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Headline: How this university is adapting to remote learning

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Whether it's the groggy night owl dozing off in the back row, or the peppy morning bird chatting away, little escapes a professor's eagle eye when they stand before a lecture room. In fact, lecturers rely on this space to sense how well the class is learning. But what happens when lecture halls are shut down and replaced with a computer screen instead?

Schools and universities in Singapore have closed campuses and shifted lessons online to contain the spread of Covid-19. How can professors continue to support students' learning while classrooms are dispersed?

GovInsider spoke to one university to learn how it is adapting. Lau Kai Cheong, the Singapore Management University's (SMU) Chief Information Officer, shares how data and AI have allowed the university to redefine teaching and learning.

Using data to monitor learning

It can be difficult for teachers to tell if a virtual lecture hall of students is listening attentively, utterly confused, or completely disengaged. "Physical observation and sensing are no longer possible," notes Lau.

SMU is using data to understand how well students are learning online. For instance, professors look at quiz results to detect learning gaps and understand which topics need more discussion time in class. The university's e-learning system can identify struggling students so professors can step in with "targeted help" where necessary, Lau says.

Data can also show professors how to improve their teaching. The e-learning system collects data on the time students spend on each activity, how frequently they practice, the questions they needed hints for and the scores for each quiz attempt. Professors can then "fine-tune" their teaching and assessment methods, Lau says.

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Understanding student feedback

Adapting to this new way of learning under lockdown may not be easy for students. Universities need to look beyond data and understand what students are saying.

Using machine learning, SMU delves deeper into the course feedback that students provide. Before, the system could only analyse quantitative feedback, explains Lau, and was not able to assess qualitative comments.

The machine learning tool categorises students' qualitative comments based on topics, sentiments and suggestions, he says. Faculty can then analyse the feedback in themes to make more informed decisions for improving their teaching practices and curriculum.

Virtual examinations

The Singapore government's decision to shut down schools came just before undergraduates headed into their end-of-semester examinations. Huge halls holding hoards of students were out of the question – how can universities ensure students finish their semesters properly?

SMU turned to virtual exams. Before Covid-19, online invigilation and other tools like exam browser lockdowns “were used on a small scale, catering to students who had to take exams off-site due to various reasons,” Lau explains. These, however, became “game-changers” in the recent exams.

The university was able to conduct mass virtual examinations with cloud-based tools, says Lau. The e-learning system servers could “meet the dramatic increase in load” and easily integrate new online exam services.

What will education look like post-Covid?

Could these new ways of teaching have a place even after the world emerges from the pandemic? Covid-19 has driven SMU to rethink learning. Lau shares three ways digital education will improve student experience at SMU.

First, SMU intends to use AI to motivate students. These AI agents “will provide a positive prompt to students when they do well or a gentle nudge if they fare less well,” explains Lau. The agents can also pick up early signs of depression, such as negative emotions in a student's essay, and alert faculty and administrators.

Second, the university is looking to interactive tech, such as game-based learning and videos, to spruce up lessons.

Third, it will explore online assessment tools that grade students without compromising on privacy, says Lau.

“Teaching and learning after Covid-19 will never go back to the way they were,” Lau says. A new age of placing data and AI at the core of universities' teaching strategies has begun to take flight.

Image from Singapore Management University