Nurse Education in Practice 35 (2019) 135–140

Contents lists available at ScienceDirect

Nurse Education in Practice

journal homepage: www.elsevier.com/locate/nepr

Clinical education

Factors developing nursing students and novice nurses' ability to provide care in acute situations

Anders Sterner[a,*], Magnus Andersson Hagiwara[b], Nerrolyn Ramstrand[c], Lina Palmér[a]

[a] Faculty of Caring Sciences, Work Life and Social Welfare, University of Borås, 501 90, Borås, Sweden
[b] Centre for Prehospital Research, Faculty of Caring Science, Work Life and Social Welfare, University of Borås, 501 90, Borås, Sweden
[c] CHILD Research Group, Department of Rehabilitation, School of Health Sciences, Jönköping University, 551 11, Jönköping, Sweden

ARTICLE INFO

Keywords:
Acute care
Novice nurse
Nursing education
Simulation

ABSTRACT

Nurses play an important role in detecting, interpreting and deciding appropriate actions to take in order to care for patients in acute situations. Nevertheless, novice nurses are reported as feeling unprepared to provide appropriate care in acute situations. In order to address this issue, it is important to describe factors in nursing education and first year of practice that enable nurses to provide appropriate care in acute situations. 17 novice nurses were interviewed in this qualitative study. A phenomenographic analysis was applied and four categories were discovered: Integrating theory into practice, access to adequate support, experience-based knowledge and personality traits. Results suggest that a variety of factors contribute to novice nurses' ability to provide appropriate care in acute situations. Experience of acute situations and the integration of theory and practice are pivotal in acquiring skills to provide appropriate care. To accomplish this, reflection, practice and/or applied training with a patient perspective is recommended.

1. Background

Managers in healthcare settings require graduate nurses to be practice-ready when they graduate from nursing school (Usher et al., 2015; Wolff et al., 2010). The concept of practice-ready nursing graduates is an issue of increasing importance in today's healthcare sector which is experiencing a shortage of qualified nurses, reduced budgets, complex organizational structure and increasing patient acuity. In addition, graduate nurses are expected to be aware of, and react to an increasing body of knowledge and rapidly advancing developments in technology (Wolff et al., 2010).

Caring for a patient and working bedside as a registered nurse is complex and requires the ability to be responsible for and oversee the completion of patient care as well as being a leader of and managing the provision of care with regards for patient safety (Larsson and Sahlsten, 2016). Studies have demonstrated that newly graduated nurses feel unprepared to carry out these professional duties (Gardiner and Sheen, 2016; Monaghan, 2015; Odland et al., 2014). Healthcare managers and nurse colleagues have also raised concerns about the competence of newly graduated nurses (Freeling and Parker, 2015; Missen et al., 2016).

One area that has been described as particularly complex for novice nurses to manage is acute care situations. Graduate nurses report being unprepared for both the expected responsibility and workload (Duchscher, 2009; Sterner et al., 2018). In acute care situations nurses play an essential role as it is they who typically have most contact with patients and are often first to detect a deteriorating or at risk patient (Della Ratta, 2016). A need for rapid response times, high patient acuity and advances in technology have all been shown to add to the complexity of acute care (Della Ratta, 2016). This puts nurses in a very challenging situation as they must interpret findings, decide upon appropriate action and promptly intervene (Butler, 2018). Nurses also have a personal responsibility to provide care for patients and with a focus on the patient's subjective experience of their illness. They are also required to take into consideration aspects of ethics, dignity and integrity (Swenurse, 2017). From a caring science perspective, the focus of the nurse should be on the patients as human beings, with both biological and existential concerns. As such, caring must integrate both these aspects in order to promote health and wellbeing, as well as ease suffering (Arman et al., 2015). In Sweden, concerns have been raised about novice nurses' ability to act appropriately in acute care situations with some authors concluding that novice nurses' competency to act in acute situations needs to improve (Bisholt, 2012; Strand, 2010). The definition of an acute situation is not always clear. In a study of novice nurses, Sterner et al. (2018)concluded that an acute situation contains considerably more than medical manifestations related to a patient. It

* Corresponding author.Anders Sterner Faculty of Caring Sciences, Work Life and Social Welfare, University of Borås, SE-501 90, Borås, Sweden.
E-mail address: Anders.Sterner@hb.se (A. Sterner).

https://doi.org/10.1016/j.nepr.2019.02.005
Received 27 March 2018; Received in revised form 23 November 2018; Accepted 13 February 2019
1471-5953/

also concerns different kinds of interpersonal relations or organizational aspects that are perceived as crucial to appropriate care.

As described earlier, both novice nurses, their managers and colleagues have raised concerns about the novice nurses' preparedness for working bedside. An intervention aimed at improving this situation is the development of transition programs. These programs aim is to improve practice by identifying weaknesses and improve development of professional skills, clinical competence and confidence in the clinical nursing environment. (Bakon et al., 2018). Another measure that has to be considered to better prepare novice nurses is their level of education. In an integrative review by Massey et al. (2017), factors influencing nurses' ability to recognize deteriorating patients were highlighted. Two of these factors were patient assessments and the nurses' level of education. Odell et al. (2009) also highlight education as an important factor in developing competence to detect and manage deteriorating patients, additionally suggesting that experience plays an important role. The need for education to ensure patient safety and appropriate care in acute situations has revealed a further need for educational strategies providing better preparation for graduates in acute situations (Della Ratta, 2016; Herron, 2018).

In order to develop didactic methods in nursing education and facilitate the preparation of graduate nurses for appropriate care in acute situations, it is important to understand novice nurses' perceptions of preparedness. A basic assumption is that novice nurses experience differences regarding their ability to care for patients in acute care situations. The aim of the present study has subsequently been to describe factors, in nursing education and during the first year as a professional nurse, that develop novice nurses' ability to provide appropriate care in acute situations.

2. Method

2.1. Design

A qualitative, descriptive design using a phenomenographic approach was chosen to gain knowledge about how novice nurses perceive factors that develop their ability to provide appropriate care in acute situations. Phenomenography is a research method with origins in pedagogic research conducted in Sweden during the 1970s. It aims to find and systematize thoughts in terms of how individuals perceive and understand aspects of reality (Marton, 1981). Phenomenography moves the focus of interest from the first order perspective, describing what something is, to a second order perspective that describes how something is perceived. In doing so, phenomenography accounts for variation in the way individuals understand a phenomenon (Larsson and Holmström, 2007). The results of a phenomenographic analysis are presented in categories that represent qualitatively different ways of experiencing the phenomenon in question (Åkerlind, 2012).

2.2. Participants

Seventeen registered nurses (16 women and 1 man) aged from 22 to 46 with work experience ranging from 6 to 11 months participated in this study to describe the research phenomenon from the perspective of novice nurses, that is, factors in nursing education and the first year as a professional nurse that develop the ability to provide appropriate care in acute situations. The definition of novice was a nurse with less than one year of work experience. This definition is built on Benner's novice to expert theory (Benner, 1984).

The participants were recruited from 5 different acute care hospitals and 16 different wards in southwest Sweden. All had graduated from 3 cohorts of the same Swedish university. In Sweden, all graduates receive a Bachelor of Caring Science after completion of a three-year programme at a university. Nurses were excluded if they worked in psychiatric care, intensive care or accident and emergency departments. Initial contact with the nurses was made by e-mail to gain a preliminary idea about their interest in participating in the study.

2.3. Data collection

Data was collected by digitally recording semi-structured interviews that were transcribed verbatim. The first author (AS) conducted all interviews in locations chosen by participants. Interviews were conducted at the first author's workplace, the participants' workplaces or in neutral settings. Interviews lasted between 37 and 82 min and took place during 2016 and 2017. In this study, the context "acute situations" was not defined before the interviews began as the study investigated novice nurses' perceptions of acute situations as a phenomenon. This has been described in a previous study (Sterner et al., 2018) and forms the basis for the present study. The term appropriate care was not defined either and should be understood to be combinations of evidence-based care, clinical expertise, patient-centeredness, resource use, and equity (Robertson-Preidler et al., 2017). From a caring science perspective appropriate care is considered to include the patient perspective and to integrate biological and existential issues as a means of promoting health and wellbeing, as well as a means to ease suffering for the individual patient (Arman et al., 2015). As it was essential to obtain a rich variety of perceptions related to the phenomenon – factors in nursing education and the first year as a professional nurse that develop the ability to provide appropriate care in acute situations – open-ended questions were used and participants were encouraged to reflect and speak freely. Follow-up questions were specific to each individual and dependent upon previous answers.

2.4. Data analysis

Data analysis was based on the phenomenographic approach described by Dahlgren and Fallsberg (1991). The first step was familiarization with the text, which was achieved by carefully reading all the transcriptions numerous times. This was followed by condensation, in which the most significant statements about the research phenomenon were identified. Statements were then compared in relation to variation or agreement, in terms of similarities and differences, before being grouped into qualitatively different categories. The last steps were labelling and contrasting comparison of the categories, representing the main outcome in phenomenographic research (Dahlberg et al., 2008; Dahlgren and Fallsberg, 1991).

2.5. Ethical considerations

This type of study is not within the boundaries of the Ethical Review Act 2003:460 that regulates all types of research involving humans in Sweden. The research was however conducted in accordance with the requirements of the Declaration of Helsinki (World Medical Association, 2013). This has been done by ensuring that all participants were treated with respect for autonomy, beneficence, non-maleficence and justice. Confidentiality was assured and information was provided on the right to withdraw.

3. Results

Throughout nursing education and the first year as a nurse, factors that develop the ability to provide appropriate care in acute situations are presented under the following four categories: integrating theory into practice; access to adequate support; experience-based knowledge and personality traits.

3.1. Integrating theory into practice

The ability to provide appropriate care in an acute situation requires that nursing education promotes the integration of theory and practice. Education that divides theoretical and practical elements can get so

fragmented that it impairs one's ability to provide appropriate care in an acute situation. Theoretical elements that are visualized and/or brought to life in various practical exercises are on the other hand perceived as meaningful because practical exercises and visualization make theoretical knowledge more concrete and contribute to a deeper understanding of care and care-giving. Examples of educational initiatives that promote the integration of theory into practice include reflection, applied training and clinical placements.

The manner in which nursing education is structured and delivered can affect novice nurses' ability to integrate theory and practice after completing their education. Consecutive courses with a natural progression in knowledge and skills and using similar didactic or pedagogical approaches facilitate learning. Consecutive courses that do not build upon previous knowledge do not promote progression in the level of knowledge and skills and are perceived as fragmented. It is important to make connections between courses completed earlier in the nursing education as well as between medical science and caring science:

I felt that some terms were fantastic because there was lots of clinical practice and it was mixed with theory and that really prepared us for professional care. And then the term after that was nearly all theory and we lost so much.

Fragmented knowledge makes it difficult to transform information into care or care-giving actions as important elements or concepts are missing. There is a sense that something is important but that one does not remember what it is:

There are lots of things that you have heard once during nursing education, but then you can't really remember what they were. Or what they actually said.

An inability to transfer specific knowledge of medical or caring science to other care situations can also inhibit the ability to provide care. In some instances, the patient perspective can vanish as novice nurses search their knowledge for a diagnosis rather than managing symptoms and caring for a patient from the patient's perspective:

The actual symptoms of all these sick people are problematical since they are so similar. When you're new and end up in a new situation, things may not turn out that well.

Reflection increases the possibilities to integrate and apply theoretical knowledge in order to obtain a deeper understanding of the subject area. Reflection occurs during different activities, such as supervised reflection groups, reflections together with supervisors in clinical settings and personal reflections:

It was really helpful to reflect and talk through how it actually works. Because you get so much theoretical knowledge during your education but some aspects don't really click until you have experienced them.

Reflection is seen as a positive aspect of caring in nursing education and there is a desire to increase opportunities for this type of learning, particularly in those subjects where it is not commonly integrated into the standard curriculum:

I think reflection seminars generally were great for learning and would certainly work in the medical sciences.

Applied training facilitates the integration of theory and practice by using practical exercises administered in the controlled environment of the university (e.g. clinical skills training, case-based training, simulation and role play). Theoretical elements of caring that are visualized and/or brought to life in various applied exercises are perceived as meaningful and contribute to a deeper understanding:

Simply because you learn the theory and then experience it (in simulation). *For me, that is how I learn. It's like aha, because then you can make the connection back to theory.*

An important factor in applied training is that learning experiences are perceived as realistic and comprehensive. They should contain different levels of complexity and include situations in which care actions do not have the desired effect so that new care actions must be prioritized and chosen. Training elements requiring future nurses to contact next of kin and to delegate actions are also perceived as important for their ability to provide appropriate care after nursing education:

Yeah, what do you do for low blood pressure? Well, you start an infusion. What do you do when that doesn't work, if that doesn't help, that is exactly what you get to practice.

Most important during clinical education is the opportunity to attend and assimilate knowledge by integrating experience and theory. Time spent in a specific clinic is not a decisive factor for developing ability to provide care in an acute situation:

It was a really good placement, it was only three weeks but it was really, really good // I got to see, got to experience and to participate.

Experience gained from a clinical placement can vary from site to site, affecting individual nurses' ability to provide appropriate care in acute situations. During education it was desirable that supervisors approached the learning situation from a student perspective and invited the students to participate when acute situations arose. Simultaneously, being involved in an acute situation could be difficult since it could mean that the supervisor had to stop supervising and start caring for the patient without involving the student. The student might subsequently be allocated other duties or sent home. Being excluded from acute situations is perceived as impeding learning:

But it would have been nice if something had happened during my clinical placement. It is horrible to say, it is a tragedy for the patient, but it would have given me a lot, to see what others do when something happens.

Nursing students may perceive not having the opportunity to participate in acute situations during clinical education as creating unequal conditions for learning acute care. Clinical placement allocation is lottery:

I think that lots of the knowledge at school depends on where you have done your clinical practice, and that is down to luck.

Another dimension related to clinical practice is that the workload placed upon the student is not consistent with that experienced after graduation. Students would like to have a more realistic workload and also more responsibility during clinical practice. Since a supervisor is always present and can step in and take over the care, a sense of responsibility in an acute situation is not generated:

Even if you can get some idea of how it is, the fact is that it is much, much more later when you graduate.

3.2. Access to adequate support

The ability to provide appropriate care in an acute situation can depend on the availability of adequate support, which can be either objective or subjective. Both forms of support generate a sense of security to act in acute situations and can provide confirmation that assessments or decisions are consistent with best practice.

Objective support in the shape of documents is used to provide guidance regarding decisions and actions in relation to care for patients. These documents include guidelines, protocols, policy documents and memorandums. These types of objective documents guide which factors to check and observe and give a clear indication of the medical condition of the patient:

You know everything important is there [in the instrument] *and as long as you follow it then you have a good routine. You know, you don't miss anything if you follow it.*

The track and trigger instruments are also perceived as being useful as a justification and proof of the assessment but also for their ability to provide appropriate care in acute situations:

If my decision is queried: 'why did you call?' Well then I can say: 'yeah but we do have these guidelines, and I have checked the patient // and you need to come and examine the patient'.

Subjective support in this context means collegial support that promotes the management of an acute situation. Subjective support can compensate for limitations in one's own ability and competence regarding care for patients. Support can either take the form of shared responsibility for decision-making, or that the novice nurse hands over the responsibility for care, or else that another more experienced colleague assumes responsibility. Collegial support is especially important in situations in which both knowledge and experience are limited or insufficient:

It's horrible really, handing over a patient to someone else in order to avoid responsibility yourself. But it isn't at all strange to feel relief when you really can't…

3.3. Experience-based knowledge

The ability to take full responsibility for appropriate care in an acute situation requires knowledge that can only be gained through experience of acute situations. Experience-based knowledge of acute situations promotes a sense of security. Deficient experience leads to insecurity and care actions filled with stress.

Knowledge is obtained post-graduation in situations that occur on the ward where the nurse is working and through interaction with colleagues. Questions help to direct the focus of assessments and guide actions. Having cared for multiple patients increases confidence to care independently and can change an individual's perception of what constitutes an acute situation. A situation previously perceived as acute can become routine with increased experience and knowledge:

You could say I am becoming cooler and cooler in acute situations. Because I feel that I know what I need to do. I'm not scared.

Deficient experience generates a sense of insecurity. The biggest challenge when experience is lacking is to know what type of care to provide and how care should be prioritized:

Planning what I was going to do first. Because sometimes you zone out a bit and think: 'oh I need to do this and that, and that and this. How shall I plan it'. You need to prioritize things in the right order in an acute situation.

Lack of experience and insecurity limits one's ability to convert complex medical and/or caring science theory into practice in an acute situation. The insecurity of being exposed to an acute situation not previously experienced creates stress:

It feels like you have the knowledge somewhere but when it actually happens there isn't time for my brain to make the connection because I don't have the experience.

3.4. Personality traits

The ability to provide appropriate care in an acute situation is influenced by personality traits. These qualities are: being self-confident, being courageous and being balanced when making demands of oneself to develop and maintain new knowledge.

Being self-confident means trusting in one's own ability to provide appropriate care in acute situations, giving a feeling of security. This trust calms and helps to focus the care in order to facilitate the patient perspective. The confidence and security resulting from trust lead to increased ability to take responsibility for the care of patients in an individual manner. Trust in oneself can be developed and strengthened in many different ways, though often as a result of positive responses to one's own accomplishments in providing care in acute situations:

But my colleagues were very good and clear in saying 'you have done everything you can. You did a good job. You managed this really well. Keep it up.

Uncertainty about one's ability to provide care in an acute situation can result from ambiguous and vague expectations as well as inadequate knowledge and/or experience. Not being able to trust one's knowledge is perceived as being due to a fear of overlooking something substantial or not remembering information correctly, if experience is lacking in caring for patients with a similar condition. When prioritizing actions, something else automatically receives a lower priority, so the consequences of the choices must be carefully considered. Uncertainty about one's knowledge also leads to fear of appearing incompetent to colleagues, making mistakes or causing the patient harm and/or suffering:

As a nurse you always worry that you might miss something important and as a new graduate you are terrified of missing something vital and scared that you won't be able to rectify it.

Novice nurses' uncertainty may be apparent in their assessment of patients' medical conditions. A patient's situation may be described as "obviously acute" by the nurse, but to a novice nurse lacking confidence, this assessment may simultaneously be perceived as inadequate. Care initiatives may instead be seen to result from intuition:

A respiratory frequency over 30 is not normal, [the patient] was really confused// but it was also some sort of gut feeling.

Being courageous is perceived as a quality contributing significantly to one's ability to provide appropriate care in acute situations. It is manifested in the ability to stand up to colleagues for the patients' needs and/or regarding one's opinions about care, or to make independent assessments and to implement care based on those assessments even if this contradicts current guidelines and policies:

Then I contacted the mobile intensive care group, I didn't wait. And I felt that if there is anyone who thinks otherwise afterwards I would justify my actions then. I couldn't just stand there and watch a person who might become seriously ill

Keeping a balanced attitude to demands and expectations of oneself is important for the ability to provide appropriate care in acute situations. Realizing that one's knowledge and experience will not cover all acute situations that can arise can awaken fear, however it is important to maintain one's desire to develop skills and acquire new ones in order to provide appropriate care. This can be done for example by reflecting, asking colleagues, reading old exams and study notes, and consulting new literature:

We are never finished with learning and you need to take personal responsibility as well. Learn from situations that you are placed in and reflect around them, and try to learn more from what you have seen, things you have experienced. What did I do that was good, what could I have done differently?

A novice nurse may perceive not meeting her/his own expectations about care-giving in an acute situation as a personal shortcoming. If the demands on and expectations about knowledge and actions are not balanced and in proportion, it can be overwhelming. Unbalanced expectations can lead to feeling the need to rectify the deficiency perceived, reasonable or not:

But it was a medication that I didn't know and I didn't know if we had that medicine on the ward.// So I thought afterwards that I need to have a better idea of these things. That there is more that I need to learn in case I get questioned about it sometime. To be able to answer quickly, yes we

have it or no we don't…

4. Discussion

The objective of this phenomenographic study has been to explore variations in how novice nurses perceive the phenomenon 'factors in nursing education and the first year as a professional nurse that develop the ability to provide appropriate care in acute situations'. The results are presented in four categories: integrating theory into practice; access to adequate support; experience-based knowledge and personality traits.

Integrating theory into practice during nursing education was pivotal for gaining skills enabling nurses to provide appropriate care in acute situations. Students found it essential to integrate their theoretical knowledge to prevent it becoming fragmented. Reflection was perceived as important in the process of learning in order to integrate theory into practice. The perceived benefit of reflection created a desire to incorporate it into more courses, especially those in which reflection is not part of the curriculum, for example medical science. This is consistent with previous work by Lindberg et al. (2018), indicating that reflective seminars provide a way for students to intertwine theory and practice and are valuable for professional development in nursing. These authors also identified a need to enhance integration and reflection based on caring science and a patient perspective in medical science courses.

Our results suggest that the patient perspective disappears to some extent in acute situations. This is demonstrated through a focus on diagnoses rather than the patient's experience of their symptoms and signs of acute disease. To facilitate the provision of care in acute situations, education may need to alter the way medical science and pathophysiology are taught. Signs and symptoms of specific diagnoses may need to be supplemented with an explicit patient perspective in accordance with caring sciences and highlight how the patient experiences the situation and their symptoms. This is supported by Benner (2015) who advocates the development of teaching methods that maintain the students' focus on the patient's experience and suggests that medical science should be taught in direct association with patients' experiences of illness.

The visualization and/or bringing to life of theoretical elements were perceived as integrating them with practice and developing novice nurses' ability to provide suitable care. This was accomplished through clinical practice or applied training such as simulation. According to a review by Cant and Cooper (2017), simulation can imitate the reality of patient care and contributes to students' learning by improving their knowledge and also enhancing their acquisition of clinical skills, efficacy, and self-confidence.

An important factor in simulation was that the learning experiences were perceived as realistic and comprehensive with different levels of complexity. Engström et al. (2016) conclude that contextualization (efforts to increase physical resemblance and functional task arrangements) has a positive effect on participants' immersion experience and that this contributes to better workflow as well as promoting realistic interactions and better task performances.

Another measure for *integrating theory into practice*, thus developing the ability to care, as described in the results, is the inclusion of clinical practice placements. McClure and Black (2013) argue that the clinical learning environment is recognized as central for nursing education. It provides students with the opportunity to combine all kinds of knowledge and skills. Nursing students also identify their clinical supervisors as a key component in the clinical learning setting. The role of the clinical supervisor is described by Jonsén et al. (2013) as guiding the student from theories of nursing and care-giving to application in practice. The clinical supervisor is also a role model, teaching clinical skills as well as reflective thinking. A finding of concern in our results is that the perception of the quality of preceptorship supervision varies and this affects preparedness for providing care in acute situations.

The *experience-based knowledge*, seeing and/or participating in acute situations was perceived as significant in our results. With experience, ability increased. This is consistent with Benner (1984) theory of skill acquisition dependent on experience. Experience should be seen not just as the passage of time but as providing many authentic care and care-giving situations. However, our results suggest that some novice nurses' perceive that they enter their profession without ever experienced an acute situation during their clinical education. Even if acute situations cannot be controlled by educational institutions, it is alarming that nursing students have been excluded from situations that have arisen during clinical education. Herron (2018) has also identified exposure to acute situations during clinical education as a potential issue. It is vital for nursing students not to be shielded from acute situations during clinical education. One way to overcome this could be to place students in higher acuity environments. The clinical education deficiencies found in this study led to the perception that the assignment of placements was a lottery when it came to whether or not students would have the ability to provide care in an acute situation when they graduated.

Access to adequate support was perceived as significant in the form of both subjective and objective support. The use of clinical decision-making documents/instruments to justify actions and proof of assessment was interesting. Downey et al. (2017) conclude that early warning scores are useful in predicting and improving patient outcomes, nevertheless they emphasize that these can never substitute for clinical judgement and experience.

The subjective support i.e. collegial support was considered especially important when experience and knowledge was limited or insufficient. This is consistent with findings of Herron (2018) where all novice nurses discussed the need for guidance and support from colleagues when responding to an emergency.

In a phenomenographic study it is assumed that people can interpret the same events and situations in many ways. As such, phenomenography provides a means of investigating differences. As the aim of phenomenography is to capture the possible range of perceptions of a phenomenon in a specific group and the sampling requires variation between participants in order to obtain a rich variations of perceptions (Stenfors-Hayes et al., 2013). In this study variation of perceptions was achieved by including men and women from 16 different wards, 5 hospitals and a wide range of ages (22–46 years). Another consideration in phenomenographic research is the number of participants. Considered the amount of data to analyze it is suggested to have less than 20 interview transcripts to analyze (Åkerlind, 2012). In this study we had 17 participants who provided a rich and varied amount of perceptions suitable for the study.

5. CONCLUSIONS/IMPLICATIONS

A variety of factors contributes to novice nurses' ability to provide appropriate care in acute situations. Experience of acute situations and the integration of theory and practice are pivotal in the acquisition of skills to provide appropriate care. To accomplish this reflection, practice and/or applied training can be used. Based on these results we suggest that nurse education develops curricula that facilitate the integration of theory into practice. One approach could be through complex and contextualized simulation scenarios built on acute situations, presented from the perspective of novice nurses, with an explicit patient perspective followed by reflection seminars.

Conflicts of interest

Each of the authors has read the submission and declare that they have no conflicts of interest related to the study. All entitled to authorship are listed as authors.

Ethical approval details

Not applicable.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.nepr.2019.02.005.

Funding source

This research was not supported by any specific grant from funding agencies in the public, commercial, or not-for-profit sector.

References

Åkerlind, G.S., 2012. Variation and commonality in phenomenographic research methods. High. Educ. Res. Dev. 31, 115–127.
Arman, M., Ranheim, A., Rydenlund, K., Rytterström, P., Rehnsfeldt, A., 2015. The nordic tradition of caring science: the works of three theorists. Nurs. Sci. Q. 28, 288.
Bakon, S., Craft, J., Wirihana, L., Christensen, M., Barr, J., Tsai, L., January 2018. An integrative review of graduate transition programmes: developmental considerations for nursing management. Nurse Educ. Pract. 28, 80–85.
Benner, P., 1984. From Novice to Expert. Menlo Park.
Benner, P., 2015. Curricular and pedagogical implications for the Carnegie study, educating nurses: a call for radical transformation. Asian Nurs. Res. 9, 1–6.
Bisholt, B.K., 2012. The learning process of recently graduated nurses in professional situations—experiences of an introduction program. Nurse Educ. Today 32, 289–293.
Butler, C., 2018. Nurses' experiences of managing patient deterioration following a post-registration education programme: a critical incident analysis study. Nurse Educ. Pract. 28, 96–102.
Cant, R.P., Cooper, S.J., 2017. Use of simulation-based learning in undergraduate nurse education: an umbrella systematic review. Nurse Educ. Today 49, 63–71.
Dahlberg, K., Dahlberg, H., Nyström, M., 2008. Reflective Lifeworld Research. Studentlitteratur, Lund.
Dahlgren, L.-O., Fallsberg, M., 1991. Phenomenography as a qualitative approach in social pharmacy research. J. Soc. Adm. Pharm. JSAP (J. Small Anim. Pract.) 8, 150–156.
Della Ratta, C., 2016. Challenging graduate nurses' transition: care of the deteriorating patient. J. Clin. Nurs. 25, 3036–3048.
Downey, C., Tahir, W., Randell, R., Brown, J., Jayne, D., 2017. Strengths and limitations of early warning scores: a systematic review and narrative synthesis. Int. J. Nurs. Stud. 76, 106–119.
Duchscher, J.E.B., 2009. Transition shock: the initial stage of role adaptation for newly graduated registered nurses. J. Adv. Nurs. 65, 1103–1113.
Engström, H., Hagiwara, M.A., Backlund, P., Lebram, M., Lundberg, L., Johannesson, M., Sterner, A., Söderholm, H.M., 2016. The impact of contextualization on immersion in healthcare simulation. Advances in Simulation 1, 8.
Freeling, M., Parker, S., 2015. Exploring experienced nurses' attitudes, views and expectations of new graduate nurses: a critical review. Nurse Educ. Today 35, e42–e49.
Gardiner, I., Sheen, J., 2016. Graduate nurse experiences of support: a review. Nurse Educ. Today 40, 7–12.
Herron, E.K., 2018. New graduate nurses' preparation for recognition and prevention of failure to rescue: a qualitative study. J. Clin. Nurs. 27, e390–e401.
Jonsén, E., Melender, H.-L., Hilli, Y., 2013. Finnish and Swedish nursing students' experiences of their first clinical practice placement—a qualitative study. Nurse Educ. Today 33, 297–302.
Larsson, I.E., Sahlsten, M.J., 2016. The staff nurse clinical leader at the bedside: Swedish registered nurses' perceptions. Nursing research and practice 2016.
Larsson, J., Holmström, I., 2007. Phenomenographic or phenomenological analysis: does it matter? Examples from a study on anaesthesiologists' work. Int. J. Qual. Stud. Health Well-Being 2, 55–64.
Lindberg, E., Karlsson, P., Knutsson, S., 2018. Reflective seminaries grounded in caring science and lifeworld theory–A phenomenological study from the perspective of nursing students. Nurse Educ. Today 61, 60–65.
Marton, F., 1981. Phenomenography—describing conceptions of the world around us. Instr. Sci. 10, 177–200.
Massey, D., Chaboyer, W., Anderson, V., 2017. What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature. Nursing open 4, 6–23.
McClure, E., Black, L., 2013. The role of the clinical preceptor: an integrative literature review. J. Nurs. Educ. 52, 335–341.
Missen, K., McKenna, L., Beauchamp, A., 2016. Registered nurses' perceptions of new nursing graduates' clinical competence: a systematic integrative review. Nurs. Health Sci. 18, 143–153.
Monaghan, T., 2015. A critical analysis of the literature and theoretical perspectives on theory–practice gap amongst newly qualified nurses within the United Kingdom. Nurse Educ. Today 35, e1–e7.
Odell, M., Victor, C., Oliver, D., 2009. Nurses' role in detecting deterioration in ward patients: systematic literature review. J. Adv. Nurs. 65, 1992–2006.
Odland, L.-H., Sneltvedt, T., Sörlie, V., 2014. Responsible but unprepared: experiences of newly educated nurses in hospital care. Nurse Educ. Pract. 14, 538–543.
Robertson-Preidler, J., Biller-Andorno, N., Johnson, T.J., 2017. What is appropriate care? An integrative review of emerging themes in the literature. BMC Health Serv. Res. 17, 452.
Stenfors Hayes, T., Hult, H., Dahlgren, M.A., 2013. A phenomenographic approach to research in medical education. Med. Educ. (Oxf.) 47, 261–270.
Sterner, A., Ramstrand, N., Nyström, M., Hagiwara, M.A., Palmér, L., 2018. Novice nurses' perceptions of acute situations–A phenomenographic study. International emergency nursing 40, 23–28.
Strand, G., 2010. Uppföljning Av Nyutexaminerade Sjuksköterskor – Enkätundersökning Bland Sjuksköterskor Och Chefer, Våren 2010. ISBN nr 978-91-7164-612-5.
Swenurse, 2017. Description of Competence for Registered Nurses.
Usher, K., Mills, J., West, C., Park, T., Woods, C., 2015. Preregistration student nurses' self-reported preparedness for practice before and after the introduction of a capstone subject. J. Clin. Nurs. 24, 3245–3254.
Wolff, A.C., Pesut, B., Regan, S., 2010. New graduate nurse practice readiness: perspectives on the context shaping our understanding and expectations. Nurse Educ. Today 30, 187–191.
World Medical Association, 2013. World medical association declaration of Helsinki ethical principles for medical research involving human subjects. JAMA-Journal of the American Medical Association 310, 2191–2194.