



Online clinical training in the COVID-19 pandemic

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The spread of the coronavirus disease 2019 (COVID-19) around the world has had a major impact on nursing education. To minimise the transmission of the infection, the Hong Kong Government has recommended that everyone must strictly follow preventive measures, such as staying at home and social distancing, and the Food and Health Bureau has restricted the maximum size of groups to four people. The University of Hong Kong is in lockdown and clinical practicals have been suspended. This has interrupted student learning and has created uncertainty for teaching. All classes have moved online. What can teachers do to enhance nursing students' clinical experience without clinical practicals during the COVID-19 pandemic? Our nursing school has implemented different strategies based on the concept of

experience-based learning.¹ As nursing educators, we also formed a team to work out strategic plans to ensure that our students continue learning and are well prepared for clinical practice.

Experience-based learning helps a student to become capable through reflection on the experiences of participating within the triad of student, patient and clinical teacher. Clinical teachers should engage, encourage and empower students to extend their current capabilities.¹ How should instructors teach clinical experiences when nursing students are learning at home? To increase nursing students' capabilities, curiosity and perceived clinical relevance in learning in a caring context, remote learning tools such as Zoom™ (Zoom Video Communications Inc., San Jose, CA, USA) and Google Meet (Google

LLC, Mountain View, CA, USA) play key roles when relocating teaching and learning activities to a virtual classroom. Other virtual simulation programmes can also be used to enhance students' critical thinking skills and clinical judgement in case management. Chinese students are often depicted as passive and quiet in classroom learning.² Students seldom ask questions during classes, or even in laboratory sessions, until they fully understand what is being taught. This may decrease the level of interaction in online classes. We also identified this behaviour when we implemented online classes. We have to take an active role in engaging students to create a learning environment. As such, online teaching can add further challenges when engaging students in the active cognitive process.

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For the online classes, first we used flipped classrooms to engage students in pre-reading, with online quizzes to increase their self-awareness of learning needs. During the online class, clinical scenarios were created to illustrate the clinical relevance of the subject matter being taught. By requiring them to identify clinical problems and plan nursing care through mini quizzes, students are engaged in an active cognitive process of knowledge integration and application. Constructive feedback on their performance is given immediately to correct misconceptions and to optimise learning. An atmosphere of encouragement is created to invite questions and dialogue from the students. Second, as students perceive the nursing change-of-shift handovers as the most challenging in the actual clinical setting, a pragmatic approach using two teachers to demonstrate nursing change-of-shift handover in a simulated clinical environment was used to arouse the students' interest. To strengthen the cognitive process in knowledge integration and application, a clinical case was designed to illustrate disease manifestation, and nursing assessment and observation, thereby further strengthening the cognitive process in learning. Finally, students are

responsive to teachers who care for their needs. Because they were anxious, stressed and overwhelmed about the global pandemic, a 10-minute 'relaxed chat' was integrated into each class to address concerns about issues outside academia.

Simulation teaching has been used in our school since 2010. We developed a simulated training ward in 2018 to enhance nursing students' ability to provide care to patients competently and safely.³ We believe that a simulated training ward can provide a constructive educational environment similar to the clinical setting to help nursing students learn and build their knowledge and skills. With the university in lockdown, however, nursing students cannot access simulation training. Therefore, we introduced clinical virtual simulation in our pedagogy. Clinical virtual simulation is an effective innovative technology for clinical training, in which students can interact with virtual patients in a re-creation of a real environment. Clinical virtual simulation can enhance nursing students' decision making and critical thinking, as well as their competence in performance and psychomotor skills.⁴ We use briefing and debriefing in the virtual simulation to facilitate student learning.

We have found that innovative technology can improve our teaching and student learning; however, there are still challenges that we must solve. How can we ensure the quality assurance of online teaching? How can we provide an environment in which students feel safe without cyberbullying? Could we develop an online teaching model to guide and structure our online teaching? The COVID-19 pandemic has been a wake-up call propelling us to a new era in nursing pedagogy. The impact of the COVID-19 pandemic is not short term, and long-term issues will affect our nursing pedagogy.

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