EDUCATION TECHNOLOGY UNDER ONE BANNER

Uno Motohiko, Country President at Fujitsu Asia, and Keith Hawkes, Regional Vice President for Sales (Asia Pacific) at Ellucian, discuss education challenges in going digital, how integrated solutions can help, and the future of education post-pandemic.

Keeping up with students' expectations and the education dynamics is a major challenge for many institutions. Going digital is more than just technology. Not only do we need the right tools, but also the right skills and partners. There must be a balance of the three key elements of People, Process and Partners, to achieve digital excellence.

Lecturers need to manage online learning versus classroom teaching, plus grapple with new technologies to create and deliver lessons via online platforms.

Students expect a seamless user experience to handle their administration tasks effectively. These include: updating student profiles, submitting tuition fees, registration and enrolment of courses, accessing exam results, managing timetables, accessing academic and non-academic support services, and so on.

Advantages of integrated solutions

Working and studying environments have been dramatically affected by the COVID-19 pandemic during the past two years. Be it studying or working from home, institutions need to continue to provide quality educational outcomes in a very different environment.

The impacts can be reduced through the use of technology solutions. With years of experience delivering high value solutions in many industries including the education sector, Fujitsu offers human-centric digital technologies and solutions that support sustainable operations, improve system user-friendliness, and productivity with empowerment to end users.

Many educational institutions would only buy functional solutions that are department-specific. If we integrate

these systems together and facilitate data sharing, institutions can reap several benefits. First is efficiency gains, such as reducing the effort to re-enter the same information, and sharing data programmatically in more efficient ways that are less prone to errors.

Another is increased value from systems and solutions, as an integrated system would be able to provide a single, unified view of students and staff.

Third is that it provides greater insights for students, staff, and faculty/schools. Having everything in one system gives students and staff access to more data, and a more complete view of their performance. Likewise, data can be accessed in real time.

The future of education

Gradually, we are transitioning to a paperless society, from banking and utility accounts, to even wedding invitations. It is evident that more Institutions of Higher Learning (IHLs) are going paperless, especially as the younger generation is more concerned with sustainability and environmental impact.

In Singapore, Exam Results, Academic Time Tables, Registration and Enrolment are all digitised. There have

been cases where diplomas and degree certificates are delivered to mobile phones via blockchain-powered apps.

A paperless institution is desirable and possible. However, it requires a good and balanced security approach. The sensitive nature of these documents creates a challenge for IT departments to sustain a reliable, highly trusted and secure network to meet data privacy and compliance regulations.

Even before COVID-19, there was already a high adoption of edtech. When the pandemic started, it is evident that there has been a surge in edtech usage, whether it is language apps, virtual tutoring, video conferencing or online learning software.

To reap the full benefits of online learning, there needs to be a concerted effort to provide this structure and go beyond replicating a physical class/lecture through video capabilities. There needs to be a range of collaboration tools and engagement methods that promote inclusion, personalisation, and knowledge dissemination. ■

ADAPTING TO CHANGING LEARNING CONDITIONS

Ir. Dr. John Hui, CIO at The Education University of Hong Kong, takes us through the modernisation that has been taking place at the university, and its use of new technologies.

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When asked about how The Education University of Hong Kong (EdUHK) is adopting and enhancing online learning, Dr Hui shares that they are not doing anything particularly different. They try to source whatever existing technology that can facilitate their students' learning.

For example, EdUHK needed to pivot from 100% in-person classes to nearly 100% online. To help with connectivity, EdUHK subscribed to a Contact Delivery Network and Virtual Private Network to make sure the students can connect to the campus network.

EdUHK also set up Microsoft Teams for meetings, but found later that it is not enough because it lacks interaction between lecturers and students. "Even if there are breakout rooms in most of the platforms (e.g. Zoom, Microsoft Teams), the engagement is reduced, so we needed to introduce other technologies," explained Dr Hui.

The University also:

• Installed multiple cameras in classrooms so that lecturers can zoom in when teaching STEM subjects and activities, such as propping a table to a circuit.

• Utilised educational software like Mentimeter, which enhances interactivity between teacher and students.

"Of course, there are still things we cannot 100% recreate in a virtual setting," said Dr Hui. "For example, some hands-on practical lessons like a chemistry experiment, or musical instruments that require a low latency network aren't easily achieved," he said.

Admin challenges

EdUHK also faced challenges on the administrative side. For instance, HR needed to switch to online interviews for recruitment. Graduation details had to be changed in short notice. "Sometimes we had only two days to respond to business needs, and that's why time to production is another key for us," said Dr Hui.

"For admission and enrollment, we quickly implemented an online enrollment platform for students to update their information, upload their photos, and then they can come to get their student card anytime."

With administrative activities, EdUHK has been using Ellucian Banner (an ERP software) for nearly 20 years. "Some of the functions we are using are very human-centric," shared Dr Hui. "Last year, we made some improvements. For example,

the course catalogue requires the academic and administrative staff to spend nearly a month doing Excel data entry. We implemented robotic process automation so it can now be done within minutes, avoiding human typos and reducing a lot of checking time."

Another area of innovation was tuition fees, which were calculated manually in Excel, then inputted in Banner. "With the help of consultants, we automated computations so now there's no human effort. The system will automatically generate the school fee based on factors like course information, whether the student is full time or part-time, local or non-local," said Dr Hui.

Dealing with virtual meeting fatigue

Digital fatigue was a problem for EdUHK as well. "Some students just turn on their system, disable their camera and mic, and then go shopping without attending class," said Dr Hui. He believes that what helps students is not just the technology, but also good instructional design.

"If you do a PowerPoint presentation for two hours, most students will fall asleep if they are at home," observed Dr Hui. "We have a department focused on bridging technology to teaching and learning, and they have workshops to guide lecturers on how to design their lessons to enhance student engagement. For example, they reduce the duration of one-directional lectures and increase time for group discussions, presentations, or other interactive activities."

Working with Ellucian

EdUHK has been using Ellucian Banner since 2003. At that time, most institutions were still using homegrown for their ERP. "Ellucian has helped us a lot," said Dr Hui. "Every three to four years, we work with them to see how we can use Banner better. There was a time we used only part of its functions, but Ellucian helped us with their best practices".

"We have already started last month in incrementing the Ellucian Workflow and Banner Document Management system to try to automate more processes, to help our students and academic units because we find that automation is important, not just for the time that can be saved, but also to reduce human error in inputting data. This allows our students to fill in fewer paper forms."

Infrastructure, challenges, and plans

Speaking about EdUHK's IT infrastructure, Dr Hui said: "We use on-premises ERPs, for example, for our HR, finance, and student systems. We also have a lot of other systems that are homegrown."

He added: "We are still focusing on the hybrid cloud model. The core system is not easy to migrate at the moment. If we start from nothing it is easier. But for our research management system, we start from nothing, that's why we can directly use the SaaS model of some products."

Beyond technical challenges, EdUHK has legal concerns to consider as well. According to Dr Hui, they can move financial and HR data to the cloud. However, having most of the cloud providers' data centres outside Hong Kong may violate some policies as they cannot take data beyond the region's boundaries.

"These are the difficulties that we need to solve," said Dr Hui. "That's why for short-term, we are focusing on the hybrid cloud model, but in the long run, we will definitely look if we can move most of our critical infrastructure into the cloud."

Another local issue, he noted, is a shortage in the IT talent market. "We are having difficulty in hiring IT professionals, not just to implement but also to maintain the systems."

For EdUHK's technology plans, Dr Hui shared that they will be focusing more on data and analytics. "Data will be used to drive or facilitate decision-making, so data is the number one priority; the second one is AI automation."

"We need to have more automation to help our user departments, because most of them still heavily rely on a lot of forms. These two areas are important to our future success," Dr Hui concluded. ■