



## Preparing the nursing student for internship in a pre-registration nursing program: Developing a problem based approach with the use of high fidelity simulation equipment



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### ABSTRACT

**Aim:** This paper aims to explore the development and evaluation results of a simulated skills package designed using a problem based learning approach with general nursing students.

**Background:** Internationally, the use of high fidelity simulated learning environments has escalated. This has occurred as a result of growing concerns relating to patient safety, patient litigation, lack of clinical opportunities for student nurses to gain experience and integration of new teaching methods into nursing curricula. There are however both proponents and opponents to the value of simulation and high fidelity simulation within nursing education.

**Methods:** This study was conducted in an Irish school of nursing. A simulated learning support package was developed by nurse educators and piloted with 134 third year nursing students. This was evaluated using a questionnaire in which 87 students responded.

**Findings:** Students generally found the simulation sessions realistic and useful in *developing clinical skills, knowledge and confidence for clinical practice*. However student issues regarding support with preparation for the session were highlighted. Also, the need for a more formalised structure for debriefing following the simulation sessions were identified.

**Conclusion:** It is hoped that this paper will provide nurse educators with some guidance to aid future development of innovative and interactive teaching and learning strategies.

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### Introduction

There is a consensus that new models of education are required for nurses (Haskvitz and Koop, 2004; Howard et al., 2011). These should allow students to develop the knowledge, skills and abilities to be critical thinkers, independent decision makers, lifelong learners, effective team members and competent users of new information technologies (Drummond-Young and Mohide, 2001; Burns et al., 2010).

This paper describes a study aimed to evaluate a simulated learning support package for undergraduate nursing students who were progressing into their Internship year of the degree program. The internship in the Republic of Ireland is of nine months duration in the final year of the four year degree program. The student

expectations are to work in their associated hospital service as a member of the health professional team, taking ultimate responsibility for the safe delivery of care to a group of patients. Key objectives of the study were: to ascertain whether the nursing students perceived the simulated learning support package to be beneficial in preparing them for the responsibilities of managing the care of and acutely ill patient; to determine the acceptability of the simulation package in comparison to more traditional classroom-based teaching methods; to identify if the students found this learning experience an opportunity to evaluate their clinical practice.

This simulated learning support package was developed as a set of strategies to support problem based learning in the clinical skills laboratories setting. A set of interactive learning tools were developed to facilitate students to deliver an acceptable level of nursing care for an acutely ill patient with hypovolemic shock post surgery. They were presented with a realistic practice based environment, using high fidelity simulation (Sim-man) and scenarios related to the patient's condition that tested their knowledge and clinical decision making skills.

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## Background

Learning the practice of nursing is paramount in relation to the development of nursing curricula and the establishment of structures to support this learning is essential to inform curricula changes. Formal structures which are available to us are provided by Joint Working Committees which have been in place between Irish Universities and the Health Service Providers since 2002 when the Pre Registration Nursing Degree programme commenced. The function of the committee is to facilitate networks of communication and evaluation of the four year nursing degree program. These structures have in turn informed stakeholders to forecast, plan and manage the demands of the course. This cyclical approach of feedback identified that nursing students in year four of the programme were struggling with identifying and prioritising care for patients whose conditions were deteriorating in a clinical setting.

Our focus for developing this simulation package was to develop an assessment to reflect the primacy of integrating theory and practice to provide the nurse student with a safe environment to evaluate their practice. Nursing, like all practice disciplines, relies on situated cognition and action. The development of the simulation package, hinged on creating as much as possible an environment closely matching real life experiences. We chose to utilise high fidelity equipment, as the software lends itself to creating situations which accommodate deteriorating conditions. Seropian et al. (2004) suggest that full scale simulations aim to recreate all of the elements of a situation that are perceptible to the students within a recreated clinical environment.

## Simulation in nursing

The use of simulation and High Fidelity Simulators (HFS) within undergraduate nurse education is relatively new (Hyland and Hawkins, 2009) and has occurred due to a number of factors including growing fears and concerns relating to patient safety, making mistakes and patient litigation (McCallum, 2007; Onda, 2011). There is also growing concern about a lack of clinical sites and opportunities for nursing students to gain clinical experience which has meant that educators are looking to examine simulation as an adjunct to the traditional clinical encounter as ways that students can acquire nursing skills (Laschinger et al., 2008; Cato et al., 2009; Howard et al., 2011). This is reflected in the Nursing and Midwifery Council (2010) standards for pre registration nursing education which state that “Programme providers should ensure that the criteria for the first progression point are normally met in practice, but may use simulation to meet some of the criteria where appropriate” (NMC, 2010, p. 80).

There are great benefits relating to the use of simulation in the area of teaching clinical skills (Hyland and Hawkins, 2009). Bambini et al. (2009) found that nursing students experienced significant increase in self-efficacy, learned about the importance of communication, prioritising care and also gained confidence as a result of simulation. Burns et al. (2010) study identified that 82% of students showed a significant gain in knowledge while all students showed a significant positive difference for multiple attitudinal items, including critical thinking, overall nursing knowledge, confidence and communication.

Prion (2009) also identified that the integration of complex simulation can be a powerful learning tool in articulating the sophisticated integration of knowledge, skills and attitudes. Smith-Stoner (2009) investigated HFS use in end of life care and found that students' responses consistently demonstrated the value of simulation and effectively helped students develop their clinical reasoning. Dillard et al. (2009) found that students felt they 'got the concept' and addressed the care of the patient in simulated

scenarios. These student reflections on subsequent clinical care of patients also identified the importance of the contribution of simulation to clinical judgement development. They concluded that well planned and debriefed simulations can be an effective clinical experience as they facilitate the application of clinical judgement (Dillard et al., 2009).

Despite these benefits, simulation is not without its problems. Hravnak et al. (2007) argue that simulation is not reality and true patient-provider interaction is limited. There are also significant financial and personal resources required, meaning that this teaching method may not suit all schools of nursing (Burns et al., 2010). It has also been identified that there is a lack of empirical evidence that the skills learned through simulation are transferred to the clinical setting (Murray et al., 2008). Despite the shortfalls, Laschinger et al. (2008) believes simulation is an important addition to undergraduate nursing education and can be used as an adjunct for clinical practice, although not as a replacement.

Bantz et al. (2007) also suggests that simulation in addition to lectures, is more beneficial than lectures alone for applying information to a clinical setting. Despite suggestions of limited evidence to support simulation and its effect on practice, Howard et al. (2011) found that both student and faculty members found HFS experiences as positive while students felt that the knowledge gained from simulation can be transferred to the clinical setting. Others elaborate further suggesting simulation is a tremendous way to teach and promote safe practice and can enable nursing students to become competent in the clinical skills required for practice (Murray et al., 2008; Ganitt and Webb-Corbett, 2010). Garrett et al.'s (2011) Canadian study suggests simulation is a valuable tool for team-based teaching, critical thinking development, awareness of interdisciplinary teamwork and reflective practice, all imperatives of everyday clinical practice. In conclusion, Onda (2011) appears to accentuate the value of simulation best, identifying how it assists nursing students to acquire clinical skills, cultivate awareness, narrow the theory-practice gap and ultimately yield a workforce of skilled competent nurses.

## Methodology

### *Development of the simulated skills package*

It was decided to use a Problem Based Learning (PBL) approach to meet the learning objectives of our program of study. It is widely accepted that learning and teaching in curricula for graduate entrants to nursing needs to be both stimulating and challenging. McGarry et al. (2011), advocating the use of PBL in pre-registration nurse education, described how nurses working in contemporary care environments need to be adaptable in terms of their ability to meet the changing demands of health care. Therefore, in order to guide the design and development of our simulated educational package we utilised a development cycle for a PBL problem package (Mohide and Drummond-Young, 1996) which consisted of eight steps. This can be seen in Fig. 1 below.

### *Step one*

Involved negotiating at curriculum level within the school and with the associated health service providers to develop key learning objectives for this package which were suitable for both the course objectives and the level of students for whom it was intended.

### *Step two*

Group discussions advocated that the problem needed to be relatively common i.e. a situation that students would have had some clinical experience from practice placements. The simulation

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