video records, largely owing to the bandwidth limitations and space capacity, and the lack of video self-service support like those provided by such social networking sites like YouTube, or TeacherTube (<http://www.teachertube.com/>). What it means is that we need to install in our campus-wide IS a system to enable individual students and teachers to create their on-campus accounts to upload and to manage their video files, say under the constraints of a given quota as required. It is often the case, individual teachers might have kept different videos of their teaching and student learning episodes, but, owing to the lack of such channels on campus, that they have to resort to producing DVD's and leave them on our Library Reserved Sections for students to physically check in and out for viewing and review – very inefficient in view of such current convenience as demonstrated by YouTube or TeacherTube.

Finally, it is my belief that the campus-wide IS is an important piece of a student's college experience. It is a university's primary means of helping students develop in directions valued by its faculty. In today's Macau, we are being urged to assess especially carefully the quality of our student learning. We as faculty are responding to this challenge as a practical means of both

attracting and retaining more students and ensuring their success and producing high-quality outcomes for Macau. Thereby, a well-designed IS support should be based on a carefully thought-out philosophy of education and should be clearly connected to our institution's stated mission. Any IS design mission statement in support of students' intended learning outcomes or results, should articulate its purpose and aims – what graduates should know and be able to do after being exposed to such a world-class IS support throughout their years of study. These goals and their more specific objectives must be described in considerable detail and in behavioral language that will permit designing the IS support and assessing its degree of achievement (its actual outcomes).

With that note, please kindly accept, once again, my sincere thanks for the opportunities to share with you my comments and findings in this brief memo in the occasion of ICTO Director's immediate visit to our FST to collect feedback from our academic staff.

All the best!

A handwritten signature in black ink on a light pink background. The signature is cursive and appears to read 'Kam Hou Vat'.

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