

# Using clinical reasoning and simulation-based education to ‘flip’ the Enrolled Nurse curriculum

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## KEY WORDS

Enrolled nurse, flipped classroom, simulation, clinical reasoning

## ABSTRACT

### Objective

This paper describes the development and implementation of an innovative Diploma of Nursing curriculum for preparing Enrolled Nursing students for acute care nursing practice.

### Setting

Vocational Education and Training at the Health Education and Research Centre in Hobart, Tasmania.

### Subjects

Vocational Education and Training students enrolled in the Diploma of Nursing (Enrolled-Division 2 Nursing) (HLT51612).

### Primary Argument

The increasing complexity and acuity of contemporary practice environments requires a nursing workforce that is flexible and competent. In 2013 nurse educators developed an innovative approach to offering the national standardised Diploma of Nursing course that integrates three key pedagogical approaches: the ‘flipped classroom’, simulation-based learning and the Clinical Reasoning Cycle.

### Conclusion

By ‘flipping the curriculum’ students are provided with opportunities to develop and extend their clinical reasoning skills as they respond to both routine and unpredictable ‘patient’ scenarios in the safety of a simulation environment. These simulated clinical learning experiences are designed to challenge students to ‘think like a nurse’ while actively engaging in the provision of safe and effective ‘patient’ care.

## INTRODUCTION

As predicted in the National Health Workforce Innovation and Reform Strategic Framework for Action 2011-2015 (Health Workforce Australia 2011), the current health workforce is, in many respects, inadequately prepared for meeting the needs of the changing Australian patient population. The aging population, increased prevalence of chronic diseases, advances in technology and changes in public expectations, means demand for healthcare services continues to rise (Ramis et al 2013). Against this background, evidence points to changing nursing workforce trends due to ongoing nursing shortages and higher patient acuity (Commonwealth of Australia 2002). Throughout Australia, enrolled nurses are now considered integral to the nursing skill mix in acute, primary and residential aged care settings (Bull and Hickey 2011).

In Australia, there are two levels of nurse: Registered Nurses (RNs), and Enrolled Nurses (ENs). RNs are required to meet the minimum requirement of a three year Bachelor of Nursing degree whilst ENs are required to complete an eighteen month Diploma of Nursing qualification. The EN qualification was first introduced in Australia in the 1960s to improve the supply of nursing services and reduce the rising costs associated with staffing in health care (Russell 1990). Historically, the role of the EN was to support the work of RNs (Hutchinson et al 2011) and primarily involved a task-oriented approach whilst working under direct supervision (Jacob et al 2013). EN education therefore has tended to place emphasis on students acquiring 'skills' for performing 'nursing tasks'. This antiquated pedagogy that has been identified as "over prescriptive and reliant on individual certification of tasks and activities" is no longer appropriate in today's health care settings (Willis 2011). Contemporary nursing requires nurses who are skilled critical thinkers and able to care for people who often have multiple co-morbidities and complex psychosocial needs. Hence the need for EN training programs that meet the evolving needs of the wider health sector (Missilidine et al 2013).

Over the last 12-15 years the role of ENs has continued to evolve and expand. This began with a review of training programs undertaken by the National Aged Care Forum (Commonwealth of Australia 2002). The Review called for expansion of the EN role and recognised the need to extend their scope of practice to include the administration of medications (Commonwealth of Australia 2001). Following on from the Review there were frequent calls for a nationally consistent educational approach for ENs and in 2009 EN training was included in the National Health Training package. However, a national approach was not fully operationalised until 2010 when the National Registration and Accreditation Scheme replaced the state based accrediting bodies. The standardised curricula initially provided a qualification at the Certificate IV level of the Australian Qualifications Framework (AQF) (Hutchinson et al 2011) and placed primary emphasis on aged care and rehabilitation.

In 2014 the baseline qualification for an EN was changed to a Diploma of Nursing (Certificate V) with preparation for specialty areas of nursing practice through the Advanced Diploma of Nursing (DN) (Jacob et al 2013). The EN course is accredited by the Australian Nursing and Midwifery Accreditation Council (ANMAC) and primarily delivered by TAFE institutes and other private Registered Training Organisations (RTOs). The new DN course places greater emphasis on mental health, community health, maternal and child health and acute health care. While the degree of emphasis on these content threads varies between different providers, it is an ANMAC requirement that students undertake a minimum of 400 clinical practice hours and meet a specific number of teaching and learning hours across each of the four discipline areas (ANMAC 2009). These changes to EN training have enhanced career pathways and provide more employment options for ENs in specialty areas of nursing practice (Jacob et al 2013). Consequently, most states are now employing increasing numbers of ENs in both non-acute and acute care settings (Blay and Donoghue 2007).

It is anticipated that ENs will continue to become a larger proportion of the acute care nursing workforce over the coming decade (Bull and Hickey 2011). The demand for acute care beds continues to increase and tight

budgetary constraints limit the number of RNs employed necessitating consideration of new staffing models. The shifting skills and scope of practice means that ENs are in greater demand in more diverse areas of the health care sector than ever before. Health care, however, is dynamic and EN's scope of practice continues to evolve. Workforce trends in Australia mean there is a need to develop skills for consumer-directed care, enhanced leadership and management capability and stronger cross interdisciplinary collaboration (Community and Health Industry Services Skills Council 2014). These shifting workforce demands mean that ENs need to be flexible, person-centred and able to engage in new ways of working as a part of the health care team to advocate for and facilitate the involvement of individuals, their families and significant others in planning and evaluating care and progress toward health outcomes (Community and Health Industry Services Skills Council 2014, Gibson and Heartfield 2005).

ENs are now expected to care for higher acuity patients across a number of different health care contexts (Jacob et al 2013). Assuming these higher level responsibilities requires ENs to be prepared with more sophisticated skills and knowledge (Nankervis et al 2008; Heartfield and Gibson 2005). These factors now feature in the National Training Package for the Diploma of Nursing course as competency standards, which specify the requirements for effective workplace performance alongside many other discrete areas of work and nursing work activity. These competency standards are used as the basis for defining learning outcomes and assessment benchmarks within the Vocational Education and Training (VET) sector. They are a prescriptive way of classifying nursing work and often used as technical instruments for organising EN training by specifying the knowledge and skills to be applied in nursing practice. Nursing work, however, is not simply a technical practice: it is human work that relies on tacit understandings as much as formal ways for organising practice (Grealish 2012). Contemporary approaches to curriculum design, delivery and sequencing is therefore central to promoting coherent learning experiences for ENs (O'Neill et al 2014).

A critical examination of contemporary RN education suggests that there is a shift away from competency-based education and teaching of discrete areas of discipline specific knowledge. Instead, there is a refocussing on more holistic means of developing learners' professional attributes (Burford et al 2014). Similar changes are urgently required for EN training because of the increasing focus on patient safety and quality. This means ENs must be prepared to respond to emergent patient situations and recognise and manage patient deterioration. To prepare students for working in the dynamic and unpredictable contexts of acute care, most contemporary RN education incorporates problem based and enquiry based learning as a way of teaching students how to think about the complex clinical problems they deal with using a clinical reasoning framework (Levett-Jones et al 2010). These trends have been slow to appear in EN training. It is now imperative that a radical transformation in EN education delivery occurs (Benner et al 2010) to create a workforce that is prepared for the current and future health care needs. This paper now presents an overview of an innovative model being used to deliver the national Diploma of Nursing course that integrates three key pedagogical approaches: the 'flipped classroom', the Clinical Reasoning Cycle and simulation-based learning.

## **DISCUSSION**

### **The Flipped Diploma of Nursing Curriculum model**

The model used by the authors was born from the desire to create a comprehensive EN curriculum that has two key goals. Firstly, that it meets the requirements of the standardised Diploma of Nursing (Enrolled-Division 2 Nursing) (HLT51612) training package; and secondly, that it develops ENs that are adequately prepared for nursing work in diverse settings, with particular emphasis on preparation for the acute care setting. An innovative curriculum model was therefore developed to frame and deliver the Diploma of Nursing course. It centralises student learning activity and provides students with three main elements for completing the course:

- **Flipped Classroom** - This includes the curriculum content, spaces and tools necessary to carry out a blend of elearning, guided classroom activities and assessments (Bergmann and Sams 2014).
- **Clinical Reasoning** - This is understood as the process by which health care professionals 'collect cues, process the information, come to an understanding of a patients' problem or situation, plan and implement interventions, evaluate outcomes and reflect on and learn from the process' in order to solve problems and address patient's needs (Levett-Jones et al 2010, p.515).
- **Simulation Based Learning** - This is the group of teaching techniques carried out in environments that realistically simulate nursing practice settings with guided learning experiences that evoke aspects of the real world of nursing in a fully interactive fashion (Gaba 2007).

### **The flipped classroom**

The flipped-classroom approach is an effective way of radically transforming education to produce ENs who are flexible and well-equipped to practice in dynamic health care environments (Missidine et al 2013). The 'flipped classroom' exposes learners to new theoretical content prior to them attending face-to-face classes (Bergman and Sams 2014). This new learning is then discussed, applied and processed in guided group learning sessions (Benitez 2014). The notion of a flipped classroom draws on constructivist learning theories and concepts such as active learning and student engagement (Bergmann and Sams 2014; Hawk 2014). Educators who use a flipped classroom approach devote much of the "face-to face" contact time to small group and class brainstorming, peer review and other epistemological processes such as wondering, critiquing, collaboration, visualisation and connection making (Ryan 2013). Students learn how to learn instead of relying on content heavy didactic approaches that encourage passive transference of knowledge (Allen 2013).

There is emerging evidence that the flipped classroom pedagogical approach has the potential to bring about a distinctive shift in priorities in nursing programs from merely covering material to working towards mastery (Hawk 2014). It is suggested that flipped classrooms promote student empowerment and create opportunities to develop the skills required for the 21st century such as critical thinking, creativity, and communication (Ryan 2013). The authors therefore adapted the flipped-classroom model to deliver the Diploma of Nursing course and didactic teaching components are shifted to an online repository for lectures and readings that are made available to students prior to their attendance at simulation based practice sessions.

### **Simulation based practice sessions**

By familiarising students with the preparatory tools and resources to facilitate learning through the pre-recorded lectures, screencasts, videos, or reading material class is freed up for mastery exercises (Bergman and Sams 2014). The DN students then engage in authentic and engaging simulation-based practice sessions. Simulation scenarios create opportunities for students to apply and practice the knowledge gained from preparatory learning materials in a collaborative and supportive setting (Gaba 2007). Simulation sessions also have the capacity to enhance learner's psychomotor, communication, teamwork and critical thinking skills (Lapkin et al 2010). These practice based learning simulations are designed to emphasise a problem solving, critical thinking, evidence based and reflective approach to nursing practice (Allen 2013) by drawing upon a theoretical frame of clinical reasoning.

### **Clinical reasoning**

In the authors DN course, clinical reasoning frames the entire curriculum. Clinical reasoning, as defined by Levett-Jones et al (2013) is a complex cognitive process that requires students to use various thinking strategies to gather and analyse patient information. It requires the students to move beyond simple knowledge acquisition because the process is reliant on the students using both intuition and knowledge to influence decision-making relevant to individual client circumstances. Clinical reasoning requires a critical thinking

'disposition' (Rubinfeld and Scheffer 2015) and is influenced by a person's assumptions, perspectives, attitudes and preconceptions (McCarthy 2003).

The flipped curriculum model allows students to learn about the steps of clinical reasoning in online lectures and readings. Simulation sessions are then used to expose students to the complexity of real life nursing situations. They work as a mechanism for students to apply their clinical reasoning knowledge to realistic practice situations and demonstrate their developing clinical decision making abilities. The simulated scenarios require student's active engagement in deliberate practice and the use of critical thinking, problem solving and guided reflection (Lapkin et al 2010).

Following the simulations students participate in facilitated group discussion activities where domain specific content related to the construction of knowledge is integrated into the clinically relevant scenarios. This flipped classroom three-step approach (online lectures and readings, simulations and class discussions) frames the entire Diploma of Nursing curriculum; and information provision occurs through a relevant, active and participatory approach. We anticipate that the application of this flipped approach will better prepare graduate ENs to 'hit the ground running' (Chernomas et al 2010) with beginning skills that will enable them to confidently and safely engage in patient care (Allen 2013).

#### **Value of the model**

The model is flexible because it supports the implementation of a diverse range of learning activities in accordance with the competencies worked, the area of knowledge or the specialisation level that the student is studying. This is an important feature because one of the most pressing and significant drivers influencing the changing scope of practice for ENs is the current review of the competency standards for the EN. The primary purpose of the review is to ensure the relevance and currency of the standards against the contemporary EN role. The new competency standards for ENs stipulate that although the EN works under the direction and supervision of the RN, as stipulated by NMBA (ANMC 2002), they now assume full responsibility for their actions in the health care team and are accountable for providing delegated nursing care (Heartfield and Gibson 2005). The proposed changes to the EN competency standards evidence how the role of the EN is moving away from being a support for RNs towards one where they are instead considered to be an associate. This requires a competent and confident health professional who has the critical and reflective thinking skills that underpin safe and effective decision making, and the provision of evidence-based care.

#### **CONCLUSION**

The use of simulation, clinical reasoning and a flipped classroom have emerged in response to the patient safety imperative and in an attempt to bridge the divide between industry need, educational drivers and EN preparedness for complex practice. The unique blended-learning structure of the flipped EN curriculum has been made possible through the creation of a stimulating learning environment where students are empowered to take ownership of their own learning, and over time transform into engaged active participants in the learning process (Ryan 2013).

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