



(From left) NUS medical student Shawn Tan, Dr Liaw Sok Ying, Nanyang Polytechnic physiotherapy student Cheryl Loo Jya Ing and NUS nursing student Khadijah Mohd Sanusi with the computer program called Create Real-life Experience And Teamwork In Virtual Environment, or Creative for short. The initiative lets participants work in a virtual ward with other medical professionals to treat a patient. ST PHOTO: NG SOR LUAN

A virtual reality first for medical studies in S'pore

Students across medical disciplines to practise together in virtual ward

Fabian Koh

Students across various medical disciplines will soon get to practise what they have learnt in a virtual environment.

A team from the National University of Singapore (NUS) Alice Lee Centre for Nursing Studies, part of the NUS Yong Loo Lin School of Medicine, has created a computer program which lets them do just that.

Called Create Real-life Experience And Teamwork In Virtual Environment, or Creative for short, the initiative lets participants work in a virtual ward with other medical professionals to treat a patient.

The "professionals" will be played by students in fields such as nursing, pharmacy, dentistry, medicine and social work.

The Inter-Professional Education (IPE) project is the brainchild of Associate Professor Liaw Sok Ying of the NUS nursing school, who heads the team.

She said: "This (initiative) is also the World Health Organisation's vision... A patient is seen by different healthcare professionals, so it is important to have effective communication and collaborative practice, for positive healthcare outcomes."

The Creative program was developed using a \$500,000 grant from the Singapore Millennium Foundation, which promotes research, from March 2016 to September last year.

Testing was conducted from October to December last year, involving 29 students from NUS, Nanyang Polytechnic (NYP) and Singapore Institute of Technology (SIT) who volunteered as partici-

pants. Since January, the team has been running random controlled trials. It aims to let over 200 students try out the program by June. After this, they will refine the program, and healthcare educators will decide how to include the finished product in their course material.

Using the program, each participant has a first-person view of the virtual room they are in, and can select instructions from a preset list to give to the patient, such as requesting that they raise their arm. The participant acting as the patient also has a preset list of responses and actions.

A teacher will observe the scenario to grade students' performance and give feedback.

Dr Liaw explained that NUS started IPE in 2010, with courses such as the Patient Safety Workshop for medical, nursing and pharmacy students.

It introduced physical simulation exercises involving medical and nursing students, later in 2013, though these are held only once a year due to scheduling challenges.

Dr Liaw said as NUS does not have allied health courses, such as physiotherapy and diagnostic radiography, it has to link up with schools like NYP and SIT, for a full hospital team to be represented.

"They are at different parts of Singapore, so coming together in a physical setting is very challenging. The way to go is virtual," she said.

Because the Creative program can be accessed from any computer, students from the different schools can log onto it at the same time, from wherever they are.

Dr Liaw observed that when different groups were brought to-

gether into a roleplay, stereotypes were not evident. "The medical students perceived nursing students to not be very capable of critical thinking, while nursing students did not perceive the medical students to be very good team players. But after the simulation exercise, there's a significant improvement."

Dr Liaw remarked that students who took part in the pilot said they felt less stressed behind their screens. "If they are not so stressed, they are able to think, they are able to communicate more effectively. When face to face, they may tend to think about how people may judge them."

Miss Khadijah Mohd Sanusi, 24, a fourth-year NUS nursing student who took part in the pilot, said: "It is better than having to go out to the hospital straight away and work with seniors. At least we know we are all students and it's okay to make mistakes, rather than out there when a mistake is a huge thing."

Mr Shawn Tan, 23, a fifth-year medical student at NUS, said it is a good way to get to know peers in other fields before entering the real world. "In between making friends on Facebook and actually working, this is a pretty good middle step."

Deputy manager of the physiotherapy department at NYP's School of Health Sciences, Mr Shawn Soh, gave his input during the creation of the scenario in the virtual world.

"This is the first time in Singapore we have students from different healthcare disciplines coming together to discuss their care plan for patients with different medical conditions. It is an epitome of 'patient-first' healthcare education."

He said the novel concept lets students learn that "the whole is greater than the sum of its parts".

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