**Featured Article**

# Lived Experience in Simulation: Student Perspectives of Learning From Two Lenses

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**Abstract**

**Background:** This article explores undergraduate nursing students' lived experience of learning during high-fidelity simulation (HFS). Literature is conflicting regarding the learning experience in different roles.

**Method:** An interpretive phenomenological qualitative study was completed to gain a better understanding of the lived experience of student learning in HFS. Data collection included both written reflections and semi structures interviews regarding student learning in simulation and factors that affected that learning.

**Results and Conclusions:** A supportive learning environment is a key for learning in HFS. Anxiety and stress can impact student learning, and measures to keep anxiety at optimal levels need to be continual focus in HFS. Observers in this study preferred the observer role and describe it as "pressure off" learning. Doing simulation more often in the program and having an opportunity for a "do-over" in simulation were identified as areas that would enhance student learning.

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Nursing is a practice-based profession and like other professions has adopted the use of simulation as an effective teaching strategy to prepare students for clinical situations (Harder, 2010; Cant & Cooper, 2010). Simulation is most recently defined as "a technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions" (Lopreiato et al., 2016, p. 33). Clinical experiences and specific learning opportunities in practice settings can be serendipitous, whereas a simulated clinical experience (SCE) or immersive simulation can provide specific learning experiences that may or may not present in the clinical setting. Recent studies suggest simulation as an effective replacement up to 50% of clinical hours for nursing students (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014) when educators follow the specific guidelines used in the National Council of State Board of Nursing study. Although the efficacy of simulation has been researched extensively, the student's lived experience while learning in simulation, and whether that differs with role assignment, is less understood.

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# Background

## Observer vs. Active Participant

There are many research studies that have explored the relationship between active participants and observers in simulation pertaining to role assignment. Jeffries and Rizzolo's (2006) seminal work indicated role assignment in simulation did not affect overall student learning outcomes. Since then, numerous studies have investigated learning related to role assignment. Observer's roles have been reported as learning equally but learning differently from active participants (O'Regan, Molloy, Wattterson, & Nestel, 2016; Smith, Klassen, Zimmerman, & Cheng, 2013). Kaplan, Abraham, and Gary (2012) indicated test scores done after debrief were not significantly different between active and observer participants. However, higher levels of realism have been reported by students in an active participant group than observer group (Harder, Ross, & Paul, 2013; Nikendei et al., 2007). This leads to the inference that role assignment results in learning that is not equal in all areas but consistently different. However, learning can occur in both roles.

> **Key Points**
> - Supportive learning environment for students.
> - Student anxiety reduces learning.
> - Redemption round to improve learning.

Harder et al. (2013) focused on the culture of the undergraduate nursing student and their perceived ability to learn in high-fidelity simulation (HFS) based on role assignment. The outcomes of Harder et al's study included the need for greater role clarity of active participants and a student's desire for an active role over that of an observer role. However, Hober and Bonnel (2014) stressed the importance of students in observer roles valuing the opportunity to conceptualize the learning experience, seeing the patient from a larger picture and making connections with team members. Recommendations included framing the observer as a valued team member and using best practices to engage the observer. In these two studies, conflicting results are evident. This leads to questioning the roles as both results were opposite in nature.

Bonnel and Hober (2016) investigated how to optimize observer roles in HFS through self-assessment, peer review and debriefing, and team-focused learning. However, Harder et al. (2013) suggested reducing the numbers of observers in SCEs, whereas other studies addressed the concern to maximize the observer role by providing structured assignments to the observers (Jeffries & Rizzolo, 2006; Smith−Stoner, 2009). Again, these conflicting results indicate a need for further research of role assignment in immersive simulation and a need for a better understanding of the lived experience of student leaning in these roles.

Cordeau (2010) noted "to effectively use clinical simulation in nursing education, it must be understood from the perspective of the nursing students so learning-centered strategies can be implemented to achieve desired outcomes" (p.9). Cordeau investigated the lived experience of novice nursing student in simulation and uncovered themes of perceived anxiety, seeking and imagining, performing in the moment, critiquing the performance, and preparing for nursing practice. Limitations included the possibility of increased anxiety as the simulation was a graded activity.

Najjar, Lyman, and Miehl (2015) investigated the student experience in simulation and concluded the perceived learning by observing others in simulation was "nearly as beneficial" as physically participating in the HFS (p. 6). Pollock and Biles (2016) investigated lived experiences of student learning in immersive simulation. Their findings indicated students were able to take risks to demonstrate capabilities and practice readiness, and simulation was considered a safe place to make mistakes. Limitations included a small sample size.

Limited research done on the student's lived experience of learning in simulation and mixed results of learning based on role assignment has led to this research project. The focus of this research study was to gain a better understanding of student's lived experience of learning in simulation from these two lenses: the active participant and observer role. The research question for this study was: "How do students experience learning in simulation from the perspectives of both an active participant in a nursing role and as an observer?"

# Methodology

In a mid-sized Canadian university second-year Bachelor of Nursing (BN) students (n = 98) were invited to participate in the research project involving a four-hour immersive simulation session with 13 clinical groups of seven to eight students. In lieu of an eight-hour clinical day in the hospital setting, students participated in a four-hour simulation experience involving two different clinical scenarios, each debriefed separately by a team of faculty experienced in simulation. International Nursing Association for Clinical Simulation and Learning standards of best practice in simulation were followed (INACSL Standards Committee, 2016a). Before participation in the simulation, students were provided with patient care summaries of the "patients" they would be caring for in the two scenarios. Student-prepared nursing care plans for both patients were an expectation for participation in the scenarios. The prebrief included an orientation to student expectations, an awareness that the simulation was formative rather than summative and overall set the stage for a psychologically safe learning environment (Rudolph, Raemer, & Simon, 2014).

Before the scenario commencing, a group discussion on the nursing care plans occurred and a taped report set the stage for current hospital situation. One scenario was a very medical-surgical focus, whereas the other had a greater focus on communication skills. High-fidelity manikins were used in both scenarios. Actors took on the role of the patient voice after having participated in a standardized orientation session for their role(s). Role assignments for students rotated when possible between the two scenarios as active participant and observer roles. Active participants engaged directly with the patient in nursing student roles caring for the client as needed. Students were instructed to stay in their role and scope of practice as a student nurse based on their level as second-year nursing students. The expectation would be the same as in clinical when students would call for assistance from a clinical instructor if they were required to complete any skills requiring supervision. Observers viewed the scenario in a separate room via a video screen and given clear instructions regarding their roles. Observer roles included documenting tasks completed by the nurses and identifying elements of teamwork and communication. Ethical approval was obtained from the institution's ethics board before student recruitment. Informed consent was obtained before the simulation commencing.

This interpretive, hermeneutic qualitative study included both written reflections by students collected after simulation regarding their learning experience in simulation and semistructured interviews (see Table 1) to ascertain the lived experience of the student learning. The written reflections from students were collected on a voluntary basis immediately after the final debrief session. The debrief was held immediately after the conclusion of last SCE scenario. Students were asked to describe their learning experience in the active participant or observer role (see Table 1) and resulted in 65% (n = 65) of students providing written reflections of their learning. In addition, semistructured interviews were available for all participants, and interviews were completed within two weeks of the SCE (n = 19). Once again, students described their learning experiences based on the two roles in immersive simulation (see Table 1 for questions used). Interviewed participants chose pseudonyms to maintain confidentiality.

Thematic analysis used van Manen's (2007) phenomenological method with two independent analyses completed by two researchers from the BN faculty with simulation experience. The research question for this study was: "How do students experience learning in simulation from the perspectives of both an active participant in a nursing role and as an observer?"

Transcripts were provided to coresearchers, who independently reviewed the data. Data analysis involved content analysis of data from both the written narratives and semistructured interviews. All data were read line by line for broad themes and emerging patterns. Initial patterns were shared between coresearchers to increase trustworthiness of the analysis. Further refinements were made after these discussions. NVivo (2011) qualitative data analysis software was then used to assist in determining the three main themes: supportive learning environments, student learning in two roles, and student outcomes of learning. Triangulation was enhanced by maintaining an audit and process trail, peer audit, thick description, and methodological coherence (Morse, 2015; Ramsook, 2018).

## Results

### Safe Learning Environment

The first key theme that emerged from the data was the learning environment. Students identified factors that either contributed or detracted from their learning based on the level of safety experienced. Clinical groups participating together in SCE was seen as an area of strength. Julie stated,

> I have a really good supportive clinical group, so it was really good, and they were all really supportive and like, when I was going through the actual experience, it was like, "Oh, this isn't too bad" and then after I felt good.

Students were familiar with each other and therefore more willing to engage and take risks as part of their group. However, this also made it challenging for students to give feedback to peers when mistakes were observed as one student wrote in the narrative, "I don't enjoy picking apart my fellow student's actions." Supportive facilitator approaches were also seen as an area of strength. Regina stated, "Both instructors that I had these last two times

| Table 1 | Semistructured Question Guide |
| --- | --- |
| Method of Inquiry | Questions |
| • Written narrative | • Describe the learning this experience had for you as a nursing student in simulation. |
| | • How was it different in the two roles of observer and active participant? How was it similar? |
| • Semistructured interview | • Describe your perception of learning in simulation in the role of the observer. Active participant. |
| | • What learning has this experience had for you as a nursing student in simulation? |
| | • What contributed to willingness to take risks in the scenario? |
| | • What contributed to your willingness to participate as an observer? |
| | • What could have improved your learning experience as an active participant? Observer? |

were extremely knowledgeable and cultivated really great conversations; very supportive. Yeah, gave constructive criticism in a very positive … made a really … yeah, just a positive experience." Unsupportive or judgmental approaches were identified as a major concern of students and detracted from learning.

Steph described her experience as, I just feel like you get bashed down in simulation more than anything, like you just get told, "You did this wrong, and this wrong and this wrong", and you are like, "okay, sorry can I do it again?" Another identified factor that supported student learning were the ability to request and receive assistance during the SCE when required. Students voiced a preference to have their clinical instructor for this role. Francine stated, "I always like having the support of your instructor, which we don't get in simulation, like you know, your clinical instructor …".

As part of one of the SCEs, an actor who played the voice of the manikin (and part of the Simulation Learning Center team) was invited into the debrief session. Different actors were used for each SCE, but all were trained in a standardized manner. This particular scenario involved a female patient who had a reoccurrence of metastatic breast cancer and a palliative prognosis. Actors who played this voice stayed in character when they joined the debrief session. The manner in which the actors took up the role of the terminally ill patient impacted student learning. Lulu stated,

> I think when the patient came in, like I didn't expect that, an actual patient, I know it wasn't the actual patient, but having someone play the patient and really express what they are going through and being very emotional was actually very nice, you know?

> She had a very sad story and getting to know what was going on with her and what I could have done as a nurse to help her was kind of nice. It was a very … it was a good learning experience with her there.

**Table 2**  Learning Results Active Participant vs. Observer Role

| Active Participant | Observer |
|---|---|
| Learning | |
| - Hands-on learning | - Reflective-type learning |
| - Thinking on feet | - Bird's eye view to enhance learning |
| - Practicing skills in the moment | - Ability to process easier |
| - Increased ability to transfer skills to a clinical setting | - Pressure off learning |
| - Saw learning and as both anxious and exciting. | - Goes beyond learning from other's mistakes |
| - Left with unresolved leaning | |

However, Steph's experience was different as she stated, "And then like, when the lady came in and, the fake lady or whatever, the lady came in and was talking to us and she further made us personally feel like crap about it."

## Student Learning in Two Roles

The second theme that emerged was "student learning in two different roles" of active participant and observer. Learning occurred in both roles, but students described their learning very differently in each role (see Table 2).

### Active Participant

The role of the active participant was preferred by self-identified "hands-on-learners." Student's narratives described their learning in the active participant role as "thinking on their feet" and "practicing skills on the fly." Toni stated, "I like the problem-solving aspect to it, like you just have to think on the spot and you don't really know what will happen, which is like real-life situations and I like that." Students did identify that being an active participant was much more anxiety producing and came with a sense of vulnerability. As one student wrote in their narrative immediately after the SCE, "I found being the participant to be very vulnerable. I felt like I could have been judged in the situation. Although I have a lot of trust in my group, it was still nerve wracking for me." However, active participants also saw value in receiving feedback from their peers about their practice.

One area of concern for the active participants was when they perceived the number of students in the scenario was too many. Julie stated,

> So, when I was the participant, I felt like there were too many of us in the room, so I felt like I didn't have too much of a role while doing it. There was, I think two or three other people with me so they took care …. I was the last one to enter the room, so I was kind of just floating for a bit and there really wasn't really much for me to do because there was already three people crowding around the patient.

Jane agreed and stated, "I feel like, if it was two people going into a simulation, it would be much better. I think more people, especially for me …. I think I would prefer that, like I would actually enjoy simulation more."

### Observers

Observers most often described reflective-type learning by not being directly involved in the scenario. "Watching from the outside," having a "bird's eye view" and "pressure-off learning" were terms used by students in the written narratives. Amanda stated, "I think I did learn more being the observer because I had time to actually process everything in my mind without being in panic, in like the patient's room." Students identified learning by not only observing

mistakes but also an awareness of seeing another student's approach to care. Jaspreet stated, "It gives you a chance to really see how other students handled the situation compared to how you would. It is just kind of reflective, I feel like it is a good reflective kind of thing." Lulu added, "Just watching how the other students did their care just allowed me to self-reflect on what I do as well and how I can care for patients as well, seeing what works for them as well."

## Student Outcomes

The final theme identified was "outcomes of student learning." When students were asked to describe their learning, the benefits of simulation included the ability to coordinate care and work in a team and the opportunity to practice new skills both psychomotor and communication and to pull theory from classroom into the practice area. Written narrative summarized the learning as,

> this experience changed my perspective as a nursing student as it taught me the importance of attending to patient needs and concerns. Being attentive and understanding their stress can help benefit the patient by promoting healing, enhancing their clinical experience, and allowing us as nursing students to reflect on patient care at every level. Being involved in patient care can help us establish, with the patient, what their priorities are.

Other narratives concluded, "it made me more confident in my communication skills" and allowed for "finding confidence in our knowledge that we know."

Anxiety and stress were clearly identified as challenges that could impede learning. Amy stated,

> It is a really high-stress environment, I find, which I guess is beneficial and also maybe not so much because in the middle of it maybe you are feeling so much anxiety that you are not thinking straight, and you are not doing the things you would normally.

Anxiety was less of a concern if kept at appropriate levels. Lulu stated,

> "It was a bit anxious but exciting because, I don't know, it is a new setting, it is a new situation, and it is like a puzzle almost and what can I do to solve this puzzle with this patient, to solve what is going on! Yeah, anxious is what I would say—anxious and exciting."

Being observed by peers and instructors seemed to add to the stress level experience. Jane shared,

> "You are trying so hard to cover your bases because you know people are watching you, you know as much as they stress that it is nonjudgmental, and you are not getting graded or anything, there is still the element of being judged."

Unresolved learning was identified by students who did not feel they did well in the SCE. One narrative stated, "Redemption—we need a redemption round! It is going to haunt me for the rest of my life, I am going to be like this, "Oh my gosh! I messed up in simulation and didn't fix it." Hayley added,

> I would love to go back and implement what we just talked about and stuff like that. It would be almost nice to go and like, totally do a dry run, come back out and talk about what you could have done and then go back in and redo it now you have kind of discussed.

## Limitations

This study has several limitations. First, the study is not generalizable. The aim, however, of qualitative research is not to generalize (Morse, 2016). The timing of the postsimulation interviews could be considered to be a limitation in that participant's memory of the SCE, and the student's learning could be a contributing factor, given the two-week period between the SCE's and the interviews (Willig & Rogers, 2017).

## Discussion and Recommendations

Supportive learning environments were a major concern of students in roles of both being an observer or active participant. Participating in simulation as clinical groups fostered a supportive learning environment. Although students still acknowledged feelings of vulnerability and nervousness, these feelings were reduced as they were with students known to them. Najjar et al. (2015) identified comfort with peer group as a factor influencing anxiety in simulation. However, clinical groups also contributed to feelings of discomfort when criticizing peers. Students indicated having clinical instructors present during the SCE would contribute to the supportive learning environment. This is a current area for discussion within our facilitator meetings.

Faculty facilitators were very important to the learning environment. Some students felt "setup for failure" and judged for their mistakes, whereas others were made aware of their mistakes but felt supported in their learning. Cordeau (2010) identified an association between facilitator debriefing and anxiety regarding self-critique and lack of debriefing experience. Actors used in the scenarios had an impact on student learning. Depending on the way the actors took up their role, actors were described as either contributing to learning or of shaming students for mistakes. Faculty development regarding facilitation and debriefing without judgment are areas identified for improvement. Actors in designated roles, ongoing feedback, and support for consistency in role play are recommended.

Students who preferred the active role in simulation were students who preferred "hands-on learning" or "learning in the moment." Harder et al. (2013) indicated students in more active roles had a higher sense of realism; however, in this study, active participants identified higher levels of anxiety and vulnerability as potential barriers to learning. Non-evaluative, formative simulations were indeed evaluated which is consistent with findings of Nielsen and Harder (2013). Maintaining anxiety at manageable levels with supportive faculty is important for meeting outcomes of SCE and optimizing learning (Cordeau, 2010; Nielsen & Harder, 2013; Shearer, 2016, Pollock & Biles, 2016). This is consistent with Cato's (2013) Comfort stretch panic model in simulation. This model identifies a need to balance the level of anxiety present in simulation to allow learning to occur. Faculty development focusing on building a space of trust for learners and acknowledging student anxiety may have a stronger place in future SCEs. Trust in particular is strengthened by consistent prebrief scripts which address psychological safety, the fiction contract, an outline for the SCE, and time set aside to answer any questions (McDermott, 2016; Shearer, 2016).

Alleviation of initial anxiety using validation of feelings in the debrief proved beneficial (Cordeau, 2010); however, acknowledging anxiety in the prebrief could also be beneficial for establishing a "psychologically safe container for learning" (Rudolf, Raemer & Simon, 2014). Using humor, peer mentors and mindfulness are three strategies that could be implemented to reduce student anxiety (Moscaritolo, 2009). Development of best practices for student preparation has also been identified as an area to be addressed in reducing student anxiety (Shearer, 2016). These same strategies could be used in the prebrief to help control anxiety. In addition, presenting the SCE as having no right or wrong may assist in containing anxiety (Janzen et al., 2016). Anxiety control measures are briefly addressed in the current Simulation Design Standard (INACSL Standards Committee, 2016b). These include the elements of integrity, respect and trust, a standardized orientation to the SCE, and the use of an audio-recorded plan to brief students. Continuous efforts to control student anxiety are proposed to become a part of best practice in simulation (Cordeau, 2010, Nielsen & Harder, 2013; Shearer, 2016, Pollock & Biles, 2016, Cato, 2013).

Students in observer roles describe their learning as "pressure off learning" and reflective in nature. Learning in the observer role went beyond learning from other's mistakes (Bonnel & Hober, 2016) to observe multiple ways of knowing and doing in the role of the nurse. Consistent with the literature, students struggled with giving feedback to peers, especially to fellow clinical students. Students could benefit from basic peer review guidance from facilitators to gain skills in communication and professional review roles (Burgess, Roberts, Black, & Mellis, 2013). Reducing number of students in observer roles was a recent recommendation for simulation (Harder et al., 2013). However, our data indicated whether observers were engaged with clear roles as observers and learning was less stressful and possibly preferred over the active participant role. Providing guided observer records has been shown to benefits observers for learning (Schaar, Ostendorf, & Kinner, 2013) and encouraging student preparation for simulation (Hober & Bonnel, 2014; Shearer, 2016) could be a consistent expectation amongst facilitators to maximize the observer role.

Skill mastery, communication, engaging in teamwork, and coordinating care are all well-documented in the literature as benefits to active participation in simulation (Garrett, MacPhee, & Jackson, 2010; Hober & Bonnel, 2014). These contribute to an overall increased level of confidence in the clinical area (Hober & Bonnel, 2014; Najjar, et al., 2015) and consistent with the results of this study. Future plans include the expansion of both the number of SCEs and the variety of experiences in our undergraduate program.

Student numbers engaging in immersive simulation need to be more consistent between student groups. Reducing numbers of active participants is recommended in simulations without the need for multiple roles such as a medication or documentation nurses when SCEs focus mostly on communication skills. Clear role definition would also be beneficial when numerous students are involved in the SCE (Harder et al., 2013). The level of instructor support during the scenario was unclear and often unused. The inclusion of clinical instructors during SCEs is a possibility for clinical support as this may contribute to increased levels of realism (2013). Student recommendations for future simulation included the opportunity to do more simulation and build capacity for learning. This recommendation is consistent with the findings of lack of simulation experience which contributed to student anxiety (Beischel, 2013).

Another student recommendation includes the opportunity to redo the simulation. A "redemption round" to consolidate learning was clearly identified by students. Students indicated a need to immediately implement feedback received in the debrief session of the SCE and "do over" the experience.

Furthermore, student-identified perceptions of performance in previous SCEs affected subsequent simulation experiences throughout the BN program. An innovative approach being used in the medical community for facilitating learning in code blue scenarios includes using rapid cycle deliberate practice (RCDP) (Hunt et al., 2014). The RCDP process involves multiple attempts at the scenario with shortened debrief events so that learners may improve and learn certain aspects associated with scenarios. RCDP focuses on skill acquisition and teamwork, with improved knowledge, skills, and communication with pediatric residents (2014). This innovation requires consideration to provide supported learning in simulation.

## Conclusion

This phenomenological study has revealed important findings of students' lived experience in simulation. A supportive learning environment was key for student's learning regardless of role assignment. Areas identified to improve the level of support in simulation included individual facilitation and debriefing practices by faculty, consistency among actors involved in simulation, and the inclusion of clinical instructors as part of the SCE. In addition, anxiety and stress were identified as areas that could detract from learning. Furthermore, although previous research favored the active participant for learning and recommended reducing the number of observers (Harder et al., 2013), students in this study tended to prefer an observer role and identified the environment as an observer as less stressful and allowed a reflective-type learning to occur. Too many students in the SCE detracted from learning and the ability for students to perform their roles. In the future, it is recommended a maximum of two to three active participants engage in the SCE. In addition, clear guidance of roles for observers would optimize their role and consistent guidelines for preparation would set students up for success in simulation. Finally, to improve the learning experience, students unanimously identified the need for more simulation experiences and the opportunity to redo simulations.

## Acknowledgment

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