

Contextualizing Learning in a Resuscitation Simulation Experience: A Supportive Approach to Simulation for Novice Learners

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The authors would like to thank all participants and Simoné Angus, Katherine Janzen, Giuliana Harvey and Yiqun (Jeffrey) Lin for their contributions to this study. | Nous remercions toutes les personnes qui ont participé à cette étude, ainsi que Simoné Angus, Katherine Janzen, Giuliana Harvey et Yiqun (Jeffrey) Lin pour leurs contributions à cette étude.

Health care simulation is increasingly being used as a teaching strategy that provides learners an opportunity to enhance knowledge, skills, and attitudes, especially during a critical event (Dreifuerst, 2012; Fey et al., 2014). Due to inherent challenges with real-life experience of resuscitation events, a common simulation for health care professionals includes cardiopulmonary resuscitation (CPR) in a “code blue” scenario. Task trainers designed to train key elements of a skill (Lioce, 2020, p. 54) are traditionally used for annual CPR recertifications that focus on psychomotor skills. However, annual recertifications like these do not prepare learners adequately for resuscitation events in the clinical setting, which require teamwork and communication skills (Brindley & Reynolds, 2011; Hunt, 2008; Jones et al., 2015). Novice learners have described resuscitation scenarios as inherently anxiety producing; if student anxiety was too high, it interfered with learning objectives of the simulation-based experience (SBE; Shearer, 2016).

Therefore, teaching strategies, including a supportive approach, should be explored and include ways to contextualize the learning for the novice learner. Deliberate practice as a teaching strategy is used to support learners in reaching identified goals, with immediate feedback on performance and repetition until skill mastery is obtained (Ericsson, 2008). Deliberate practice has been found to be beneficial with undergraduate nurses for skill acquisition (Gonzales & Kardong-Edgre, 2017). Rapid cycle deliberate practice (RCDP) is a form of in-event debriefing using deliberate practice that includes rapid repetition of the skill to be learned accompanied by directive feedback from clinical experts to enhance skill mastery of CPR (Hunt et al., 2014). However, a resuscitation scenario with undergraduate nurse learners may require more support than directive feedback and deliberate practice alone to contextualize learning and move beyond psychomotor skill acquisition. Learning objectives such as early recognition of a deteriorating patient, communication, and teamwork may be more appropriate. To address these gaps with undergraduate nurse learners, this study compared an alternative facilitation approach, which included deliberate practice with multiple in-event mini-debriefing sessions, with the traditional post-event debriefing approach to facilitation in a resuscitation scenario.

Background

Studies have indicated undergraduate nursing students desire more supportive approaches during stressful and anxiety-producing SBEs (Janzen et al., 2019; Pollock & Biles, 2016; Shearer, 2016). MacLean et al. (2019) identified that students valued a “redemption round” following their first attempt at a SBE and preferred a “do-over” to consolidate learning over a single attempt (p. 5). In RCDP, learners engage in rapid cycling between deliberate practice, “doing it right,” and directive feedback while adhering to psychological safety (Hunt, et al., 2014). Findings in studies using RCDP included areas of improved correction of mistakes, acquisition of skills, timely practice of teamwork, and reduced skill decay (Brown et al., 2021; Chancey et al., 2019; Colman et al., 2019; Donoghue et al., 2021; Gross et al., 2019; Lemke et al., 2021; Taras & Everett, 2017). These studies focused on mastery of skills and the correction of mistakes, with little attention to uncovering learners’ mental frames and contextualizing the learning.

The Promoting Excellence and Reflective Learning in Simulation (PEARLS) debriefing tool allows educators to combine different debriefing strategies based on the level of the learner, learning objectives, and time available (Eppich & Cheng, 2015). This blended approach to debriefing provides facilitators the opportunity to uncover learner frames behind observed behaviours and actions, where learners can expand knowledge and clinical reasoning (Perretta et al., 2020). Novice learners may benefit from feedback that goes beyond directive feedback and includes coaching, teaching, and debriefing, which can contextualize learning.

The purpose of this study is to determine whether an intervention with deliberate practice with multiple attempts and short facilitator guided in-event debriefing provides a more supportive environment for the development of novice nursing students' knowledge, skills, communication, and teamwork during the first five minutes of a code blue event than does the traditional simulation approach without in-event debriefing. The intervention group was compared to a traditional SBE approach (control group) involving the same resuscitation scenario, with both groups using PEARLS debriefing. On review of the current literature, this research study is the first to use this combined approach with a deteriorating patient requiring CPR with purposeful facilitator guided in-event debriefing using the PEARLS framework.

Theoretical Framework

Kolb's (2007) cycle of learning provided the theoretical foundation for this study. It involves four distinct phases of learning: the experience of a concrete experience, followed by reflective observation, abstract conceptualization, and active experimentation (Kolb, 2007). This theoretical underpinning fits well with the multiple attempts of a hands-on experience (concrete) associated with deliberate practice, coupled with the opportunity to discuss decision-making (abstract conceptualization) and promote reflection during the multiple debrief sessions. Furthermore, it provides opportunities to uncover learner frames and integrate knowledge (active experimentation).

An additional educational theory underpinning the study involved Vygotsky's (1978) theory of the zone of proximal development (ZPD), which suggests there is an expanding zone of proximal development just beyond the learner's current abilities. Support and guidance from experts are scaffolded to enhance learning that is gradually reduced as learners achieve proficiency (Vygotsky, 1978). Deliberate practice that allows multiple attempts at an SBE aligns with scaffolding, in which the scenario is rewound until learners achieve proficiency before the scenario is advanced to the next phase.

Method

First-year bachelor of nursing (BN) students (214 enrolled) in a clinical course in groups of six to eight were invited to participate in the research project. This was the first scheduled simulation experience in the BN program, which involved an orientation to simulation, and the subsequent SBE focused on a resuscitation scenario. A previous needs assessment conducted by the BN curriculum committee indicated students desired the opportunity to experience a CPR simulation. A convenience sample ($n = 161$) was recruited from all students enrolled. All students had current credentials in basic life support (health care provider). The university's Human Research Ethics Board approved the study before student recruitment and data were collected between 2018 and 2020. Students who provided written consent participated in this research study.

Student clinical groups were randomly scheduled to participate in either the intervention group or control group based on facilitator scheduling completed by the simulation manager. Those groups randomly scheduled to the facilitators conducting research received the intervention SBE; the remaining groups received the traditional SBE approach facilitated by faculty trained in simulation. Both groups received and reviewed patient information before the SBE, including the need to develop a care plan before participating in the SBE, aligning with Healthcare Simulation Standards of Best Practice (HSSOBP; International Nursing Association for Clinical Simulation and Learning [INACSL] Standards Committee, 2021b). This was done to generate a shared understanding of the nursing care plan and how best to approach the scenario. The control groups

of six to eight students (total of 75 learners) had the traditional facilitator guided post-event simulation approach. This involved a pre-brief a 10- to 15-minute resuscitation scenario with two to three students engaged in the scenario while the others observed from a different room, and an extended (30–60 minutes) group debrief using PEARLS (see Figure 1A). The intervention groups of students (total of 86 learners) also began with a pre-brief, but the entire group (six to eight students) then moved to the simulation suite with the simulation facilitators. There, they experienced the interventional approach to the resuscitation scenario, which consisted of coaching and multiple short facilitator-guided in-event debriefs lasting between 5 and 15 minutes each. These pauses with short debriefs were followed by subsequent re-engagements with the resuscitation scenario, scaffolded as learners achieved proficiency (see Figure 1B). The facilitator who supported this approach ended with a 15–30-minute group debrief guided by the PEARLS method (see Table 1). Facilitators in both the control and intervention groups were trained in and used PEARLS debriefing and all HSSOBP were followed (INACSL Standards Committee, 2021a) for both groups.

Figure 1

Simulation Formats: Post Event Versus In-Event Debriefing

A Control group: Traditional post-event simulation format



B Intervention group: RCDP with facilitator-guided in-event PEARLS debriefing

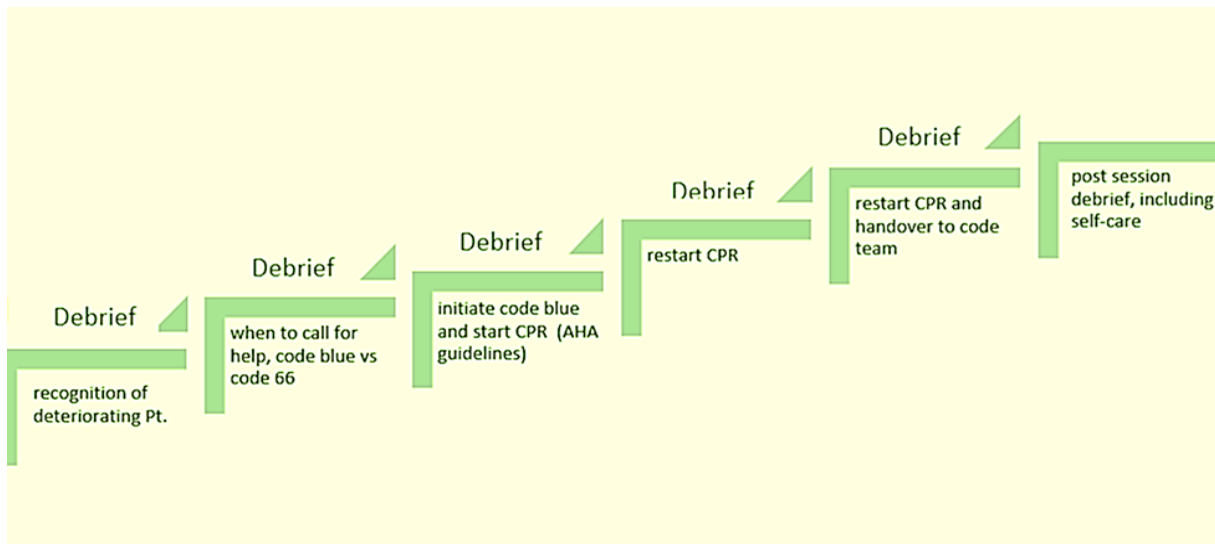


Table 1*Simulation Design for Learner Groups*

Control group	Intervention group
Prebrief	Prebrief
Orientation to SIM lab and mannequin	Orientation to SIM lab and mannequin
Stable patient scenario (four active participants in the SIM suite and four observing in debriefing room) via audio and video	Break
Post-event debriefing	All 6 to 8 students are in the SIM suite. Scenario progresses from stable to deteriorating to code blue patient. RCDP with facilitator-guided in-event short debriefing.
Break	Final traditional post-event debriefing
Prebrief	
Deteriorating patient (progresses to code blue) scenario. The four observing switched to become active participants in the SIM suite.	
Final traditional post-event debriefing	

Data Collection

Data collection consisted of participants completing a survey questionnaire immediately following the completion of their SBE. This survey focused on their perception of learning relative to the resuscitation case. A survey was developed by the research team after reviewing the literature in health-care-based simulation. The survey questions were independently reviewed by three educators to ensure content validity and targeting of the study objectives. Several iterations were made based on the faculty feedback received, and survey questions were modified accordingly for clarity. The survey consisted of three constructs: the level of challenge during the SBE, the support experienced by the students, and the perception of gaining an understanding of concepts (knowledge). Five-point Likert scales and open-ended questions were included in the survey (see Appendix A).

Data Analysis

The qualitative data received from the surveys were analyzed using NVivo 11 software to identify, organize, and code data for themes. Thematic analysis was conducted independently by members of the research team, who reviewed participant responses of qualitative narratives and compiled the lists of key themes from the data. Research members then met to compare and reconcile themes until thematic saturation was achieved. Quantitative analysis of comparative data was completed using Wilcoxon analysis (SPSS Statistic 25 software [$p < .05$]).

Results/Findings

Qualitative Results

Three qualitative themes emerged from the data: supportive and deeper-level learning, operationalized reflection, and debriefing in the moment (see Table 2).

Table 2

Qualitative Themes and Comment Exemplars

Three main themes	Comments
Supportive and deeper-level learning	<ul style="list-style-type: none"> • “This was a very rewarding experience where I was given plenty of opportunities to utilize my knowledge base and exercise many critical thinking strategies. I admired the idea of working as a team as well as experiencing the perspective of watching a team function, as an observer.” • “I got to hear what other people learn and their take/perspective on the experience. Got to thinking of how I could improve my skills and what I need to work on.” • “Having the support of the instructors in the room relieved a lot of anxiety.” • “Our instructors were incredible and supportive and guided us with a very effective way of teaching through allowing us to make our own mistakes. I feel blessed and lucky to have been able to be taught with all eight of us in the same room.”
Operationalized reflection	<ul style="list-style-type: none"> • “I think this is a great way to run the scenario. It is better to stop the scenario at times to debrief what is happening instead of letting the code go down the rabbit hole and things keep going downhill with no effective responses on [the] nurse’s part.” • “Practice, Reflect, and Grow.” • “I like the format of this simulation, being in the room and repeating situations. This allowed us to physically correct mistakes rather than only talking about them.” • “I was nervous at the beginning because I wasn’t expecting code blue. However, second time around the team was more organized and I felt better about handling the situation.” • “I really enjoyed it! We (student nurses) were able to watch each other and learn/observe how they interact with each other, while being able to reflect [on] what we missed or could be done differently. The experience felt real, there was no pretending; it’s amazing how different your thought process is and how actions are affected in a simulation rather than just a nursing lab.”

Debriefing in the moment

- “The whole stop and go method in which we talked about what was happening while it was happening helped to make it feel like an opportunity to grow and improve my personal practice and knowledge.”
- “The debriefing in the middle of the events [was] helpful as it made the team do better and there was more learning that occurred.”
- “It was very helpful in my learning experience. I was able to observe AND participate in the simulation while getting immediate feedback.”
- “Reflection is an important part of nursing and it was similar to that in my perspective. It’s important to know how you can improve throughout your career.”

General post comments on feedback received

Control:

- “It would be nice if all group members would have the opportunity to participate in the code blue simulation.”
- “It covered my questions and I got feedback from my instructor for how I can improve next time or in clinical.”

RCDP with multiple in-event debriefs

- “I really enjoyed it. Having the debriefing between every step was really helpful. Helped me learn between what I was doing wrong/right.”

The first theme identified as a supportive and deeper level of learning may have been related to the unique methodology with students in the intervention group being present in the simulation suite and rotating between observer and active participant roles. Three to four students engaged in the scenario, and after each pause and re-engagement in the scenario, three to four new learners engaged. This was captured in one student’s remark: “It was very helpful in my learning experience. I was able to observe AND participate in the simulation while getting immediate feedback.” Another participant stated:

This was a very rewarding experience where I was given plenty of opportunities to utilize my knowledge base and exercise many critical thinking strategies. I admired the idea of working as a team as well as experiencing the perspective of watching a team function, as an observer.

Facilitators were physically present in the simulation suite and were able to coach students and debrief during in-event scenarios, possibly adding to the increased level of support experienced by this group. One participant stated, “Having the support of the instructors in the room relieved a lot of anxiety.” In contrast, the control group had two to three students engage as active participants, with the remaining students observing via audio/video feed. Therefore, not all students experienced the active participant role. Comments received from this group indicated a desire to have the opportunity for all students to be active participants. For example, as one student

remarked, “It would be nice if all group members would have the opportunity to participate in the code blue simulation.”

Operationalized reflection was the second theme identified from student feedback relating to the experience of having “redo” attempts following the successive debriefs. The intervention group experienced multiple mini-debriefs, which allowed students to engage, pause to uncover learner frames, and re-engage. One student shared,

I think this is a great way to run the scenario. It is better to stop the scenario at times to debrief what is happening instead of letting the code go down the rabbit hole and things keep going downhill with no effective responses on nurses’ part.

The control group’s learning was also positive, but the feedback received from the debrief sessions identified the learning would be applied later. “It covered my questions, and I got feedback from my instructor for how I can improve next time or in clinical.”

The third and final theme of debriefing in the moment was identified from comments by the intervention group that indicated learning occurred because of the multiple mini-debriefs: “The whole stop and go method in which we talked about what was happening while it was happening helped to make it feel like an opportunity to grow and improve my personal practice and knowledge.” Learning was described as the opportunity to “Practice, Reflect and Grow.”

Quantitative

Analyses were completed using the Wilcoxon rank sum tests to determine whether the two groups were statistically different based on ranks, with a significance level of 0.05. Internal consistency of Cronbach’s alpha coefficient was 0.71. The intervention cohort perception of difficulty (challenge) of tasks scores were significantly higher in areas of team communication, ($p = < .001$, $r = 0.338$), handover ($p = < .003$, $r = 0.240$), understanding of team roles ($p = < .001$, $r = 0.296$), and individual student roles ($p = < .02$, $r = 0.189$). There were no significant differences found in the perception of CPR and early recognition between the two groups. However, as the scenario unfolded, the intervention group significantly improved their understanding of handover communication ($p = .031$, $r = 0.175$) and early recognition of a deteriorating patient ($p = < .01$, $r = 0.208$). In addition, the intervention group felt significantly more supported during the scenario ($p = .003$, $r = 0.241$), in debriefing ($p = .013$, $r = 0.201$), and by the facilitator themselves ($p = .001$, $r = 0.280$). There were no significant differences detected between the two groups in the other domains (see Table 3).

Table 3

Quantitative Likert Scale Survey Results (Control n = 75 and Intervention n = 86), Questions 4-6 (See Appendix A)

Concepts	Control median (IQR)	Intervention median (IQR)	Effect size r	P value* < .05
4. During the simulation, how often did you find the following activities challenging (difficult)?				
Team communication	2 (1,3)	3 (2,3)	0.338	< .001*
Handover	2 (1,3)	3 (2,3.75)	0.240	.003*

Understanding team role	2 (1, 2.5)	3 (2,3)	0.296	< .001*
Understanding my own role	2 (1,2)	2 (2,3)	0.189	.02*
CPR	2 (1,3)	2 (1,3)	0.041	.618
Early recognition	2, (1,3)	2 (1,3)	0.030	.715
5. Which of the following concepts were you able to gain a better understanding as the scenario progressed?				
Team communication	4 (4,5)	4.5 (4,5)	0.106	.185
Handover	4 (4,5)	5 (4,5)	0.175	.031*
Understanding team role	4 (4,5)	4.5 (4,5)	0.123	.125
Understanding my own role	4 (4,5)	4 (4,5)	0.083	.308
CPR	4.5 (4,5)	5 (4,5)	0.155	.058
Early recognition	4 (3,5)	5 (4,5)	0.208	.01*
6. For each question below, select the best response that represents how you felt (level of support) during the simulation.				
During pre-brief	5 (4,5)	5 (4,5)	0.121	.131
During scenario	4 (4,5)	5 (4,5)	0.241	.003*
During debrief	5 (4,5)	5 (5,5)	0.201	.013*
By the facilitator	5 (4,5)	5 (5,5)	0.280	.001*
By peer participant	5 (4,5)	5 (4,5)	0.027	.735
By peer observer	5 (4,5)	5 (4,5)	0.090	.272

* $p < .05$ significance

Discussion

The intervention group in this study had the opportunity to be involved in both the active and observer roles during the SBE, whereas the learners in the control group experienced only one role, that of either the active learner or the observer. O'Regan et al. (2021) suggested educators may value the role of the observer in simulation but believe that the best learning occurs in the hands-on role. However, Johnson (2019) indicated there was no significant difference in knowledge between active learner and observer roles. In this study, the intervention groups valued experiencing both the active learner and the observer roles during the simulation, which provided them opportunities to “work as a team but to also experience watching a team function” before

they re-engaged in the scenario. The control groups feedback on learning in individual roles was also positive but indicated learning gained would be applied in future clinical experiences.

Levels of support within the intervention groups with facilitators present during both the in-event debriefing scenario and the mini-debriefs may have contributed to an environment of strong team engagement. These findings coincide with other in-event scenarios implementing the traditional approach, which indicated learners demonstrated increased confidence, decreased anxiety, and a safe learning environment echoing the results of our novice learners (Chancey et al., 2019; Lemke et al., 2019). The increased level of support identified by the intervention group during the debrief could also be a possible factor that contributed to the deeper level of learning theme noted in the qualitative data. Students were able to engage in the scenario knowing that facilitators were readily available to identify knowledge gaps, guide discussion, and allow students the opportunity to reflect both during the mini-debrief sessions and at the completion of the SBE. In addition, the intervention approach provided students the opportunity to rotate between roles and experience both an active participant and an observer role. Student comments in this study helped validate the experience of participating in both roles, possibly contributing to the deeper level of learning identified (see Table 2).

MacLean et al. (2019) identified that students desired feedback with the ability to immediately apply the feedback received from the debrief session. Traditional simulation experiences do not provide learners with that opportunity of “do-over attempts” and learning is applied later. Deliberate practice as a modality in simulation does provide additional attempts and directive feedback towards mastery of skills (Chancey et al., 2019; Hunt et al., 2014; Lemke et al., 2019). However, deliberate practice including directive feedback rarely focuses on uncovering learner mental frames that drive the learner’s behaviours. This study allowed the intervention groups to move through a cycle of learning that involved a concrete learning activity, followed by multiple facilitator guided in-event PEARLS debriefs, which provided a reflective observation of the experience and uncovered student frames of thinking and decision-making. Information learned from student frames set the stage for abstract conceptualization and active experimentation where students could redo the scenario (Kolb, 2007).

Improvement in early recognition of a deteriorating patient was described by the intervention group and supported by the quantitative data (see Table 2, $p < .01$, $r = 0.208$). This suggests that students benefited from the multiple purposeful debriefs using PEARLS that enabled them to gain more understanding about the changing status of the patient and be able to apply it during redemption rounds. This finding is supported by Eppich et al. (2015) who identified “pause and discuss” short micro-debriefs during the simulation scenario as beneficial to providing direct feedback or exploring rationales for actions taken (p. 1051). Directive feedback is considered informative, whereas debriefing, such that as implemented in PEARLS, is more of a conversation, which allows space for reflection on performance (Eppich et al., 2015, p. 1501) and can be applied when scenarios are resumed.

Surprisingly, both the control and the intervention group perceptions of performing high-quality CPR (optimum compression depth, recoil, and rate) did not change. We anticipated that the intervention group would describe a higher level of improvement in high-quality CPR. This may suggest students in both groups viewed their performance of CPR as adequate. This Dunning-Kruger effect was also described by Cheng et al. (2015), when participants' self-perception of CPR quality was inflated and actual CPR quality was alarmingly poor.

The control group did not identify challenges with team communication, providing the handover report, or understanding team roles, unlike the intervention group, which did find these tasks challenging. However, as the scenario progressed, with subsequent attempts, the intervention group had a better understanding about communicating a handover report. Conversely, comments from the intervention group seem to suggest they gained insights from the additional opportunity to observe each other, debrief in the moment, and apply new knowledge. Learners were able to “practice, reflect, and grow.” For example, during the in-event mini-debrief sessions, students and facilitators explored various communication strategies, such as using the SBAR (situation, background, assessment, recommendation) communication tool for handovers. Repeated attempts or “do-overs” provided an opportunity to conceptualize and then actively experiment during the handover phase of the scenario (Kolb, 2007; see Table 2).

Debriefing in the moment was identified as a theme from the study. The process of debriefing in the moment aligns with Schön’s (1987) work, which recognized that reflection can occur both in action, when students think within a situation as it occurs, and on action, after the event has taken place. The intervention group with multiple debriefs were able to experience both in-action coaching and reflection, on-action reflection, and the uncovering of student learning frames through multiple debriefing. In addition to the directive feedback used in deliberate practice, PEARLS (Eppich & Cheng, 2015) was also used to foster reflection and uncover student’s decisions in-action, determining their mindset with the aim to improve critical thinking and clinical decision-making. Likewise, Socratic questioning helped to reveal student assumptions and gave students the opportunity to reflect on action during the micro-debriefs and apply new learning to subsequent scenario attempts.

The level of perceived difficulty of certain tasks was higher in the intervention group than in the control group. One possible explanation could be related to the inherent modality the intervention group experienced. Scaffolding theory implies students master an understanding of content before new content is added, and facilitators then reduce their level of support (Vygotsky, 1978). Learners in the intervention group were required to demonstrate proficiency of skills before the scenario evolved to the next phase. However, as the scenario progressed, learners perceived a significant improvement of their understanding of handover and early recognition of a deteriorating situation. The control group also gained new understandings but indicated learning would be implemented later in the clinical environment.

An essential component of the final debriefing for both the control and the intervention groups of students included conversations about self-care following a critical event. This SBE included a code blue situation that ended with the handover to a code team lead, which possibly left students with feelings of uncertainty or moral distress with the unknown outcome of the patient. Healy and Tyrrell (2013) identified the need to debrief any critical event. Space and time were created for the control group to complete the discussion on self-care at the end of the extended post-event group debrief; the intervention group moved to a debrief room separate from the simulation suite to focus on the concept of self-care following a critical event after the completion of the SBE.

The resuscitation SBE provided all participants an opportunity to apply theoretical knowledge to practice skills, communicate, and work as a team in two different modalities. For the novice learner, the intervention that includes multiple short in-event debriefs is a possible approach that allows for the development of knowledge and skills in a supportive environment, provides the opportunity to redo and apply lessons learned, and allows for uncovering student

frames of learning and decision-making. Having both the active participant and the observer present during the simulation, learners were also able to support one another with the facilitator present to guide discussion.

Limitations

A study limitation was the lack of learner demographics, including when students had obtained CPR certification. Another limitation was whether students had any previous experience with CPR/resuscitation or exposure to teamwork communication. Although the sample size was aligned with other similar studies (Hunt et al., 2014; Roh et al., 2016) it was a convenience sample in one academic setting. It is of note that qualitative results are not meant to be generalizable. The quantitative data were limited by a survey developed specifically to identify student perceptions of learning using the intervention described. Thus, student perception results may not be transferable to other settings. Although the survey was independently reviewed by other simulation educators, the use and/or the development of a validated measurement tool may be beneficial for future research studies.

Conclusion

The intervention group used a deliberate practice approach that provided learners with do-overs and multiple mini-debriefs compared to the traditional simulation approach currently used in nursing education. The intervention group had opportunities not only to reflect on learning but also to apply knowledge and practice multiple times. The purpose of this research project was to ascertain if this approach to simulation facilitation was a supportive modality in a resuscitation scenario with novice learners compared to a traditional facilitation approach. The intervention seems to be a promising modality aimed at supporting and enhancing student learning that goes beyond psychomotor skills, and it warrants consideration as a teaching strategy for novice learners. This modality may also be useful in other health care undergraduate education programs to support novice student learners. More study is needed to understand this process further and how it may be applicable in other simulation-based pedagogy. Future research may include measuring levels of student anxiety, cognitive load, critical thinking, and decision-making when using this modality.

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Appendix A

Survey Questions

Narrative questions	Likert scale questions
1. Please briefly explain your CPR (resuscitation) simulation experience.	4. During the simulation, how often did you find the following activities challenging (difficult)? This included areas of team communication, handover, understanding team and individual roles, performing CPR and early recognition of deteriorating patient. Scale: 1 = <i>not at all</i> , 2 = <i>a little</i> , 3 = <i>sometimes</i> , 4 = <i>often</i> , and 5 = <i>extremely</i>
2. Overall do you feel that this simulation experience supported your learning in the course?	5. Which of the following concepts were you able to gain a better understanding as the scenario progressed? This included area of team communication, handover, understanding team and individual roles, performing CPR, early recognition of deteriorating patient. Scale: 1 = <i>not at all</i> , 2 = <i>occasionally</i> , 3 = <i>sometimes</i> , 4 = <i>often</i> , and 5 = <i>very often</i>
3. How did the debriefing support or further your learning related to the course?	6. For each question below, select the best response that represents how you felt (level of support) during the simulation. <i>I felt supported during the prebrief.</i> <i>I felt supported during the scenario.</i> <i>I felt supported during the debrief.</i> <i>I felt supported by the facilitator during the scenario.</i> <i>I felt supported by my peers in the scenario.</i> <i>I felt supported by my peers as observers.</i> Scale: 1 = <i>strongly disagree</i> , 2 = <i>disagree</i> , 3 = <i>undecided</i> , 4 = <i>agree</i> , and 5 = <i>strongly agree</i>

Appendix B

Acronyms Used in the Article

Term or phrase	Acronym
cardiopulmonary resuscitation	CPR
simulation-based experience	SBE
rapid cycle deliberate practice	RCDP
promoting excellence and reflective learning in simulation	PEARLS
zone of proximal development	ZPD
bachelor of nursing	BN
Healthcare Simulation Standards of Best Practice	HSSOBP
International Nursing Association for Clinical Simulation and Learning	INACSL
situation, background, assessment, recommendation communication tool	SBAR