Tutoring Nursing via VR

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On the foundation of patient-centered concepts and patient safety, simulation-based instruction has always been a key strategy in the field of clinical teaching. The rapid evolution of technology has resulted in the invention of numerous auxiliary tools in the field of education. As a direct response to the COVID-19 pandemic, virtual reality has been widely applied to the field of medical education in recent years.

With a view to enhancing skills in the field of hi-tech care, the Teaching Department of Hualien Tzu Chi Hospital has invested in the purchase of VR instruments and lesson plans. This investment encompasses 13 lesson plans for nursing training in the fields of surgery and internal medicine, emergency and critical care, obstetric and pediatric nursing, and community-based care.

Provided education ranges from the training of grassroots instructors to practical application. Initially, grassroots instructors attend relevant training programs. Numerous training courses are organized to enable trainees to achieve major breakthroughs in field of actual operations and practices. These courses mark a significant departure from traditional approaches, enabling trainees to gain a full insight and understanding through hands-on experiences.

Upon a detailed discussion of achievable instructional objectives by the nursing education team, a PICC (Peripherally Inserted Central Catheter) course module has been integrated into the curriculum this year (2022). The goal is to facilitate provision of long-term intravenous fluid therapy, reduce the incidence of complications associated with peripheral intravenous catheters (PIVC), and decrease the frequency of puncturing caused by repeated intravenous needle insertions in patients with PIVC complications or patients requiring frequent insertion of central venous catheters due to certain diseases. The VR lesson plan of the PICC course module facilitates the review of curriculum contents and planning of teaching modes. The adoption of challenge activities at different stations completely overturns the teaching methods of traditional

training courses. A total of 111 individuals attended this course. 60 trainees participated the VR lesson plan for PICC care.

Ms. Cha Fang-Yu, Deputy Head Nurse at Hualien Tzu Chi Hospital, provided the following feedback after attending this lesson plan-based training course: "I think this training model is really impressive. Past catheter-related training courses mostly consisted of classroom education paired with model training. The VR experience really gives you the feel of being present on site, which is absolutely amazing. It makes the whole learning process fun and exciting, which is in stark contrast to the dull, boring, and monotonous teaching methods of the past. I gained a lot from this course and feel much more confident to provide care for a PICC patient in the future. I also look forward to more first-hand experiences of VR lesson plans in the future. I might even get involved in the design of creative nursing lesson plans."

The adoption of VR, a new weapon in the field of nursing education, has not only made courses more interesting but also facilitates the acquisition of accurate care concepts and reinforces the learning process. After the course, the system awards scores and reminds trainees of deficiencies. There is no doubt that the VR experience fosters learning motivation and increases familiarity with care processes through repeated practice, which is very helpful for clinical practices. We sincerely hope that the full potential of this educational approach and the associated lesson plans will be unleashed.