Roskilde University

Into the black box of learning in simulation debriefing

A qualitative research study

Frandsen, Anne; Lehn-Christiansen, Sine

Published in:
Nurse Education Today

DOI:
10.1016/j.nedt.2020.104373

Publication date:
2020

Document Version
Peer reviewed version

Citation for published version (APA):
Frandsen, A., & Lehn-Christiansen, S. (2020). Into the black box of learning in simulation debriefing: A qualitative research study. *Nurse Education Today*, *88*, Article 104373.
https://doi.org/10.1016/j.nedt.2020.104373

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy
If you believe that this document breaches copyright please contact rucforsk@kb.dk providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 04. Dec. 2025

Into the black box of learning in simulation debriefing

Anne Frandsen & Sine Lehn-Christiansen

Abstract

Background: Simulated learning activities are on the rise worldwide. Debriefing is viewed as a central element in simulated learning to enhance learning. Still, the question of how students learn in debriefing is underexplored. *Aim, design and method*: The paper offers a contribution to the academy to better understand debriefing by presenting an in-depth, qualitative analysis of the practice of debriefing, carried out with 40 first-year nursing students (n=40) in relation to roleplay simulation, training in clinical decision-making and patient involvement. The simulation sessions were carried out at a university hospital in Copenhagen, Denmark during clinical practice periods. *Findings:* Using theoretical conceptualizations from learning theorist Knud Illeris as sensitizing concepts, the paper points to the emergence of intended as well as unintended learning processes. In addition, it highlights the importance of focusing on facilitators' empowering as well as disempowering impact on students' motivation to engage in debriefing learning processes. An important finding is that the curricular overload leads to a prioritization of learning outcome related to natural science at the expense of "softer" competencies, e.g. patient involvement. The analysis also finds that students' motivation to process their real-life clinical experiences tends to be neglected. The *conclusion* thus points to a profound dilemma, unidentified in the literature, of learning ambitions in debriefing: the tension between attaining the formal learning objective and thus facilitating a tightly structured and focused debriefing on the one side, and the wish to develop critical and independent thinking on the other.

Keywords:

Simulation training, nursing students, simulation debriefing, qualitative research

Introduction

Simulated teaching activities are on the rise worldwide. Simulation is used in nursing education to develop clinical skills and competences like clinical judgement, clinical decision-making and clinical leadership (Jeffries, 2005; Sharpnack et al., 2013). Often simulation is used to advance competences in acute and complex clinical situations, in which both technical and non-technical skills are needed (Abelsson and Bisholt, 2017; Lavoie et al., 2015). A systematic umbrella review of the impact evidence of simulation-based education for nursing students finds that simulation improves students' self-efficacy, confidence and/or critical thinking skills (Cant and Cooper, 2017).

ACCEPTED PRE-PRESS VERSION

In general, debriefing is viewed as a central element in learning that utilized simulation as a means to enhance learning outcome of the simulation itself (Garden et al., 2015; Johnston et al., 2017; Levett-Jones and Lapkin, 2014; Rutherford-Hemming et al., 2015; Zigmont et al., 2011a, 2011b).

Despite much effort in developing evidence and best practices of simulation and debriefing methods, knowledge of the learning processes taking place in debriefing is lacking. Considering the debriefing process as a "black box", referring to the fact, that little is known about the actual practice and how it affects learning processes. By exploring the "black box" of learning processes taking place in simulation debriefing practice, this paper provides new insights into debriefing as a method of enhancing nursing students' clinical competencies.

Background

The existing research into debriefing can be divided into four thematic foci: 1) effects of debriefing, 2) methods and structure, 3) facilitator competencies and 4) user perspectives. The themes are often interrelated, and studies therefor often relate to more than one theme.

Effects of debriefing

Debriefing is recognized to be a key element for students' critical reflection and learning outcome of the simulation activity (Rutherford-Hemming et al., 2015; Zigmont et al., 2011a, 2011b). Hull et al. document the effects and quality of simulation debriefing (Hull et al., 2017) by examining expert debriefing evaluators, facilitators' and students' perception of the quality of an interdisciplinary, cross-sectional simulation debriefing. The study shows that the facilitators rated quality to be higher than both the expert evaluators and the learners, thus pointing to the potential bias in rating one's own professional practice. The study recommends regular external evaluation (Hull et al., 2017). This finding is contradicted by Saylor et al., who find no significant difference between the evaluators' and facilitators' response when testing a peer assessment debriefing instrument (PADI) (Saylor et al., 2016). A systematic review (Levett-Jones and Lapkin, 2014) aimed to identify and synthesize the best available evidence for the most effective debriefing, pointing to statistically significant improvement pre-test to post-test in performance of technical and non-technical skills. The results in this review support the conclusion that debriefing is an important component of simulation regardless of the approach used.

Debriefing methods and structure

The second prevailing research theme focuses on exploring, developing and documenting the effect of different methods and approaches to debriefing. Johnston et al. (2017) explored the importance of the debriefing structure with the aim of identifying the approach that supports nursing students in transferring learning from the simulation setting to clinical practice. In line with Abelson and Bisholt (2017), they emphasize the need to let debriefing be guided by a pre-determined structure. Reierson et al. (2017)

ACCEPTED PRE-PRESS VERSION

examined key attributes like feedback, modes of reflection and the establishment of psychological safety. The study found that the implementation of a new observation tool, describing scenario-related correct nursing interventions and learning outcomes, changed learners' focus from emotional aspects to cognitive reflections when describing and assessing their actions. They concluded that the right observation tool alters observers' feedback from a limited to a comprehensive and more specific feedback. The role of the facilitator also changed from orchestrating and commenting on student feedback to providing space for student feedback (Reierson et al., 2017). Reed (2015) compared different types of debriefing elements: discussion, or discussion followed by journaling, or blogging, and finds that students prefer debriefing by discussion only (Reed, 2015).

Ali and Miller (2018) compared video-assisted debriefing (VAD) to verbal debriefing by performing an integrative review to appraise and synthesize the best available evidence about VAD during high-fidelity simulation. The studies revealed no current evidence to support the statement that VAD is the gold standard (Ali and Miller, 2018). Supporting this result, Levett-Jones and Lapkin found that means of video playback made no difference in outcome (Levett-Jones and Lapkin, 2014).

Despite the differences in results related to different methods and approaches to debriefing, research generally agrees on a preference for structured debriefing models over less-structured models. A quasi-experimental study by Forneris et al. (2015) found that nursing students participating in a structured debriefing scored significantly higher in their clinical reasoning compared to nursing students who participated in a loosely structured debriefing (Forneris et al., 2015).

User perspectives

A trend in the existing literature is to base evaluation on users' (learners' and facilitators') experience of participating in debriefing activities. Zigmont et al. (2011a) addressed learners' motivation. The study concluded that for debriefing to be successful, it should pose an adequate challenge, be based on learning objectives that are practical, useful for the individual, and relevant to practice. To establish a safe learning environment, goals of self-reflection and rules for participation in the scenarios should be articulated to maintain the confidentiality of individual performance and group discussions. Ali and Miller (2018) and Waznonis (2016) explored teachers' perception of the efficiency of debriefing and students' learning outcome. The latter pointed to the idea that prior personal knowledge and emotions of the participants play a significant role in the debriefing session, thus highlighting the uniqueness of each debriefing session (Waznonis, 2016).

Facilitator competencies

The fourth theme in the literature relates to the competencies of the facilitator, whose contribution and ability to facilitate good and effective learning is emphasized (Fey and Jenkins, 2015; Garden et al., 2015;

ACCEPTED PRE-PRESS VERSION

Krogh et al., 2016; Reierson et al., 2017). Fey and Jenkins argued for the importance of facilitators' ability to structure debriefing discussions and use specific techniques to optimize learning. The study recommended an educational program for faculty to ensure facilitators' competencies (Fey and Jenkins, 2015). Rutherford-Hemming et al. support this by pointing to the need for competencies to facilitate reflective discussions and to communicate effectively as key elements for ensuring the best possible learning outcome (Rutherford-Hemming et al., 2015). This finding was challenged in a systematic review (Garden et al., 2015), which recommended and further research into the quality of debriefing. Hull et al.(2017) found that overconfidence in facilitators may result in a lack of ability to identify debriefing elements in need of improvement (Hull et al., 2017). Krogh et al.(2016) found expert facilitators to be highly reflective and eager to improve their skills, but less reflective about the conceptual foundations of their debriefing practice, recommending the use of learning theories to validate and challenges debriefing practices (Krogh et al., 2016). Both studies agree that facilitators need an external perspective to ensure continual qualitative improvement among facilitators.

Debriefing: A research field in need of practice studies

As illustrated, simulation debriefing is an international research field that covers many aspects of debriefing as an educational tool with the potential to contribute important nursing competencies to pre- and post-graduate nurses. Across the prevailing themes, the field of research is characterized by an ambition to establish evidence of debriefing's efficiency and to identify/implement best practices.

We found it to be a trend that existing research is produced based on data collected *outside* the debriefing practice itself, e.g. using follow-up questionnaires for learners and facilitators (Fey and Jenkins, 2015), through interviews (Krogh et al., 2016; Waznonis, 2016) or by different attempts to measure the learning outcome (Saylor et al., 2016). Despite the growing number of studies, we agree with Reierson et al. (2017) and Fey and Jenkins (2015) when they identify a need for in-depth studies of debriefing practices (Fey and Jenkins, 2015; Saylor, J. et al., 2016). It is our observation that a preoccupation with efficiency and best practices somewhat overshadows more critical inquiries into the learning processes taking place in debriefing sessions. An exception to this trend is Abelsson and Bisholt (Abelsson and Bisholt, 2017), who conducted observational studies of simulation and debriefing activities. In this study, data was collected by participant observation with field notes during simulation sessions in acute care nursing with third-year nursing students, followed by focus group interviews. The findings pointed out the need for space for reflection, both on the knowledge required and on the emotional reaction. Another example is Husebø (2013), who explored the depth of reflection expressed in questions asked by facilitators and responses from students in post-simulation debriefing. The findings were that it is necessary for the debriefers to consider what kind of questions they ask to promote deeper reflection, and how to structure debriefing.

ACCEPTED PRE-PRESS VERSION

However, the question of what happens in the debriefing process, and how it affects students' learning outcome, is highly underexplored.

Method

The paper is part of a research and development project that aims to develop educational methods to strengthen nursing students' clinical competencies (xxx author reference) situated at Copenhagen University Hospital. A project class of forty nurse students received additional teaching in low-fidelity, role-play simulation-scenarios through the entire course of their 3.5-year education (2016-2019). Simulation-activities were facilitated by a team of six to eight clinical teachers with simulation-facilitator training. A three-step approach to debriefing including defusing, discovering and deepening, suggested by Zigmont et al. (2011a) was used; the team developed scenarios with the aim to ensure progression and stringency in carrying out scenarios and debriefing (Zigmont et al., 2011a).

In this paper, we analyze data from eight debriefing sessions. Forty first-year nursing students (n = 40) took part, divided into small groups of between five and eight students each. Eight paired facilitators took part. Debriefing sessions lasted for 30 minutes. They were video-recorded and transcribed by the facilitators, one by each following a transcription manual. Transcripts were audio checked by first author. They included notes on body language. All students consented to take part. Names were changed to ensure anonymity.

The scenarios that preceded the debriefings were aimed at developing students' ability to perform clinical assessment and decision-making using the ABCDE approach to determine basic physiological values (Thim et al., 2012) and SBAR communication to ensure quality and patient safety in inter-professional communication (Yu and Kang, 2017), and their ability to ensure patient involvement. Two students acted as nurses and one student played a patient suffering respiratory problems due to chronic lung disease. The other students observed the simulation and all students took part in the debriefing session.

Analytical approach

The analysis was carried out in two steps, following the analytical approach outlined by Copland et al. (2015) in their approach to linguistic ethnography. This approach emphasizes the need to be open to the data, to identify "rich points". In our case, rich points were data sections that stood out as unusual in the way that they were surprising, highly interesting or proved difficult to understand (Copland et al., 2015).

Though acknowledging that the analysis of interactional data is not linear, the process entailed two distinctive steps. The first was performed by the entire team of facilitators, while second one was carried out by the authors[i]. The first step was carried out in two workshops following the teaching sessions. The rich points were interpreted collectively and categorized into two broadly defined themes. The first theme

ACCEPTED PRE-PRESS VERSION

was the large degree of diversity in the facilitators' approach to debriefing. This finding came as a surprise because of the teams' continuous focus on structure and emphasis on the importance of approaching the debriefing session in terms of three clearly defined, separate phases (Zigmont et al., 2011a). The second theme was students' lack of engagement, e.g. by verbally withdrawing from the interaction and how it affected the debriefing session.

In order to move the analysis further, authors decided to continue analysis by taking an abductive approach in order to understand how these findings were connected to the question of learning. The aim was to develop a new understanding and further theoretical elaboration of the findings from the initial analysis. We chose the theoretical conceptualization of learning from learning theorist Knud Illeris (Illeris, 2018), whose approach to learning worked as sensitizing concepts in the analysis (Copland et al., 2015).

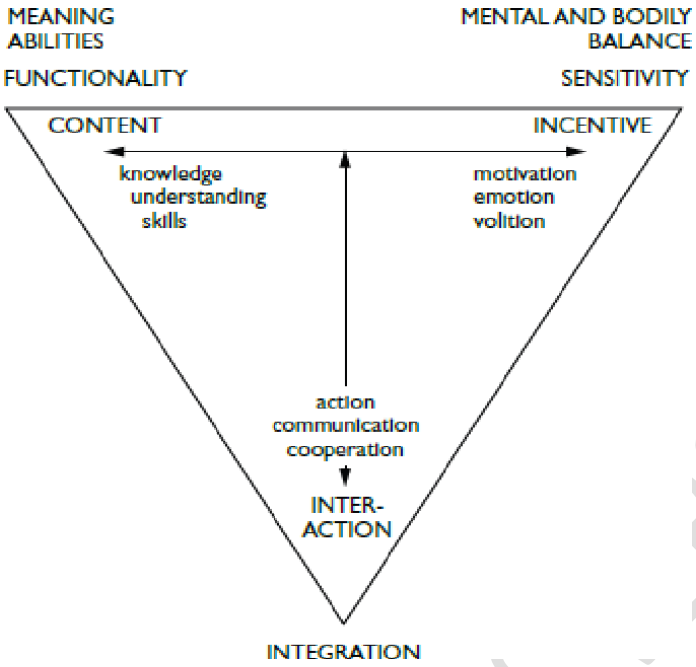
Sensitizing concepts of learning

Danish learning theorist Knud Illeris has developed a theory of learning that is known and used within nursing education and research worldwide (Bergström, 2010; Ewertsson et al., 2017; Kantar, 2012; Manninen et al., 2015; Torunn Bjørk et al., 2013). Illeris defines learning as *"any process that in living organisms leads to permanent capacity change and which is not solely due to biological maturation or aging"* (Illeris, 2018)). Learning thus happens both intentionally and unintentionally and can involve multiple defense mechanisms that hinder the intended learning outcome. These processes are illustrated in Figure 1 below.

Figure 1

Figure 1. The three dimensions of learning and competence development and the fundamental processes of learning (Illeris, 2018, p. 4)

ACCEPTED PRE-PRESS VERSION



In Illeris's view, learning involves the integration of two different processes: an external process of interaction and an internal psychological learning process. These processes are shown as two double arrows. The first double arrow illustrates the internal interplay between content and the necessary mental energy or incentive to run the inner learning process. The other double arrow illustrates the interplay between the learner and the environment (Illeris, 2018). Illeris depicts learning as the interplay among a content dimension, the incentive of the learner and the interactional dynamics in the learning situation. It is the incentive that provides and directs the mental energy needed for learning to take place, and the interaction that provides the impulse initiating the learning process (Illeris, 2018).

Findings

With Illeris's conceptualization of learning and competence development, we have analyzed the reciprocal relationship among content, motivation and interactions as they unfold in the debriefing practice. We have looked for signs that would indicate the type of learning taking place.

Squeezed processes of learning

The analysis shows major differences in the attention paid to formal learning objectives. Even though the data comes from debriefing sessions carried out by a group of co-working facilitators based on the same preparation and identical learning objectives, we find major differences in which of the learning objectives are paid the most attention. In general, the timeframe impedes thorough engagement with more than one

ACCEPTED PRE-PRESS VERSION

learning objective; as a result, the learning objectives compete for attention. We found that the learning objective of ABCDE, rooted in natural science, dominates the learning process at the expense of the objective related to the "softer" competence of patient involvement.

Table 1 shows two examples of debriefing interactions related to the learning goal of ABCDE. We will use them to illustrate our findings regarding the creation of a safe learning space.

Table 1

Table 1. Empirical examples of debriefing interaction with focus on measurement of patient's circulation/blood pressure	
Example 1A	Example 1B
Facilitator: Let's proceed to C. Student 2: Circulation. Facilitator: Circulation, yes. Student 2: That's blood pressure. Facilitator: Yes, what was it? Student 3: The pulse, did we check that? Student 2: Yes, with the saturation gage. Facilitator: That's right. So what did these values say? Student 2: Blood pressure was OK, normal, 115/80. Facilitator: What about the pulse? Student 2: It was 110, so raised. Student 1: Tt feels... Facilitator: Exactly, yes. Which clinical signs could you observe related to blood pressure and circulation? Student 5: They were about to get the patient in an upright position, then you could measure the blood pressure again. Maybe it had fallen?	Facilitator B: So you checked the respiration frequency. Students B and C: Yes. Facilitator B: You checked the saturation. What more did you do? Pause Facilitator B: What more did you do? Addresses student A Facilitator B: I would like to hear… you had such good considerations during the scenario related to oxygen and analgesics. I would like to hear some more about that... I wondered from where you have that knowledge? Pause Student C: You see, the saturation was low, but on the other hand it was not, not surprisingly low because of the pneumonia, and when you have pneumonia, you have mucus in the lungs. Facilitator B: Exactly, you did a really good assessment at that point, I think. Student C: And then there was the analgesics, and if you have a high respiratory frequency, then... Facilitator B: Yes…

ACCEPTED PRE-PRESS VERSION

Facilitator: Yes. What's the technical term for a drop in blood pressure during mobilization of the patient? Student: You should also consider the diuresis. Facilitator: Yes, but right now we are focusing on blood pressure. Nobody answers Facilitator: It is called "orthostatic blood pressure drop." Student 2: Orthostatic...? Debriefer: Yes, orthostatic blood pressure drop or hypotension. Several students: OK, yes. Facilitator: But right now, how is the blood pressure? Student 1: OK. Facilitator: Yes, it was OK. What about the pulse? Student 5: There was a reason why the pulse was raised. She suffered from pneumonia, so the exchange of CO2 wasn't good. That explains why the pulse tries to compensate. Facilitator: Yes, mm... that was circulation. Now we're at D.	Student C: And it can be high, because it hurts, so you can't breathe normally. Facilitator B: Yes- exactly. Student C: and analgesics can help. Facilitator B: Exactly. Student B: I don't remember right now how much pain she had, she also had a fever. Facilitator B: She did. Facilitator B: Which analgesics can help? Student C: Paracetamol. Facilitator B: Paracetamol, yes! So, you had to get a doctor? You said it a couple of times. You said something about "I may not consider that."

ACCEPTED PRE-PRESS VERSION

Example 1A in Table 1 illustrates the tendency of debriefing interaction to resemble an examination; students' answers and observations can be right or wrong, but, there is a major difference in the amount of support and acknowledgement from the facilitator.

The empirical examples show how the debriefing interaction is not power neutral; it comes with certain pre-defined positions, with students positioned as learners and facilitators as teachers. Hence, students depend on the facilitator's guidance and assessment of their answers. The facilitator, on the other hand, is expected to guide the session and to know the correct answers. It is in their power to introduce or reject new themes and to decide the legitimacy of students' contributions. In 1A, the facilitator dismisses the student's suggestion to "consider the diuresis". As a result, the facilitator is left to provide the answer herself, indicating that the students will not risk another incorrect answer.

The facilitators in example 1B in Table 1 make a big effort to give recognition to the students; they position the students as "very knowledgeable" even if their level of knowledge seems comparable to that of their co-students in 1A. As a result, students' motivation is strengthened, and the psychological safety established. This indicates that the psychological safety is not pre-given, but an interactional phenomenon powered by the facilitator.

Motivational forces

As pointed out by Illeris, motivation is a crucial and often underestimated aspect of learning (Illeris, 2006). The analysis shows that there are several different motivations at play in the debriefing sessions. Often motivation connects to formal learning goals, as illustrated by the examples in Table 1.

Table 2 displays two empirical examples, which we will use to elaborate our findings related to content, interaction, motivation and debriefing learning. As illustrated by example 2A, formal learning objectives are not the only guiding principle of the content in the debriefing sessions; here the question of patients' embarrassment is introduced. Facilitators, just like students, bring with them different motivations and they affect the learning process and outcome – often at the expense of the formal learning objectives.

Table 2

Table 2. Empirical examples of debriefing interaction. Motivational forces	
Example 2A	Example 2B
Student 4: I thought about something. Maybe for one's own sake, when you're new… (points to herself) you could talk about something other than what you are doing. Instead of asking the patient "Are you OK?" all the time, you could ask "What do you do in your spare time?" I don't know. It might make it a bit easier. Facilitator 1: Yes, and what effect do you get? What technique do you use? That is correct. Let's talk about the weather, talk about the	Facilitator: (…) her pulse was 110, you got that information. How do you measure the pulse? You have learned that, right? What is the place at the body where you measure the pulse called? Student D shows it with two fingers at the radial artery. Facilitator: Yes, the radial artery, completely right, and how do you measure it?

ACCEPTED PRE-PRESS VERSION

grandchildren. What do you use in that situation, and how do you do it? Student 1: (raises her hand) You lead the patient to think about something else, not to focus on feeling ill. Facilitator 1: That is a good diversion. In this case it was a simple pneumonia, but it could have been a cancer patient, who could not be cured, or it could have been an even worse case, in a situation where the patient needs distraction. Facilitator 2: You could also refer to Lawler, she uses the term "mimifisms", have you read about that? (The students nod). It could for instance have been a patient in a situation in need of help with personal hygiene because of stools in the bed, who says "Oh no, there is stools all over. I feel sorry for you, that you must do the cleaning up." In that situation you could use Lawler and say "Don't think about that, I have done this several times, you should not to worry about that. It is quite normal, when you take antibiotics. In that way you minimize the problem. You acknowledge the problem but minimize it at the same time. Facilitator1: You can use that technique in many situations. It can feel very transboundary to be washed below as an adult. Silence Facilitator 1: Anything else? Facilitator 2: Could the observers tell if ABCDE was carried through?	Student D: With two fingers. Facilitator: And how long a time do you count? Student D: Thirty minutes. Facilitator: Thirty minutes? Everybody laughs. Student D: Forget that (laughs), seconds! Facilitator: Correct. Thirty seconds. You also measured the respiratory frequency. How did you do that? Student D: I measured it for 30 seconds. Facilitator: Yes, is that the correct way to measure it? Maybe you have learnt it like that, but the correct way to measure the respiratory frequency (RF) is to do it for one minute. Student D: Out here, she said that we should measure it for 30 seconds, and the nurse in the clinic said the same. Facilitator: Maybe it is done like that, but to do it the correct way, it must be measured for one minute, it can change quit a lot. Student C: I measured it in 15 seconds today Facilitator: Yes, that is the short version, many health professionals measure it like that, but the correct way is to measure for one minute, because it can change a lot. If you only measure over 15 seconds, maybe the patient breathes heavily the next 15 seconds. Which value is the normal RF?

ACCEPTED PRE-PRESS VERSION

Clinical experience and insecurity as motivational drivers

The examples in Table 2 also show how students bring in their own motivations, which often arise from their clinical experience. Example 2B shows a (somewhat overlooked?) motivational force of nursing students: their experience of differences in procedural activities in clinical practice and how these often differ from what is taught in class, e.g. the procedure for measuring the pulse. The facilitator provides the students with the correct procedure, but the question of why these differences appear remains unexplored and the students' questioning is silenced – perhaps at the risk of the unintended learning that critical reflections over clinical practice are not relevant or important.

Examples 2A and 2B thus illustrate the trend that scenario and debriefing participation bring out students' preoccupation with their real-life experiences of clinical practice. Often it is a bodily and emotionally rooted motivation. In example 2A, Student 4 talks about what she could say that could decrease her anxiety at being confronted with [real] patients ("you could talk about something other than what you are doing"). The facilitator does not seem to notice that the student is talking about distracting the patient out of concern for herself; the question is reframed to patients' potential need of distraction from their situation and to Lawler's conceptualization of mimifisms. Mimifisms is a strategy of trying to minimize the issues perceived by the patient as embarrassing in a situation in order to decrease embarrassment and calming the patient, e.g. by verbally downplaying the matter. (Lawler, 2006).

Discussion

In many aspects, the findings of this paper are a continuation of existing research into debriefing. The importance of facilitators' skill (Fey and Jenkins, 2015), in particular, is supported by the results of this study. As found by Krogh et al. (2016), our study also points to the importance of facilitators' contributions the interaction. We explore motivation, and Krogh and colleagues point to the impact of values (Krogh et al., 2016).

By pointing to the finding that facilitators' as well as students' motivations affect the learning process and outcome, the paper supports Johnston et al. (2017) and Abelsson and Bisholt (2017), who find that unstructured debriefing leads to unpredictable learning outcomes. What our study adds is the finding that a tightly structured debriefing may fit some learning processes but inhibit others, as adhering to a pre-determined structure may lead to student demotivation and lower their self-esteem. A focus on structure risks being at the expense of supporting the students in developing a capacity for independent and critical reflection, which is one of the generic learning objectives connected to simulated learning activities pointed out by Rutherford-Hemming et al. (2015).

ACCEPTED PRE-PRESS VERSION

Strengths and limitations of the study

This paper differs from the general trend in research on debriefing by building on ethnographic data that allows a close analysis of the interaction taking place between students and facilitators. It strengthens the findings that there are based on practice rather than on participants' account of this practice. However, the focus on debriefing practices does not provide the opportunity to determine whether or to what extent students' learning outcome will improve their performance or understanding of clinical practice. However, this limitation is not a product of this study, but grounded in a wider scientific challenge of learning as a study object. It is one of the strengths of this study that the analysis is based on a theory of learning.

Conclusion

By exploring the practice of debriefing, the paper illustrates the fundamental interactional nature of debriefing learning processes. It illustrates the profound power of the facilitator to initiate and support, but also to hinder and silence students' learning. New students depend on being encouraged to share their scarce clinical experience and nascent professional reflections and to overcome their anxiety of simulation itself.

Debriefing tends to be an overloaded learning space. An important finding is that the overload seems to result in facilitators' prioritization of learning outcome related to natural science over "softer" competencies, in our case patient involvement. Often the formal learning goals also compete with informal learning needs introduced by students or by facilitators. Informal learning needs are found to be expressions of motivation, but often do not fit the formal learning objectives that are already competing for attention. Students' motivation to process their real-life clinical experiences tends to be neglected at the expense of curricular fact-like learning. The conclusion thus points to a profound dilemma, unidentified in the literature. of the learning aims in debriefing: the tension between achieving the formal learning objective and thus facilitating a tightly structured and focused debriefing practice on the one side, and the wish to develop critical and independent thinking on the other.

Source of funding:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest

The authors declare that there is no conflict of interest.

References

Abelsson, A., Bisholt, B., 2017. Nurse students learning acute care by simulation – Focus on observation and debriefing. Nurse Educ. Pract. 24, 6–13. https://doi.org/10.1016/j.nepr.2017.03.001

ACCEPTED PRE-PRESS VERSION

Ali, A.A., Miller, E.T., 2018. Effectiveness of Video-Assisted Debriefing in Health Education: An Integrative Review. J. Nurs. Educ. 57, 14–20. https://doi.org/10.3928/01484834-20180102-04

Bergström, P., 2010. Learning in Higher Education : Perspectives on the Student-Teacher Relationship. Int. Rev. Res. Open Distance Learn. 11, 33–48.

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. https://doi.org/10.1016/j.nedt.2016.11.015

Copland, F., Creese, A., Rock, F., Shaw, S., 2015. Linguistic ethnography : Collecting, analysing and presenting data.

Ewertsson, M., Bagga-Gupta, S., Blomberg, K., 2017. Clinical education Nursing students' socialisation into practical skills. Nurse Educ. Pract. 27, 157–164. https://doi.org/10.1016/j.nepr.2017.09.004

Fey, M.K., Jenkins, L.S., 2015. Debriefing Practices in Nursing Education Programs: Results from a National Study. Nurs. Educ. Perspect. 36, 361–366. https://doi.org/10.5480/14-1520

Forneris, S.G., Neal, D.O., Tiffany, J., Kuehn, M.B., Meyer, H.M., Blazovich, L.M., Holland, A.E., Smerillo, M., 2015. Enhancing Clinical Reasoning Through Simulation Debriefing: A Multisite Study. Nurs. Educ. Perspect. 36, 304–310. https://doi.org/10.5480/15-1672

Garden, A.L., Le Fevre, D.M., Waddington, H.L., Weller, J.M., 2015. Debriefing after simulation-based non-technical skill training in healthcare: A systematic review of effective practice. Anaesth. Intensive Care 43, 300–308.

Hull, L., Russ, S., Ahmed, M., Sevdalis, N., Birnbach, D.J., 2017. Quality of interdisciplinary postsimulation debriefing: 360° evaluation. BMJ Simul. Technol. Enhanc. Learn. 3, 9–16. https://doi.org/10.1136/bmjstel-2016-000125

Husebø, S.E., Dieckmann, P., Rystedt, H., Søreide, E., Friberg, F., 2013. The relationship between facilitators' questions and the level of reflection in postsimulation debriefing. Simul. Healthc. 8, 135–142. https://doi.org/10.1097/SIH.0b013e31827cbb5c

Illeris, K., 2018. A comprehensive understanding of human learning, in: Contemporary Theories of Learning : Learning Theorists... in Their Own Words. Routledge, Oxon and New York, pp. 1–15.

Illeris, K., 2006. Læring. Samfundslitteratur, Frederiksberg.

ACCEPTED PRE-PRESS VERSION

Jeffries, P., 2005.: A framework for Designing, implementing and evaluation simulation as a strategi in nursing. Nurs. Educ. Perspect. 26.

Johnston, S., Coyer, F., Nash, R., 2017. Simulation debriefing based on principles of transfer of learning: A pilot study. Nurse Educ. Pract. 26, 102–108. https://doi.org/10.1016/j.nepr.2017.08.002

Kantar, L.D., 2012. Clinical practice of new nurse graduates in Lebanon: Challenges and perspectives through the eyes of preceptors. J. Contin. Educ. Nurs. 43, 518–528. https://doi.org/10.3928/00220124-20120801-62

Krogh, K., Bearman, M., Nestel, D., 2016. "Thinking on your feet"—a qualitative study of debriefing practice. Adv. Simul. 1, 12. https://doi.org/10.1186/s41077-016-0011-4

Lavoie, P., Pepin, J., Cossette, S., 2015. Development of a post-simulation debriefing intervention to prepare nurses and nursing students to care for deteriorating patients. Nurse Educ. Pract. 15, 181–191. https://doi.org/10.1016/j.nepr.2015.01.006

Lawler, J., 2006. Behind the screens : Nursing, somology, and the problem of the body. Sydney University Press, Sydney.

Levett-Jones, T., Lapkin, S., 2014. A systematic review of the effectiveness of simulation debriefing in health professional education. Nurse Educ. Today 34, e58–e63. https://doi.org/10.1016/j.nedt.2013.09.020

Manninen, K., Henriksson, E.W., Scheja, M., Silén, C., 2015. Supervisors' pedagogical role at a clinical education ward - an ethnographic study. BMC Nurs. 14, 1–8. https://doi.org/10.1186/s12912-015-0106-6

Reed, S.J., 2015. Written debriefing: Evaluating the impact of the addition of a written component when debriefing simulations. Nurse Educ. Pract. 15, 543–548. https://doi.org/10.1016/j.nepr.2015.07.011

Reierson, I.Å., Haukedal, T.A., Hedeman, H., Bjørk, I.T., 2017. Structured debriefing: What difference does it make? Nurse Educ. Pract. 25, 104–110. https://doi.org/10.1016/j.nepr.2017.04.013

Rutherford-Hemming, T., Lioce, L., Durham, C.F., 2015. Implementing the standards of best practice for simulation. Nurse Educ. 40, 96–100. https://doi.org/10.1097/NNE.0000000000000115

Saylor PhD, RN, J.L., Wainwright PT, PhD, S.F., Herge OTD, OTR/L, E.A., Pohlig PhD, R.T., 2016. Peer-Assessment Debriefing Instrument (PADI): Assessing Faculty Effectiveness in Simulation Education. J. Allied Health 45, E27–E30.

ACCEPTED PRE-PRESS VERSION

Sharpnack, P.A., Goliat, L., Rogers, K., 2013. Using standardized patients to teach leader-ship competencies. Clin. Simul. Nurs. 9, 95–102. https://doi.org/10.1016/j.ecns.2011.10.001

Thim, T., Vinther, N.H., Grove, E.L., Rohde, C.V., Løfgren, B., 2012. Howe Eisenhart -2009- Standards for Qualitative Research.pdf 117–121. https://doi.org/10.2147/IJGM.S28478

Torunn Bjørk, I., Taien, M., Lene Sarensen, A., 2013. Exploring informal learning among hospital nurses. J. Work. Learn. 25, 426–440. https://doi.org/10.1108/JWL-01-2013-0003

Waznonis, A.R., 2016. Faculty Descriptions of Simulation Debriefing in Traditional Baccalaureate Nursing Programs. Nurs. Educ. Perspect. 37, 262–268. https://doi.org/10.1097/01.NEP.0000000000000065

Yu, M., Kang, K., 2017. Effectiveness of a role-play simulation program involving the SBAR technique: A quasi-experimental study. Nurse Educ. Today 53, 41–47. https://doi.org/10.1016/j.nedt.2017.04.002

Zigmont, J.J., Kappus, L.J., Sudikoff, S.N., 2011a. The 3D Model of Debriefing: Defusing, Discovering, and Deepening. Semin. Perinatol. 35, 52–58. https://doi.org/10.1053/j.semperi.2011.01.003

Zigmont, J.J., Kappus, L.J., Sudikoff, S.N., 2011b. Theoretical Foundations of Learning Through Simulation. Semin. Perinatol. 35, 47–51. https://doi.org/10.1053/j.semperi.2011.01.002

[i] First author has been involved in designing and facilitating the debriefing sessions. Second author is an external researcher, and did not take part in planning or implementing the SIM-activities.

ACCEPTED PRE-PRESS VERSION