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Active Blended Learning for clinical skills acquisition: innovation to meet professional expectations

Abstract

The role of the Nursing and Midwifery Council (NMC) 'is to make sure mothers, babies and family members receive the safe, effective care and support they deserve' (NMC, 2017). This is achieved through regulation and the setting of standards of education training, conduct and performance (NMC, 2015; NMC, 2017a; NMC, 2009). In relation to educational standards and regulation, the NMC are currently consulting on the education framework which all approved education institutions (AEIs) and practice placement providers must meet in order to deliver NMC approved programmes. To ensure the delivery of person-centred care the standards will align with the Code (NMC, 2015) and are set out in five pillars defining good education delivery and management: learning culture; educational governance and quality; student learning and empowerment; educators and assessors; curricula and assessment (NMC, 2017b).

The current Standards for Pre-registration Midwifery Education state the practice-theory ratio of the programme should be no less than 50% practice and no less than 40% theory, adopting a variety of learning and teaching strategies, including simulation (NMC, 2009). Simulation for skills teaching has been found to bridge gaps between theory and practice and positively impact on how prepared and confident the student midwife feels to apply knowledge and skills in the practice setting (Lendahls and Oscarsson, 2017, p.16). With changes in regulation under consultation and an ever more complex clinical environment, it is timely to revisit learning, teaching and assessment strategies in pre-registration education to ensure they are fit for purpose. This article will consider an innovative approach to learning and teaching by detailing the modification of an accepted and traditional stepwise approach to the delivery of skills teaching using the example of the skill of airway management for the newborn infant that does not breathe at birth. It is anticipated that the adoption of an active blended learning approach will enhance the 'toolkit' of learning teaching and assessment strategies appropriate to contemporary midwifery pre-registration education.

Keywords: Pre-registration midwifery education; Education Framework; stepwise approach; simulation; active blended learning

Introduction

The draft Education Framework: Standards for Education and Training for all United Kingdom (UK) providers of nursing and midwifery education (NMC, 2017b) state that a programme of study will only be approved if 'students are empowered and provided with the learning opportunities they need in a range of settings, using a variety of methods to achieve the desired programme outcomes and NMC proficiencies' (NMC, 2017b:4), thereby ensuring they are prepared to practise safely and effectively in line with the Code (NMC, 2015). This approach to learning and teaching is supported by research suggesting AEIs should adopt a wide-range of strategies such as keynote lectures, enquiry-based learning, simulation and e-learning to prepare students for the dynamic, unpredictable and complex environment of contemporary maternity services (Fraser *et al*., 2010).

There is ongoing debate in relation to how adults best learn, with the suggestion that the 'learning styles' pedagogical approach might limit rather than enhance the acquisition and retention of information (Power and Farmer, 2016). An alternative approach would be to adopt the most appropriate strategy for the topic or skill to be learned (topic-specific) rather than teaching according to the 'preference' of the learner (learning-style-specific) as identified by a self-audit test such as VAK/VARK which classifies students as visual, aural/auditory, read/write, or kinaesthetic learners (Vark Learn Ltd, 2017). In relation to clinical skills education in pre-registration midwifery programmes, traditional approaches typically involve the use of a skills lab containing relevant equipment and an opportunity for students to see a demonstration of the skill face to face before practising it under supervision, sometimes repeatedly, before consolidating performance of the skill under the supervision of a midwifery mentor in practice (Bloomfield *et al.,* 2013, p.250).

Educators are increasingly compelled to consider innovative approaches to teaching and learning strategies within the curriculum. Rutt raises questions about the use of the more traditional didactic approach to skills teaching and suggests that this approach does not foster essential critical decision-making skills as students are not encouraged to incorporate their knowledge and understanding of the underpinning evidence base (Rutt, 2017, p.93). There is also a significant shift towards the use of simulation for skills teaching that occurs in authentic environments and incorporates opportunities for reflection. Simulation for skills teaching has been found to bridge gaps between theory and practice and positively impact on how prepared and confident the student midwife feels to apply knowledge and skills in the practice setting (Lendahls and Oscarsson, 2017, p.16).

This article focuses on the modification of an accepted and traditional stepwise approach to the delivery of skills teaching using the example of the skill of airway management for the newborn infant that does not breathe at birth. It suggests one way of incorporating the principles behind the traditional stepwise

approach to a more logical and contemporary strategy that avails of advancing technology and modern active blended learning approaches.

At the University of Northampton the pre-registration midwifery curriculum has been developed to enable Year 1 students to understand the theoretical concepts around the physiology of the newborn and begin to relate this to basic resuscitative interventions. Midway through the programme in Year 2, the specific skills of managing the newborn infant's airway are acquired by students using a modified approach to a traditional stepwise approach where the skill is observed and practised prior to a summative OSCE style assessment. Year 3 students will then participate in a structured simulation of a newborn resuscitation scenario. This approach enables student midwives to focus on the technical aspects of the skill first before being expected to apply what they have learned in a simulation session where multiple behaviours such as team working, communication, decision making and leadership skills are holistically combined. In the teaching of the skill of newborn resuscitation and the development of skill acquisition in the management of the newborn infant's airway, a scaffolded approach that allows the student to build on prior knowledge and develop skills as they progress through the programme is advocated (Bull and Sweet, 2015, p.391)

The stepwise approach that has been modified for the students at the midpoint of the programme is the '4-stage approach' which is a systematic and structured teaching strategy used on many UK life support courses (Bullock *et al.*, 2016, p. 28).

The principles of the 4-stage approach are as follows:

Stage 1 - a silent demonstration of the skill by the tutor which allows the student to observe the skill to real time.

Stage 2 - a demonstration with the addition of tutor dialogue which allows deconstruction of the skill and provides rationale for techniques and the structured approach.

Stage 3 - another tutor led demonstration which encourages the student to verbally predict the next step and provide commentary for the tutor.

Stage 4 allows the student to perform the skill independently with tutor and peer support. (Misselbrook, 2017)

Bullock *et al.* (2016) outline how each stage contributes to the process of the student becoming confident to apply knowledge and perform a new skill. In stage 1 the student can visually focus on the skill being performed expertly and realistically whilst stage 2 breaks the skill down, allowing the student to make sense of it and relate the evidence base to various components of the skill. During the 3rd stage responsibility for the performance of the skill starts to shift

from the tutor to the student and in the 4th stage the student practises the skill, potentially numerous times as they develop confidence and competence.

The opportunities of advances in technology allow educators to consider using an active blended approach to facilitate the teaching and learning of a clinical skill. A modified approach to the traditional face to face method of delivering, this structured teaching strategy involves the use of video assisted technology embedded into an online learning unit that students can access remotely. Videos of the tutor performing the skill of managing the airway of the newborn infant to real time and again with dialogue are created and incorporated into a learning unit built within a software package known as 'xerte'. A xerte toolkit allows tutors to create an interactive e-learning environment which goes further than being a repository of information (Xerte Community, 2011-2015). Xerte has enabled the 3rd stage of the 4-stage approach to be delivered remotely by breaking the skill down into small segments whereby the student watches a short video clip of the skill and is then required to select the next step from a variety of options. If the student selects an incorrect action they are unable to progress and are taken back to the beginning of stage 3. The only way they can progress through each stage of the skill is by selecting the correct option every time. They can have unlimited attempts and can view any part of the learning unit as frequently as they wish to before attending a face to face session with a tutor and their peers in small groups for hands on practice of the skill with appropriate manikins.

This development of the 4-stage approach to include e-learning aligns with the principles of 'Active Blended Learning' (ABL), which is a student-centred approach to support the development of subject knowledge and understanding, independent learning and digital fluency. By ensuring face to face teaching is practical and collaborative with clear links to the interactive e-learning package, learning is multidimensional encouraging students to develop autonomy, confidence and adaptability – key attributes for a midwife in contemporary midwifery practice.

Qualitative feedback on this innovative approach to teaching and learning was positive, with students commenting on the high quality of the learning package and the benefits of being able to access the e-learning material an unlimited number of times:

"I think the xerte learning tool is of great benefit as it enabled me to go through the learning stages at my own pace and I am able to revisit the information as often as I want in preparation for my assessment. I especially found the videos useful and with these found the content easier to understand".

"I thought it was extremely useful. The videos were excellent. A good variety of media used too which encouraged learning. I found it very helpful".

Conclusion

Midwives in the UK are well trained, qualified and regulated; however the ever more complex demands of the clinical environment have necessitated a review of the standards of proficiency for registered midwives to ensure student midwives continue to be adequately prepared to be safe practitioners at the point of registration. By adopting innovative learning, teaching and assessment strategies to incorporate the judicious use of technology to complement more traditional approaches, AEIs are better placed to ensure midwifery students are prepared to meet the demands of their chosen career.

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