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Review

# Towards identifying nurse educator competencies required for simulation-based learning: A systemised rapid review and synthesis

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## S U M M A R Y

*Objectives:* This paper presents the results of a systemised rapid review and synthesis of the literature undertaken to identify competencies required by nurse educators to facilitate simulation-based learning (SBL).
*Design:* An international collaboration undertook a protocol-based search, retrieval and critical review.
*Data Sources:* Web of Science, PubMed, CINAHL Plus, PsycInfo, ERIC, the Cochrane Library and Science Direct. The search was limited to articles published in English, 2002–2012.
*Review Methods:* The search terms used: nurse*, learn*, facilitator, simula*, lecturer, competence, skill*, qualificat*, educator, health care, "patient simulation", "nursing education" and "faculty". The search yielded 2156 "hits", following a review of the abstracts, 72 full-text articles were extracted. These were screened against predetermined inclusion/exclusion criteria and nine articles were retained. Following critical appraisal, the articles were analyzed using an inductive approach to extract statements for categorization and synthesis as competency statements.
*Results:* This review confirmed that there was a modest amount of empirical evidence on which to base a competency framework. Those papers that provided descriptions of educator preparation identified simulation-based workshops, or experiential training, as the most common approaches for enhancing skills. SBL was not associated with any one theoretical perspective. Delivery of SBL appeared to demand competencies associated with planning and designing simulations, facilitating learning in "safe" environments, expert nursing knowledge based on credible clinical realism, reference to evidence-based knowledge and demonstration of professional values and identity.
*Conclusions:* This review derived a preliminary competency framework. This needs further development as a model for educators delivering SBL as part of nursing curricula.

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## Introduction

The interest in simulation-based learning (SBL) has exponentially increased in nursing over the last decade. SBL and assessment has become a feature of many nurse preparation programmes. This is unsurprising given the growing perception that SBL is one solution to the challenges associated with producing practitioners who are able to function effectively in complex health care settings (Adamson, 2009). Indeed, Holmboe et al. (2011) in their position paper, argue that there is now sufficient evidence across medicine, dentistry and nursing to formally incorporate SBL into regulations associated with clinical practice requirements for health care professionals. Traditionally the theory relevant to nursing has been taught in the classroom, in contrast with clinical skills and professional behaviors acquired largely in clinical settings. The expectation being that the student should be able, or can be enabled, to integrate theory into practice. This model undoubtedly contains intrinsic flaws that have been rehearsed over the years elsewhere (for example, see Maben et al., 2006; Ousey and Gallagher,

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2007; Rafferty et al., 1996; Rolfe, 1998). New graduates of nursing programmes may have acquired what has been described as the "trinity of fitness for purpose, award and practice" (Benton, 2011, p. 276) for licensure (or registration) but nevertheless remain novices (Benner, 1984) in terms of competence. In effect, not yet fully formed for the full responsibilities of the real world of the registered nurse (Benner et al., 2010).

SBL has been used in a number of industries to hone and refine expertise and reduce risk or errors (Wilford and Doyle, 2006). The level of interest and utilisation in nurse education, and many of the other health care professions, is unsurprising given the global concerns regarding patient safety. Particularly as SBL is considered an ideal strategy for rehearsing, developing and practicing effective individual and team work thereby facilitating the analysis and reduction of human error (Issenberg et al., 2005; Kenaszchuk et al., 2011; van Soren et al., 2011).

SBL has also become ubiquitous out of necessity due to the pressure to provide student placements when the quality of clinical learning cannot be guaranteed (Wilford and Doyle, 2006). Yet to integrate SBL is not cost neutral (Adamson, 2009; Jansen et al., 2009). Some argue the upsurge in interest has grown in parallel with the capacity of increasingly sophisticated technology to replicate complex health care scenarios. Although debates remain about fidelity and whether in itself it is as important as authenticity to learning (Bland et al., 2014). The increased use of, and investment in technology, facilities, staff and infrastructure, have possibly contributed to the realisation that educators require preparation to effectively plan and deliver meaningful SBL experiences. There seems to be a growing consensus that it is not enough to "buy the kit" in the absence of support for faculty to deliver effective learning and teaching (Hyland and Hawkins, 2009; Jeffries, 2008), or indeed a need for all education providers to buy expensive technology. Yet little clarity exists in the literature about what constitutes effective nurse educator simulation-based pedagogical practice, or whether facilitating SBL should be part of the skill set of all nurse educators or merely the domain of staff with specialist expertise. There is growing evidence that SBL may well serve as a bridge between theory and practice, possibly spanning the gap, and provide a context where the cognate disciplines that inform nursing can be integrated (Shriner et al., 2010). Logically, nurse educators should have a minimum skill set in order to integrate simulation appropriately into program delivery. This paper presents a systemised rapid review of the literature undertaken to define the educator competencies that might constitute the "must-have" competencies, required to facilitate SBL as part of nurse education programmes. This review of the literature was conducted as the first phase of an international project to study the competencies of nurse educators who use SBL. Later, this project continued with the funding of a grant from the European Union (EU) to develop the competencies for nurse educators to integrate SBL into curriculum delivery.

*Aim*

The aim of this rapid review was to identify the competencies that nurse educators require to facilitate SBL as part of nurse education. These would form a competency and curriculum framework for a preparation program for nurse educators facilitating SBL.

*Review Methods*

A search of the following databases was undertaken: Web of Science, PubMed, The EBSCOhost Research Databases (CINAHL Plus, PsycInfo and ERIC), and The Cochrane Library and Science Direct.

Search terms were identified and then corroborated using the index of keywords for each database. The search terms used in different combinations were: nurse*, learn*, facilitator, simula*, lecturer, competence, skill*, qualificat*, educator, health care, "patient simulation", "nursing education" and "faculty". The search was limited to articles published in English between 2002 and 2012. A wide range of articles, surveys,

reports and expert opinion were retrieved. In total, 2156 citations using the search terms were identified from the following sources: Science Direct (1672), Web of Science (186), EBSCO (8), Cochrane Library (6) and PubMed (284).

These 2156 abstracts were reviewed by the researchers from the international project team. Very few papers were identified that associated quantitative research designs with the focus of the review. The majority of the articles used either a qualitative methodology, methodological triangulation or systematic reviews. As a result, both qualitative research articles and systematic reviews were included in this review.

Finally, 72 full texts of articles were identified for further interrogation based on the abstracts. In this review, the quality of the articles were evaluated utilising existing frameworks (Dixon-Woods et al., 2004; Mattila et al., 2012). The full-text articles were included in the review process because they described either (1) the role of the educator, (2) the guidelines, competences or statements relating to participant outcomes from training or (3) approaches for delivering SBL training. Each article was then screened by a minimum of two independent members of the international review team and retained if there was evidence of double-blind peer review, and findings derived from original research, evaluation or a systematic review related to the research aims. Duplicates were extracted as well as papers that did not meet the inclusion criteria, or the quality requirements for the papers (Dixon-Woods et al., 2004; Mattila et al., 2012).

Retained articles were then compared by the researchers and considered at a consensus workshop and, finally, nine articles (see

**Table 1**
Included Articles.

| Author(s) | Title of Article | Journals |
|---|---|---|
| 1. Anderson M, Bond ML, Holmes TL, Cason CL. 2012 | Acquisition of simulation skills: Survey of users | Clinical Simulation in Nursing, 2012 (2), 59–65 |
| 2. Arthur C, Kable A, Levett-Jones T. 2011 | Human patient simulation manikins and information communication technology use in Australian schools of nursing: a cross-sectional survey | Clinical Simulation in Nursing, 2011 (7), 219–227 |
| 3. Bentley R, Seaback C. 2011 | A faculty development collaborative in interprofessional simulation | Journal of Professional Nursing 2011, 27 (6) 1–7 |
| 4. Cant RP, Copper SJ. 2012 | The benefits of debriefing as formative feedback in nurse education | Australian Journal of Advanced Nursing, 2012, 29 (1) 37–47 |
| 5. Kaakinen J, Arwood E. 2009 | Systematic review of nursing simulation literature for use of learning theory | International Journal of Nursing Education Scholarship, 2009, 6 (1) 1–20 |
| 6. Keskitalo T. 2011 | Teachers' conceptions and their approaches to teaching in virtual reality and SBL environments | Teachers and Teaching: theory and practice, 2011, 17 (1) 131–147 |
| 7. Keskitalo T, Ruokamo H, Väisänen O. 2011 | Facilitators' and students' conceptions of teaching and learning in SBL environment | World Conference on Educational Multimedia, Hypermedia and Telecommunications (EDMEDIA) Proceedings, 2011, Lisbon, Portugal June 27, 2011. p. 2215–2224 |
| 8. Reid-Searl K, Eaton A, Happel B. 2011 | The educator inside the patient: Students' insight into the use of high fidelity silicone patient simulation | Journal of Clinical Nursing 20(19-20), 2752–2760 |
| 9. van Soren M, Devlin-Cop S, MacMillian K, Baker L, Egan-Lee E, Reeves S. 2011 | Simulated interprofessional education: An analysis of teaching and learning process | Journal of Interprofessional Care, 2011: 25 (6), 434–440 |

Table 1) met the criteria for inclusion in this review. Lastly, the nine papers were scrutinized to identify expressions or statements that could form precursor competencies.

These extracted statements were then categorized (see Tables 3 and 4).

## Results

### General Description

Of the nine articles retained (see Table 1), three were from the USA, three from Australia, two from Finland and one from Canada. All articles were published between 2009 and 2012. The two systematic reviews included (see Table 2) reported detailed review protocols outlining databases used, and search and retrieval strategies employed (Cant and Cooper, 2012; Kaakinen and Arwood, 2009).

Two of the articles used qualitative methods, two quantitative and three used mixed qualitative and quantitative methods. In three of the studies, the data was collected using structured interviews (Bentley and Seaback, 2011; Keskitalo, 2011; Reid-Searl et al., 2011), one used a questionnaire (Anderson et al., 2012) and three used a combination of methods (Arthur et al., 2011; Keskitalo et al., 2011; van Soren et al., 2011) The empirical studies were largely evaluative in design.

### Expressions and Statements

Analysis of the articles revealed no statements that could be construed as competencies but provided expressions, or statements, that had potential to be used as the basis for precursor competencies required for facilitation of SBL (see Table 3). These statements were extracted and categorized as knowledge, behavior, skills, and comportment in contrast to the more commonly used term attitudes.

Comportment in the context of this review was deemed to more precisely describe the attributes and qualities demonstrable by an educator orchestrating SBL. Whereas attitudes failed to fully capture the dimensions of professional demeanor that emerged from this review. The term comportment has been claimed by Benner et al. (2009) and in this context describes those attitudinal attributes that the "effective" SBL educator adopts to present themselves. This may be unconscious but provides modeling of professional values and knowledge that emerges through facilitation and demonstrates ethical and professional demeanor in pedagogical practice.

**Table 2**
Research Methods and Data Collection Methods.

| | Number of article |
|---|---|
| Research method | |
|   Qualitative | 6, 8 |
|   Quantitative | 1, 9 |
|   Combination | 2, 3, 7 |
|   Literature review | 4, 5 |
| Data collection method | |
|   Questionnaire(s) | 1 |
|   Structured interview(s) | 3, 6, 8 |
|   Combination of data collection methods | 2, 7, 9 |
|   Computerized search | 4, 5 |
| Instrument | |
|   Previously validated, literature reference | |
|   Previously used, literature reference | |
|   Modified, piloted, validated | 1, 2 |
|   Self-constructed, no mention about pilot study | |
|   No description of development or quality | 3, 6, 7, 8, 9 |
| Sample size | |
|   <50 | 1, 2, 4, 5, 6, 7, 8 |
|   50–100 | 3 |
|   101–200 | |
|   200–300 | 9 |

**Table 3**
Precursor Competencies for Delivering Simulated Learning in Nursing Programs.

| | Article number |
|---|---|
| Required knowledge underpinning simulation | 1, 2, 3, 4, 5, 6, 7, 8, 9 |
|   Understanding of learning theories and strategies | 2, 3, 5, 6, 9 |
|   Curriculum development and integration | 1, 3, 5 |
|   Practical/expert knowledge of subject (clinical realism) | 2, 6, 7, 8 |
|   Repertoire of real-world examples | 2, 6, 7 |
|   Theory of group dynamics | 2, 3, 4 |
| Skills and behavioral | 1, 2, 3, 4, 5, 6, 7, 8, 9 |
|   Skills to deliver simulation | 1, 2, 3, 6, 8, 9 |
|     Create and program realistic scenarios | 1, 2, 3, 8, 9 |
|     Mastery of equipment operation (simulators, computers, simulation equipment) | 1, 2, 3, 6 |
|     Mastery of interprofessional cooperation | 3, 9 |
|   Skills to support students | 2, 4, 5, 6, 7, 8, 9 |
|     Skills to prepare students to simulation (theory, roles) | 7, 9 |
|     Team facilitation/small and large group dynamics | 2, 4, 6, 7, 9 |
|     Didactic skills (facilitate/guide students' learning) | 4, 5, 6, 7, 8, 9 |
|   Skills to support debriefing and/or assessment | 2, 3, 4, 5, 6, 7, 8, 9 |
|     To provide critical (positive and negative) feedback | 2, 7 |
|     Use video and critical reflection, deep dialogue | 4, 6, 7 |
|     Timing quality feedback, face to face | 4, 6 |
|     Guide learning through debriefing | 3, 8, 9 |
|     Ability to assess learning outcomes | 5, 7 |
| Educator Comportment or qualities | 2, 6, 7, 8, 9 |
|   Able to create positive, comfortable, trusting atmosphere and learning climate (emotional safety) | 6, 7, 9 |
|   Able to bring theory and practice together | 2, 6, 7, 8 |
|   Able to pose as a real world role model | 7 |
|   Passion for teaching and learning | 8 |
|   Flexibility or adaptability to what the content/kit can offer | 7 |
|   Student-centered approach | 6, 7 |

### Knowledge

The review identified the eclectic, pluralistic and applied nature of theoretical knowledge(s) required by nurse educators to facilitate SBL (Table 3).

### Range of Knowledge

Knowledge of learning theories and understanding of strategies emerged in a number of the articles (Arthur et al., 2011; Bentley and Seaback, 2011; Kaakinen and Arwood, 2009; Keskitalo, 2011; van Soren et al., 2011). For example, "use of learning theory may increase opportunities for students to gain skills, knowledge and disposition" (Kaakinen and Arwood, 2009, p.12).

Knowledge was not compartmentalized as education, clinical or medical knowledge but more interwoven and curriculum driven (Anderson et al., 2012; Bentley and Seaback, 2011; Kaakinen and Arwood, 2009). Hence, educators using SBL were expected to integrate simulation into the curriculum (Anderson et al., 2012). The experience of SBL was enhanced when educators could demonstrate practical expertise and/or expert knowledge of the subject as these provided evidence of clinical authenticity to students (Arthur et al., 2011; Keskitalo, 2011; Keskitalo et al., 2011; Reid-Searl et al., 2011). Knowledgeable educators could increase "fidelity relating to the clinical realism of the scenarios" by including experiential intelligence that was "reflective of typical local practice situations" (Arthur et al., 2011, p. 224), and/or could draw on a repertoire of real-life examples (Arthur et al., 2011; Keskitalo, 2011; Keskitalo et al., 2011). So "a good facilitator is an expert who can explain and give real-world examples" (Keskitalo et al., 2011, p. 135).

Educators were also expected to bring to SBL pedagogical knowledge such as their understanding of the theories of group dynamics (Arthur et al., 2011; Bentley and Seaback, 2011; Cant and Cooper, 2012) in order to facilitate small and large groups (Arthur et al., 2011). Another dimension of an educators' competence was "how to" knowledge in terms of having the ability to conduct simulations. Bentley and Seaback (2011) suggested that educators needed the

"minimum knowledge on how to implement clinical simulation scenarios" (2011, p. e3) but did not elaborate what might constitute the minimum.

*Educator Behaviors and Skills*

The range of skills necessary to underpin effective use of SBL were more encompassing than those normally described in the literature (see Table 4).

For example, what has been described as the three-step simulation process of briefing, simulation and debriefing (Cant and Cooper, 2012); alternatively, "writing, running and debriefing the simulations" (Anderson et al., 2012, p.62) draws on a more limited skill set than those that emerged from the retained studies (Arthur et al., 2011; Bentley and Seaback, 2011; Reid-Searl et al., 2011; van Soren et al., 2011).

*Behaviors and/or Skills Linked to Aspects of the Simulation Process.* Capabilities associated with "creation of realistic scenarios" (van Soren et al., 2011, p.439), and "use of simulators and simulation equipment" (Bentley and Seaback, 2011, p. 3) were noted. Mastery when operating equipment was also identified in a number of the papers, as was an ability to retrieve situations when equipment failed (Anderson et al., 2012; Arthur et al., 2011; Bentley and Seaback, 2011; Keskitalo, 2011). Conversely, an inability to manage disruption caused by equipment failure was associated with student dissatisfaction.

*Skills to Support Students*

A number of extracted statements related to the skills associated with facilitation of students including the didactic skills of the educator (Cant and Cooper, 2012; Kaakinen and Arwood, 2009; Keskitalo, 2011; Keskitalo et al., 2011; Reid-Searl et al., 2011; van Soren et al., 2011), especially as the student role was perceived as "active and intentional" (Keskitalo, 2011, p.138). Typically, "being guided (not driven) by the facilitator" (Cant and Cooper, 2012, p. 44) or "teachers saw their role as more of a facilitator of learning than a knowledge transmitter" (Keskitalo, 2011, p. 140), also skills associated with facilitating teams and guiding group dynamics (Arthur et al., 2011; Cant and Cooper, 2012; Keskitalo, 2011; Keskitalo et al., 2011; van Soren et al., 2011) emerged. These group facilitation skills were particularly linked with managing interprofessional simulations in order to promote teamwork and cooperation (Bentley and Seaback, 2011; van Soren et al., 2011).

**Table 4**
What Preparation or Training Was Identified to Develop Educator Capabilities in Simulated Learning.

| | Article number |
|---|---|
| Knowledge | |
| Integrating simulation to curriculum | 3 |
| Learning theories and simulation pedagogy | 5, 6, 7 |
| Nursing knowledge, clinical experience | 7 |
| Role play and acting | 7 |
| Interprofessional collaboration in health care | 3, 9 |
| Interprofessional simulation | 3, 9 |
| Different simulation methods (e.g. virtual reality, second life) | 3 |
| Knowledge of simulation technology | 6 |
| Skills and behaviors | |
| Practical training with feedback from simulation experts | 1, 3 |
| Design scenarios in different clinical environments | 3 |
| Operate and maintain simulation equipment including task trainers and low, medium and high fidelity mannikins | 1, 2, 3 |
| Use of debriefing and evaluation skills | 3, 4, 6, 7 |
| Skills to apply simulation pedagogy | 5 |
| Facilitating and acting skills | 7, 9 |
| Comportment | |
| Discuss/reflect legal and ethical issues in clinical scenarios | 3 |
| See self as a role model | 6 |
| See simulation teaching as a student-centered activity | 7 |

Preparing students for what they were expected to do, and achieve, through a planned simulation were also identified as important (Keskitalo et al., 2011; van Soren et al., 2011). Illustrated in this account taken from a student participant in Keskitalo et al.'s (2011) study where the importance of student direction is explained "…beforehand, tell what kind of themes they (educators) have planned for us, so that the knowledge, what we need, that we can take care of the situation, so they are updated, that we can remember those medicines even roughly… that we could concentrate on examining, findings, taking care of the symptoms, and not that oh crap, I don't, I am totally confused" (2011, p. 136–7). This preparation seemed to be important to knowing what was required in terms of knowledge to be engaged with in the learning, and also for the student to feel that they were in control.

*Debriefing and Assessment*

The significance of educator proficiency in guiding student learning during debriefing was identified in a number of studies included in this review (Bentley and Seaback, 2011; Reid-Searl et al., 2011; van Soren et al., 2011).

The effectiveness of debriefing appeared to be "influenced by facilitator style and professional background", (van Soren et al., 2011, p437). In one paper, two typologies of educator performance associated specifically with interprofessional SBL were identified (Bentley and Seaback, 2011). One approach was to adopt the role of "interprofessional guide" to facilitate learning in contrast with that of "teacher" who displayed a tendency to impart knowledge. The latter was considered the less successful approach.

Ensuring that "simulation is a planned experience that provides specific goals, methods and objectives for teaching outcomes" was apparent (Kaakinen and Arwood, 2009, p. 12). The ability to assess that learning outcomes had been met, and the student could see how they had achieved them or not, was a key function of the educator's role in debriefing and a required competency (Kaakinen and Arwood, 2009; Keskitalo et al., 2011).

Other skills relating to the facilitation and communication skills needed for debriefing included the ability to provide feedback irrespective of whether it was positive or not (Arthur et al., 2011; Keskitalo et al., 2011). Timely feedback that encouraged active student participation (Cant and Cooper, 2012) also emerged. Technical skills were associated with the use of audiovisual recordings but not to overshadowing the facilitation skills required to encourage student engagement in critical reflection and deep dialogue (Cant and Cooper, 2012; Keskitalo, 2011; Keskitalo et al., 2011). The ability to multi-skill in SBL, in this case, manage equipment whilst facilitating interaction, seemed to be particularly significant. In effect, the educator needed seamless command to provide "verbal face-to-face and real-time audiovisual feedback" (Cant and Cooper, 2012, p. 44) or the experience "could be torture for all" (Keskitalo et al., 2011, p. 35).

*Professional Attitudes, Values and Moral Comportment*

Softer attributes, but valued by students, were linked to how educators presented themselves in interaction and their attitudes, demeanor and characteristics. These linked with the ability to facilitate in order to encourage cooperation between students. Competent simulation educators are able to create positive, comfortable, trusting and emotionally safe learning climates (Keskitalo, 2011; Keskitalo et al., 2011; van Soren et al., 2011), "where they (students) are allowed to make mistakes" (Keskitalo, 2011, p. 2220).

Another ability involved bridging, the capacity to bring theory and practice together. This was related to comportment and manifest in competent teachers (Arthur et al., 2011; Keskitalo, 2011; Keskitalo et al., 2011; Reid-Searl et al., 2011). For example, "when building connections between theory and practice, the teachers used real-world examples" these ensured "the theory comes alive" (Keskitalo, 2011, p.142). Yet any examples used had to be recognisable as authentic to the students. This ability to present clinical stories authentically

appeared to be related to perceptions of trustworthiness, reliability and conviction although nuanced, this contributed to educator comportment when acting as a real-world role model (Keskitalo, 2011).

Competent teachers were able to work flexibly, could adapt and respond creating spontaneity in interactions with student actors thereby capitalizing on the learning a SBL scenario could offer (Keskitalo et al., 2011). Effective educators are "able to recognize and change their teaching practices and take advantage of the affordances provided by the environment" (Keskitalo et al., 2011, p. 137).

Competent facilitators of SBL also demonstrated student centeredness in their approach to teaching (Keskitalo, 2011; Keskitalo et al., 2011) and communicated "a passion for teaching and learning and a love of using creative roles" (Reid-Searl et al., 2011, p. 2757).

*Preparation Required to Acquire Competence*

In general, the articles revealed little prescription of what could be used to formulate content, or requirements for training, or preparation, to develop educators. Although all provided insights that could be used as the basis of precursor competencies, and six emphasized the importance of training (Anderson et al., 2012; Bentley and Seaback, 2011; Cant and Cooper, 2012; Kaakinen and Arwood, 2009; Keskitalo, 2011; Keskitalo et al., 2011) or identified potential curriculum content or learning outcomes that could inform preparation (see Table 4). In Anderson et al.'s (2012) study, the preferred way to develop the necessary craft skills was to practice planning, delivery and debriefing in a safe educational environment that replicated the features and processes used in SBL. Other methods described to increase nurse educators' understanding of SBL were workshops, working or observing other experienced educators, reading about simulation, working alone and just "figuring it out" through trial and error (Anderson et al., 2012, p. 62).

*Preparation for Knowledge Competence*

Educators require some understanding of learning theories and simulation pedagogy (Kaakinen and Arwood, 2009; Keskitalo, 2011; Keskitalo et al., 2011) and curriculum integration (Bentley and Seaback, 2011) to act as SBL facilitators. They also need "guidelines for simulation research, teaching and learning strategies, integrating concepts into simulations and curriculum integration" (Bentley and Seaback, 2011, p.3). Knowledge of role play and acting (Reid-Searl et al., 2011), simulation technology (Keskitalo, 2011) and debriefing techniques (Cant and Cooper, 2012) were identified as necessary components of training as well as familiarity with different simulation methods, e.g. virtual reality, second life (Bentley and Seaback, 2011). Other pre-requisites included understanding interprofessional collaboration in health care in order to contribute meaningfully to interprofessional simulation (Bentley and Seaback, 2011) and nursing knowledge combined with clinical experience (Keskitalo et al., 2011).

*Preparation for Skills and Behavioral Competence*

The preferred strategy for developing skills was practical training with feedback from simulation experts (Anderson et al., 2012; Bentley and Seaback, 2011). Preparation needed to provide practice in scenario writing related to different clinical contexts, as well as scheduling, and operating and troubleshooting equipment, (Bentley and Seaback, 2011). Debriefing and evaluation skills (Bentley and Seaback, 2011; Cant and Cooper, 2012), acting and facilitating skills (Keskitalo et al., 2011, Reid-Searl et al., 2011) and skills to apply simulation pedagogy in practice (Kaakinen and Arwood, 2009), including practical training as well as hands-on experience ideally provided during planned interactive workshops (Bentley and Seaback, 2011).

*Preparation to Develop Comportment*

Three articles (Bentley and Seaback, 2011; Keskitalo, 2011; Keskitalo et al., 2011) gave attention to how comportment might be developed. Bentley and Seaback (2011) suggested analyzing, discussing and

reflecting on the legal and ethical issues in clinical scenarios help to develop these skills. Teachers also needed opportunities to critically reflect on their portrayal of self in the simulation context in recognition of being judged against student expectations of clinical expertise and professional attitudes. Other attributes such as student centeredness, open-mindedness and desire to learn emerged (Keskitalo et al., 2011) but little detail was provided about how these might be developed other than through supervised practice with feedback.

## Discussion

What is evident from this review is that SBL and its facilitation is complex and draws on a wide-ranging skill set. There were no specific ethical problems in this review. The validity of the study was obtained by describing the data selection and evaluation process in detail and using several researchers as well as a consensus workshop in the analysis process.

Nurse educators, if they are to effectively use SBL, require a far broader range of competencies than those just associated with designing, running and debriefing. They need to draw on extensive knowledge, behaviors, skills and demonstrate comportment acquired from both nursing and education. This review has identified that the integrating scope of SBL demands a raft of competencies and attributes to determine its success. For example, most educators of nursing would not have envisaged mastering the operation of high-fidelity equipment as part of the skill set of an educator. The ability to resolve technical malfunctions was particularly valued by students. Along with the expectation that effective SBL required nurse educators to manage complex group dynamics, create authentic contexts within artificial environments, utilise diverse resources and integrate this way of learning into existing curricula.

From this review, it is clearly evident that effective SBL demands a multiskilled educator. What is perhaps the most interesting finding is that effective educators demonstrate attributes this review labeled as "comportment." Comportment appears to be a multifaceted concept yet seemingly important as it aggregates a range of attributes such as bringing theory to life through creative use of a priori clinical knowledge and experience through action and interactions, ability to maintain an emotionally safe learning environment, acting as a professional role model, etc. Central to comportment is the ability to establish authenticity in what remains an artificial situation. No matter how technically advanced the equipment, SBL remains a representation of real clinical practice. The effective SBL educator is able to bring the "kit" and context to life by integrating the real and the imagined through thoughtful design, presencing, technical and pedagogical skills to facilitate student learning and facilitative purposeful debriefing.

## Conclusion

This review builds upon the developing body of knowledge in relation to SBL and has identified competencies that nurse educators require to facilitate this learning strategy as an integral part of nursing curricula. This review found that the competencies extracted from the identified publications could be categorized into knowledge, skills and behaviors and comportment. To keep pace with the technological developments and diversity of SBL techniques and equipment, educators could benefit from the preliminary competency framework described in this paper. This framework is currently undergoing extensive testing and evaluation as part of an EU-funded project to assess the completeness of the model for SBL nurse educator development.

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