



## An integrated educational model for continuing nurse education



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### ARTICLE INFO

#### Article history:

Accepted 26 November 2012

#### Keywords:

Continuing education for nurses  
Educational model  
Patient deterioration  
Patient safety

### SUMMARY

**Aim:** This paper reports on the development and evaluation of an integrated clinical learning model to inform ongoing education for surgical nurses.

The research aim was to evaluate the effectiveness of implementing a *Respiratory Skills Update (ReSKU)* education program, in the context of organisational utility, on improving surgical nurses' practice in the area of respiratory assessment.

**Background:** Continuous development and integration of technological innovations and research in the healthcare environment mandate the need for continuing education for nurses. Despite an increased worldwide emphasis on this, there is scant empirical evidence of program effectiveness.

**Methods:** A quasi experimental pre test, post test non-equivalent control group design evaluated the impact of the *ReSKU* program on surgical nurses' clinical practice. The 2008 study was conducted in a 400 bed regional referral public hospital and was consistent with contemporary educational approaches using multi-modal, interactive teaching strategies.

**Findings:** The study demonstrated statistically significant differences between groups regarding reported use of respiratory skills, three months after *ReSKU* program attendance. Between group data analysis indicated that the intervention group's reported beliefs and attitudes pertaining to subscale descriptors showed statistically significant differences in three of the six subscales.

**Conclusion:** The construct of critical thinking in the clinical context, combined with clinical reasoning and purposeful reflection, was a powerful educational strategy to enhance competency and capability in clinicians.

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### Introduction

The continuous introduction of technological innovations and research developments in the healthcare environment in the last two decades has resulted in considerable ongoing learning needs for nurses (Levett-Jones, 2005; Menix, 2007; Covell, 2009). The significance of nurses using respiratory assessment skills and the subsequent timely intervention to the delivery of both nursing care and nurse-sensitive patient outcomes has been clearly demonstrated (Cho et al., 2003; Houser, 2003; Doran et al., 2006). Nonetheless, patient deterioration continues to be undetected in general wards and suboptimal care continues (Scholes, 2007; Despins et al., 2009; Odell et al., 2009). The contribution of continuing education to clinical practice standards, management of the deteriorating patient and reduction of adverse events remains inconclusive. Furthermore, implications for future clinical practice and associated educational approaches to meet the needs of an increasingly diverse multigenerational and multicultural workforce are also not

well documented (Giddens et al., 2008). The literature suggests that barriers to implementing nursing practice changes include limited educational approaches, insufficient emphasis regarding the importance of lifelong learning and financial constraints impacting on nurse researchers' ability to conduct large-scale, longitudinal studies (Griscti and Jacono, 2006; Attree, 2006). Research evidence to guide organisational decision making and policy development related to continuing education is vital as financial benefits and direct impacts on patient outcomes are difficult to verify (Attree, 2006; Covell, 2009).

### Background

There has been a global call for change in professional education to ensure the application of evidence-based theoretical learning relevant to the clinical context. The engagement of the nursing workforce in life-long learning processes is vital to this (Griscti and Jacono, 2006; Emerson and Records, 2008; Henderson and Winch, 2008). Suggested strategies for educational change include the use of integrated learning strategies and interactive teaching concepts. Despite an increased worldwide emphasis on the importance of continuing

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education, there is scant empirical evidence of program effectiveness. Many patient care decisions are underpinned by nurses' assessment findings before being communicated to other healthcare professionals. A nurse's ability to detect and interpret warning signals of patient deterioration, prioritise and communicate to colleagues is dependent on effective assessment and referral (Wood et al., 2004; Odell et al., 2009). The timing, urgency and priority of further involvement, hinge on nurses' clinical competency and capability, reflective learning and critical thinking (Forneris, 2004; Forneris and Peden-McAlpine, 2006). The provision of safe, cost-effective care is dependent on nurses maintaining currency with up to date knowledge and skills in an unpredictable, complex clinical environment.

Development of an integrated educational model for continuing education was underpinned by Forneris' (2004) theoretical framework operationalising critical thinking in the complexities of the clinical environment (Duff, 2012). This was the major imperative driving the research. Participatory educational strategies were used to develop and evaluate an educational model using the Respiratory Skills Update education (ReSKU) program to inform surgical nurses' clinical practice in the area of respiratory assessment. These strategies aimed to engage the clinician in dynamic thinking processes in clinical situations guided by coaches and educators (Forneris, 2004). The content was specific to the learner's clinical environment to both reinforce and embed learning and differs from traditional approaches offering didactic classroom learning. There has been a call to sacrifice the 'sacred cows in educational practice' and examine new educational strategies to promote independent lifelong learning, clinical reasoning and critical questioning (Emerson and Records, 2008). Methods of dependent learning do not prepare nurses to become autonomous clinicians capable of anticipating and reacting appropriately to rapidly changing clinical situations.

The provision of a supportive clinical learning network, opportunities for practice, reflective discussion and feedback in the workplace aimed to engage clinicians in dynamic thinking processes guided by coaches and educators. All workshop sessions incorporated a learner-centred approach, including the practical application of respiratory assessment skills, critical thinking, clinical reasoning and reflective practice. Participation in simulated clinically-focused patient care scenarios offered the capability of learning situations in non-threatening environments. A self-directed learning module and online learning were complemented with coaching support in the clinical areas for three months post program to facilitate and sustain practice improvement. Integrated educational concepts and contextual learning promote critical questioning, clinical reasoning and reflective practice while addressing practice shortfalls (Forneris, 2004; Forneris and Peden-McAlpine, 2007, 2009). These strategies facilitated knowledge acquisition, teamwork processes and integration of learned skills into real life clinical situations (Nagle et al., 2009).

### Research Aim

The aim of the research was to evaluate the effectiveness of implementing the ReSKU program using integrated teaching and learning strategies, in the context of organisational utility, on improving surgical nurses' practice in the area of respiratory assessment.

### Research Design

A quasi experimental pre test, post test non-equivalent control group design was used to evaluate the impact of the ReSKU program on the clinical practice of surgical nurses. Quasi experimental research using a non-equivalent control group approach is considered an appropriate methodology for the examination of cause and effect relationships between selected independent and dependent variables, where randomisation of participants is not feasible (Polit and Beck, 2004; Burns and Grove, 2009). The use of a comparison group and repeated measures offer a partial control over validity, selection

threats, attrition effects and bias. This design is also considered relatively robust to internal validity threats and more adaptable to clinical practice settings than controlled experimental designs (Coup and Schneider, 2007). The research tested the hypothesis that participation in the ReSKU program improves the self-reported beliefs and attitudes of surgical nurses, increases their knowledge and self-reported use of respiratory assessment skills. The rationale for using a quasi experimental design and a non-equivalent control group approach was dictated by local imperatives. It was ethically important to respect clinicians' autonomy regarding the right to make personal choices and not influence their decision to participate in research and the associated educational program (Coup and Schneider, 2007). Clinicians needed to be facilitated to undertake the program; therefore the researcher was methodologically limited to working with self-defined groups. The research had within-group and between-group design elements. Within group analyses compared change from baseline (pre-test), separately in both intervention and comparison groups, as well as between group analyses. Repeated measure designs using the Wilcoxon test determined whether participants changed significantly across time (Green and Salkind, 2005). Data were collected over two time points from both groups in this study. The questionnaire was administered pre- and post-participation in the ReSKU program where only the experimental group participated in the educational intervention (see Fig. 1).

### Sample/Participants

The research was conducted in the three surgical wards of a regional referral hospital in Queensland, Australia. All surgical wards admit patients for both elective surgery and following emergency trauma. The sample included all 90 RNs working in the surgical wards who were eligible for inclusion in the study. Study participants included 35 RNs from the orthopaedic ward, 29 RNs from the general surgical ward and 26 RNs from the mixed surgical specialties ward. The experimental group consisted of 36 surgical RNs who had chosen to attend the ReSKU program and had consented to be part of the study intervention group. The comparison group included the 39 surgical nurses who elected not to attend the ReSKU program, but agreed to participate in the study and complete the study questionnaire. Comparison group participants were not exposed to any component of the study intervention before the final completion of data collection, which included the education program and clinical supervision of experimental group participants in the three months following the program. This decision did not influence comparison group participants' decision to attend future education programs following the conclusion of the study. Using a paired samples test and an alpha or significance level of 5%, (0.05 significance criterion); the power and effect size of the sample was calculated as a medium effect size,  $d = 0.50$  where  $d = 0.70$  is considered a large effect size (Cohen, 1998). These numbers ensured that the study results provided adequate power using a 0.05 significance criterion.

### Recruitment Strategy

Information sessions and discussions were held in surgical ward areas over a four week period to recruit participants for the study. The researcher had visited each surgical ward area at staff shift changeover times to introduce the research study and answer questions. The relevant information regarding the study purpose, risks and benefits in relation to study participation and confidentiality was also discussed at surgical ward meetings and strategic planning days. The study details were published in the hospital's monthly newsletter and posters displayed in the nurses' station in all surgical wards. Participants were assigned to study groups by a process of self selection, given that conditions of employment deemed that attendance at the ReSKU program, or any continuing education program, was not compulsory.

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