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Plastic with personality: Increasing student engagement with manikins

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SUMMARY

Background: Simulation allows students to practice key psychomotor skills and gain technical proficiency, fostering the development of clinical reasoning and student confidence in a low risk environment. Manikins are a valuable learning tool; yet there is a distinct lack of empirical research investigating how to enhance engagement between nursing students and manikins.
Objective: To describe student perspectives of a layered, technology enhanced approach to improve the simulation learning experience.
Educational Framework: Tanner's Model of Clinical Judgment underpins the entire curriculum. This study additionally drew on the principles of narrative pedagogy.
Intervention: Across ten teaching weeks, five separate case studies were introduced to students through short vignettes. Students viewed the vignettes prior to their laboratory class. In the labs, manikins were dressed in the props used in the vignettes.
Setting: The innovation was trialed in a second year core subject of a Bachelor of Nursing program in a large urban university in the autumn semester of 2014.
Data Collection and Analysis: Following ethics approval, students were emailed a participant information sheet. A focus group of nine students was held. The discussion was digitally recorded and transcribed verbatim prior to being subject to thematic analysis. Students' comments (143) about the vignettes in their standard subject specific student feedback surveys were also considered as data.
Results: Four themes were identified: Getting past the plastic; knowing what to say; connecting and caring; and, embracing diversity. The feedback indicated that these measures increased students ability to suspend disbelief, feel connected to, and approach the manikins in a more understanding and empathetic fashion.
Conclusions: In addition to achieving increased engagement with manikins, other advantages such as students reflecting on their own values and pre-conceived notions of people from diverse backgrounds were realized.

Introduction

Simulation has become an essential element of nursing education (Foronda et al., 2013). The range of different types of simulations utilized in nursing education can include standardized and simulated patients, task trainers, computer-assisted or virtual instruction, hybrids and role-play (McAllister et al., 2013). All of these simulation modalities can provide active learning opportunities for health professions students, foster development of clinical reasoning skills (Jensen 2013) and increase student confidence prior to clinical practice (Ricketts, 2011). Using simulation also allows students to practice key psychomotor skills and gain technical proficiency with no risk to patients (Cant and Cooper, 2010; Schiavenato, 2009).

Like medicine, nursing has embraced the use of manikins. The use of manikins in nursing has been considered particularly valuable because it can expose students to complex sets of physiological symptoms, allowing them to think critically and exercise decision-making skills (Shin et al., 2015; Yeun et al., 2015). Patients' backgrounds and social perspectives can be incorporated into complex case studies but there can be a disconnect when extending the context of the story into a simulation scenario where the manikin represents the patient. If the expectation is for students to engage in nurse–patient interactions and develop the nuances of professional practice, additional strategies to link the manikin with the patient's story and context are necessary. Yet there is a distinct lack of empirical research investigating the effectiveness of the full range of simulation modalities for student learning and development of clinical expertise in nursing (Schiavenato, 2009; Walton et al., 2011).

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Background

A commonly reported issue is students struggling to suspend disbelief in clinical simulation scenarios (McAllister et al., 2013). Current manikins lack the physical characteristics of movement particularly facial expressions and the subtleties of human responses (Kameg et al., 2010). Students particularly find it difficult to talk to, and relate to a manikin authentically as a patient (Barry et al., 2012). Yet discussion in the literature regarding enhancing nursing student engagement with manikins is largely anecdotal. The commitment to the use of manikins in nursing education creates an urgency to explore and improve students' perception of their realism to develop methods for increasing engagement.

This paper reports upon a teaching and learning strategy that was designed to increase student engagement with manikins by incorporating audio-visual (A-V) patient vignettes. Audio-visual vignettes represent the introduction of virtual, standardized patients (Guise et al., 2012). In health care, vignettes, "also called trigger films" (McLain et al., 2012, p.S11), are short audio-visual representations of actors portraying patients and health professionals in clinical situations, which allow the viewer to watch a situation unfold. Vignettes may tell a complete story or end unresolved in order to stimulate discussion and decision making (McLain et al., 2012). Recently vignettes have been used to assess critical thinking in nursing students (Fero et al., 2010), evaluate registered nurses' assessment of pain (Al-Shaer et al., 2011), and anesthetic nurses' clinical performance after exposure to patient-safety vignettes (McLain et al., 2012). The use of vignettes in this study was intended to extend the paper-based case studies already in use in the subject and imbue the manikins with a recognizable personality and personal history.

Previous research has indicated that A-V vignettes are a highly effective teaching strategy. As online learning materials can be accessed repeatedly they are especially valued by students whose first language is not English (McConville and Lane, 2006). They are useful to illustrate diseases and conditions students may not have encountered during their clinical placements (Volandes, 2007); or caring for patients with challenging behaviors (McConville and Lane, 2006).

A-V vignettes can provide nuanced and contextual information about patients with varying illnesses, socio-economic and cultural backgrounds, behaviors and responses to care. Nurses interacting with patients can be modeled in the vignettes and then incorporated into class discussion to enhance student understanding of optimum nurse–patient communication and problem solving. The combination of A-V vignettes preceding work with manikins is a new approach to increase the context of the simulation experience, and therefore engagement with the clinical scenario and the manikin. This paper reports student perspectives of a layered, technology enhanced approach to improve the simulation learning experience.

Methods

Context

The innovation was trialed in Medical Surgical Nursing, a second year core subject of a Bachelor of Nursing program in a large urban Australian university in the first semester of 2014. This subject builds on students' previous clinical experiences to develop their critical application and judgment about nursing methods and practices for optimizing management of acute medical–surgical conditions in tertiary-care settings. The student cohort is split between two semesters with an average of 450 students enrolled in the first and 350 enrolled in the second.

Educational Framework

In addition to Tanner's Model of Clinical Judgment (Tanner, 2006), which is integrated across the entire curriculum (Disler et al., 2013), this study drew on the principles of narrative pedagogy. Narrative pedagogy in nursing, draws upon film, art and literature to increase students' understanding of the patient's experience (Walsh, 2011). The narrative is used as a stimulus to provoke the exploration of topics, some of which may be uncomfortable to raise like death and dying (Walsh, 2011).

Intervention

Across ten teaching weeks, five separate case studies were introduced to students through short vignettes (approximately 5 min each). The case studies portrayed patients admitted for: an exacerbation of emphysema (history of type II diabetes and mild alcoholism); unstable angina progressing to myocardial infarction; a fractured tibia and fibula following a motorbike accident (history of IV drug dependence); chemotherapy for metastatic and a decision to move to palliative care; and, an upper gastrointestinal bleed (history of bulimia). Patients were from a variety of cultural and socio-economic backgrounds. Semi-professional actors were employed to play the five different patients in the videoed case studies.

To enhance authenticity, not all of the patient responses were scripted. For example, in a scene depicting a nurse having a conversation with a patient about palliative care, the actor supplied her own response regarding any spiritual needs she might have. This helped to avoid stereotyping and allowed the actor some creative control. Examples of nurse/patient dialog are presented in Table 1.

A-V vignettes also featured patients' individual idiosyncrasies and demonstrated nursing care and nurse–patient communication in the context of the performance of related skills. The vignettes provided consistency of the case study delivery across all laboratory classes, reducing

Table 1
Example of nurse–patient interaction portrayed in one of the vignettes.

Case study one—part 2	Nurse–patient dialog
Olivia Bennett has been told she needs to be commenced on insulin to counteract steroid induced hyperglycaemia but she is frightened of needles. Skills taught in this laboratory session include administering subcutaneous injections and monitoring blood glucose levels. Students will also revise the pathophysiology of diabetes mellitus and the pharmacology of hypoglycaemic medications. In part one of this case study, Olivia is admitted for an exacerbation of COPD (emphysema) and students are taught respiratory assessment, oxygen therapy and revise oral medication administration. They also revise the pathophysiology of COPD diseases and the effects of tobacco on the respiratory system.	Olivia—"Dr Brown came, he said something about I've got to have insulin, I don't understand" Nurse—"Did he explain why you need insulin?" Olivia—"He just said some drug your giving me is mucking up my metformin and I have to have insulin" Nurse—"Dr Brown is talking about prednisolone, it's a steroid. You've been put on that for your COPD. A side effect is that it causes your liver to release glucose it has stored, so your blood glucose level rises" Olivia—"Why can't you just give me more metformin?" Nurse—"You're currently on the largest dose of metformin that we can give you. Any more would damage your kidneys. So just while you're on the steroid, we need to give you insulin to control your blood glucose levels" Olivia—"Is it going to hurt?" Nurse—"It's actually not as painful as the blood sugar testing that we do. It's a really small needle, and it goes straight into … your belly is a good place. Nowhere near as painful as the finger prick. Is that okay?" Olivia—"Okay then"