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Optimising reflective capacity of nursing students after high fidelity simulation: A practical approach

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Abstract

Navigating simulation as a nursing student is challenging. It requires critical thinking, high levels of reflection and emotional investment. Reflection fatigue can result from knowing that reflection is important but feeling reluctant to expose oneself to critique. This practical discussion explores how nurse educators can optimise nursing students' reflective thinking within simulation and develop debrief strategies that optimise critical reflection. Debrief is a teaching and learning episode within simulation that aims to challenge students to develop their thinking and practice, without compromising instruction. Much debrief practice tends towards instruction at the expense of student self-exploration, and preparation for assessment at the cost of critical reflection. The practical approach to debrief discussed here is a timely reminder to step back and re-assess the practice of debrief. This discussion will assist nurse educators to implement a debrief that supports reflection at the highest level. Four familiar strategies of teaching and learning, when combined within debrief, can optimise the reflective capacity of nursing students: role modelling and vicarious observation, scaffolding of reflective thinking, emotional processing, and student-centred reflection. The practical strategies presented are relevant to both Australian and international nursing higher education contexts.

I INTRODUCTION

The capacity to critically reflect is developed by intentional and explicit teaching and learning strategies, not via passive or serendipitous means. Critical reflection is meta thinking (Johns, 2009; Kemmis, 1985, p. 141) or the awareness of one's own cognitive functioning (Sobral, 2005), and is an important aspect of nursing education. Reflection operates at several levels, with critical reflection (the highest level) encouraging a change to deep-seated and often unconscious beliefs. Critical reflection can lead to new belief structures. Critical reflection that involves perspective transformation is likely to take some time, so significant periods between initial observations and final conclusions is likely (Kember et al., 2008).

Critical reflection is part of a suite of 'meta skills or skills of transfer' that are key to successful transference and application of university learning to clinical practice (Crebert et al., 2004). Reflective practice is a graduate capability that supports effective clinical decision-making (Kelly et al., 2014) and transformation of one's internal and external environment (Ryan & Ryan, 2013). It is an ambitious and challenging process of self and professional development, which should have its genesis in undergraduate nursing programs.

Nurse educators play a critical role in actively developing nursing students' capacity for reflective thinking. As part of the nursing curriculum, educators seek to extend students' reflection beyond 'this is what I did' to 'this is what is happening within and around me; how does it impact on my practice and what do I need to change internally and externally to improve patient outcomes?' Reflective practice is the cumulative outcome of providing students with scaffolded opportunities to observe and model exemplary practice, collaborate with peers, and process emotions. These activities optimise both acquisition and application of reflection at a critical level.


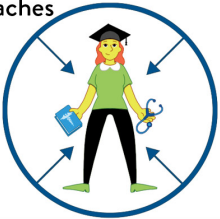



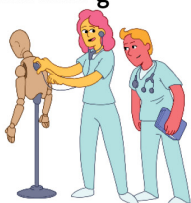

High fidelity simulation is a critical reflection tool that has matured as a pedagogy in nursing education (Kelly et al., 2014). It provides a high level of realism and interactivity for the learner (Meakim et al., 2013), fusing theoretical teachings with anticipated practice and professional role identity. It has the potential to challenge students' application of theory to practice and encourage students to identify more completely with the role of the nurse, rather than only with the behavioural domain (clinical skills) of nursing. Most nursing education programs have adopted high-fidelity simulation as an educational strategy to prepare undergraduate nursing students for professional practice (Stayt et al., 2015; Tutticci et al., 2016) and as a proxy for professional practice (Hayden et al., 2014; Mason Barber, & Schuessler, 2018).

A key component of any high-fidelity simulation is the reflective debrief (Lee & Oh, 2015; Wallace & Moughrabi, 2016). Debrief has long been described as a learner-centred reflective conversation (Decker et al., 2013), yet in practice, debrief often becomes an episode of instruction by the facilitator to correct and address incorrect knowledge and skill. Whilst this is valid and necessary, the opportunities for learner-centred reflection are diminished, particularly when debrief comprises less time than the simulation scenario. Little is known about debriefing practices which optimise reflective thinking at the highest level (Fey & Jenkins, 2015). Studies exploring the impact of debrief on students' learning and transfer of knowledge to practice recommend further investigation into debrief practices (Hall & Tori, 2017).

The focus of this paper is to identify a specific combination of teaching and learning strategies to optimise reflective thinking, particularly critical reflection, and consider whether standard debrief practice includes them. The literature identifies three critical teaching and learning strategies concerning debriefing: meaningful time for reflection (strategy 1), student-centred approaches (strategy 2), and a link between theory and practice (strategy 3) (Jacobs, 2016; Sabei & Lasater, 2016). This article argues that nursing educators could include four additional teaching and learning strategies to optimise the purpose of debrief, increase student confidence to critically reflect, and deliver on the promise to construct new knowledge, meaning and direction for future practice (Sabei & Lasater, 2016). As high-fidelity simulation matures as a teaching tool, it is timely to investigate what is known about the reflective debrief and establish debriefing as a reflective encounter that supports nursing students to become reflective practitioners (in contrast to seeing debrief as a knowledge transfer episode of teaching and learning).

This paper emphasises the importance and urgency of adapting reflective debriefs to restore and/or enhance reflection and assist with the development of nursing students' reflective capacity. It provides evidenced-based approaches from teaching and learning to support the argument. All four of the teaching and learning strategies proposed here need to be integrated into the simulation experience for the outcomes of reflection to be maximised. While these strategies exist in the literature in isolation, they have not previously been combined to improve reflective capacity for critical reflection. A checklist to facilitate the integration of these seven strategies into simulation across the design and implementation stages and translation of simulation learning to clinical practice has been developed (Table 1).

Table 1
Seven essential strategies for simulation: A checklist

Key Strategy	Debrief Design (Faculty Perspective)	Simulation Debrief (Facilitator Perspective)	Clinical Practice (Student Perspective)
1. Meaningful time for reflection 	<p>Allocated time may vary due to skill level of facilitator and cost of simulation. At a minimum the debrief should include the phases of reaction, analysis, and summary.</p>	<p>Make the allocated time for debrief count by facilitating a reflective debrief which is inclusive of all participants (observers as well).</p>	<p>Intentionally allocate time to reflect on practice. Set up a routine to encourage regular reflection on a shift-by-shift basis.</p>
2. Student centered approaches 	<p>Identify student level of knowledge and experience and expected outcomes. Align simulation to students needs and curriculum requirements. Incorporate peer collaboration strategies into debrief model/approach.</p>	<p>Enact a pre-brief which orientates the student to the environment and learning objectives. Provide relevant readings or learning materials as preparatory material to focus learning. Provide an exemplar of a simulation so students can visualise prior to participation.</p>	<p>Identify clinical practice learning objectives and personal learning needs prior to placement. During and after placement examine self to identify gaps in knowledge and skill and think forward to how clinical performance can be improved.</p>
3. Theory and practice link 	<p>Select simulation type which will best link course material to planned clinical practice/context/curriculum level.</p>	<p>Make explicit connections between reconstructed practice and future practice during debrief.</p>	<p>Internally review practice and identify areas where practice is supported with best available evidence and seek feedback from peers and colleagues on performance.</p>
4. Scaffolding 	<p>Identify an evidenced based reflective framework and include in preparatory material for facilitators and students. Provide examples of reflective statements for student and facilitators. Embed reflective framework in curriculum.</p>	<p>Model responses on reflective framework, from descriptive comments to reconstructive comments.</p>	<p>Use a reflective framework to assist self to break down the situation to examine it critically and then to reconstruct it in a way which meets preferred/required behaviour. Ask for input from your peers/professional colleagues to improve reflection and understanding of external variables/factors which can influence behaviour.</p>
5. Emotional processing 	<p>Allocate time in debrief outline for emotional processing at commencement of debrief.</p>	<p>Ask students at commencement of debrief - How are you feeling now? Prompt/cue disclosure. Provide an example of emotional disclosure. Acknowledge and validate self-expression of emotions. Facilitator to check in with own emotional state prior to debrief. Create a safe space.</p>	<p>Take time to process your emotions before reflecting on and modifying your practice.</p>
6. Role Modelling 	<p>Pre-screening of students to identify more expert others to role model reflective practice. Articulate expectations and provide support for all students to engage in reflective practice.</p>	<p>Acknowledge when reflection is demonstrated during simulation. Demonstrate reflective practice in debrief and explicitly identify it as such. Support students who are actively role modelling reflective practice. Encourage students to observe reflective peers and model their behaviour.</p>	<p>Identify with a role model who practices exemplary reflective practice. Observe/Discuss/Seek Feedback/Constructively Critique self.</p>
7. Peers leading learning and collaboration 	<p>Train facilitators to deliver reflective debrief, minimise emphasis on instruction. 'Reflective circle' approach with peers leading or co-facilitating debrief incorporated into design and delivery of simulation.</p>	<p>Facilitator to check in with oneself prior to debrief – purpose of debrief is for student centred discussion. Engage students in discussion by using open ended questions. Positively challenge responses. Prompt students to interact collaboratively. Facilitation approach v teaching approach – provide examples of sentence stems for students to use during debrief to encourage reflection.</p>	<p>Develop rapport and professional relationships with peers and more expert colleagues to have open conversation and 'debrief' about clinical practice.</p>

II HOW TO OPTIMISE REFLECTIVE THINKING: PRACTICAL STRATEGIES

A *Strategy 1: Role modelling: The benefits of vicarious observation*

Standard debriefing practice requires the facilitator to model expected outcomes of simulation (Boese et al., 2013) of which reflection and the integration of evidence to practice is one of them (Lioce et al., 2013). Facilitators must model reflective practice (Jacobs, 2016) if students are to learn how to reflect. Modelling of the thought processes that underly reflective performance allows students to observe normally invisible processes (Onda, 2012). The challenge for nurse educators is to make what is invisible become visible. This requires an understanding of theory and models representing reflective thinking and applying them in a meaningful and relevant way.

Observational experiences provided by social models (Bandura, 1997) or vicarious experiences can assist with the development of self-efficacy. This self-belief is an important aspect of building reflective capacity within undergraduate nursing students. The stronger students' notion of self-efficacy, the better their effort, perseverance, and elasticity (Bandura, 1986) and the greater their use of meta-cognitive and self-regulatory strategies (van Dinther et al., 2011). Experiencing success or failure in reflection can contribute to belief about one's capability to perform in subsequent reflective tasks or activities.

As nurse educators, we need to be heavily invested in providing students with access to expert thinkers and modelling practices for reflection (Onda, 2012). Nurse educators who explicitly teach how to reflect, demonstrate reflective thinking, and provide concise and directive feedback will assist students to become more competent and confident reflective practitioners. Training in techniques to promote reflection during debriefing is recommended in the International Nursing Association for Clinical Simulation and Learning (INACSL) *Standards of Best Practice: Simulation SM Debriefing Process* (INACSL, 2016). What is obliquely acknowledged in the standards, but not explicitly stated, is an objective to improve students' confidence in their reflective thinking. To improve student performance, nurse educators must address both student confidence and competence in tandem (Miller et al., 2015).

Whether the individual student is learning through mastery experiences or simulation, models with perceived similarity to the student increase the impact of modelling. If the learner feels the model is in a situation like their own, this further enhances learning (Brannagan et al., 2013). Students obtain information about their own capabilities by observing others, especially peers who offer relevant possibilities for comparison (Brown et al., 2017). For this reason, it is important to provide opportunities within simulation debriefs for students to observe their peers reflectively thinking. Peer observation contributes immensely to learning in debrief (Najjar et al., 2015) and provides alternative options for thinking reflectively.

Students will benefit if facilitators explicitly teach and model reflection whilst concurrently responding to students' demonstration of reflective thinking within the debrief (Tutticci et al., 2017). Explicit teaching of reflective thinking will support modelling that is provided to students and vicarious learning, which is undertaken between peers and between student and facilitator. Recognition within best practice standards of the importance of developing self-efficacy for reflective thinking is required (Tutticci et al., 2017). One innovative strategy to improve student self-efficacy for reflection is to encourage them to provide real-time feedback to the facilitator about the simulation experience. This can reinforce the impact of the modelling of reflective thinking provided to students during debrief (Jacobs, 2016). This can help facilitators to see themselves through their students' eyes and vice versa. This develops a habit of effective reflection that does not rely upon formative student assessments or formal reflective activities as triggers.

B *Strategy 2: Scaffolding of reflective thinking: The students' friend*

The overall objective of high-fidelity simulation, as a form of experiential learning, is that nursing students examine their professional world through a critical and reflective lens and

expedite change for improved practice. All nurses need highly developed reflective thinking, and nursing students require guidance to know how to learn to reflect (McAllister et al., 2013). As a mechanism to support and direct reflection, several authors recommend using reflective frameworks within the context of simulation (Decker et al., 2013; Parrish & Crookes, 2014). Frameworks are a type of scaffolding, where students can be pushed to learn from new experiences whilst being supported (scaffolded) to learn in a safe environment (Kelsey & Hayes, 2015) and yield more productive reflections (Ryan & Ryan, 2013). As with all support structures, frameworks are temporary and aim to facilitate rather than dictate learning (Kelsey & Hayes, 2015). This meshes well with the pedagogy of simulation, which aims to develop capacity for reflective practice (Jacobs, 2016). However, evidence suggests that nursing students often do not move past descriptive accounts of their simulation experience (Tutticci et al., 2018), suggesting there is a gap between knowing and doing, and a roadblock to deep and meaningful reflection.

For nursing students to realise the full potential of reflection, they must deconstruct the experience to see multiple stories and reconstruct the story differently (Samuels & Betts, 2007). The challenge for nurse educators is to transition their students from descriptive (reporting) accounts to deeper reflections. There are numerous reflective frameworks to choose from when scaffolding a debrief, some linear and some hierarchical (Kelsey & Hayes, 2015). For example, Bain et al. (2002) suggest using levels of reflection with their 5Rs framework of Reporting, Responding, Relating, Reasoning and Reconstructing. The levels within the framework increase in complexity and move from personal description of, and response to, events to the use of experience and theories to explain, question and ultimately critically reflect in a way that can transform practice (Ryan & Ryan, 2013; Samuel & Betts, 2007).

Techniques for scaffolding reflection require facilitators to provide a clear and unambiguous framework in tandem with cognitive and emotional support (Samuel & Betts, 2007), specific and relevant feedback (Boese et al., 2013), prompts and cues (Ryan & Ryan, 2013), examples and metaphors, and direct instruction. These work together to ensure that students have the requisite knowledge and skill to reflect accurately and effectively. There is a lot happening during the debrief for the facilitator to manage in real time, and this can be challenging, especially for novice facilitators. A partnership approach to simulation debrief is a practical solution.

Providing scaffolding for reflection suggests a partnership approach between the facilitator (or more expert other) and student (Rolfe, 2014). This can be challenging because instruction is often a default setting for educator-facilitators who manage large and diverse student cohorts. However, there is evidence that students' capacity for reflection increases with proximity to academic facilitators who are adept at scaffolding (Tutticci et al., 2018). For partnerships to flourish, scaffolding must be embedded into the debrief and students must feel safe to speculate, theorise and hypothesise about the simulation. Once this foundation is in place, the facilitator can target feedback based on students' use of a reflective framework and the level of their reflection (Samuel & Betts, 2007).

Prompts or cues within a scaffolding framework can assist students to structure their response and guide facilitator feedback. The framework may encourage targeted feedback, which assists students to recognise what is expected of them and examine their current level of practice (Samuel & Betts, 2007). Over time, students can become less reliant on external cues or structured reflection activities (like simulation or clinical practice debrief, where reflection is a formal facilitated activity) as their experience and confidence with reflection grows. The combination of supportive educator-facilitators and reflective frameworks can enable students to demonstrate reflective thinking, and express and progress discipline-specific knowledge more confidently and competently (Ryan, 2013). To build reflective capacity, educators need to acknowledge that student self-efficacy is relevant and vital.

Evidence suggests that students are not confident or competent in framing their reflections and, as a consequence, their reflections remain mostly descriptive (Tutticci et al., 2018). Several authors recommended that scaffolding is used, and reflective thinking is supported by explicit

teaching on how to reflect (Miller et al., 2015; Parrish & Crookes, 2014). Confidence in reflection comes with trial and error; improvement in reflection is accelerated when students can observe quality exemplars, thus improving competence.

Using a range of scaffolding interventions, including but not limited to reflective frameworks, is a practical approach to improve both the experience and reputation of reflection in undergraduate nursing programs. Educators need to interact with their students, stepping away from teacher-led modes and working to develop student partnerships either en masse or individually. Two-way feedback will foster this balanced relationship and, at worst, improve the experience of reflection for all concerned. It is worth noting that, for students to observe quality exemplars, facilitators need to become both competent and confident as critically reflective practitioners themselves.

C Strategy 3: Emotional processing: The precursor to cognitive processing

The link between emotion and cognition is real and, if not acknowledged by nurse educators, can lead to acopic states in student cohorts (Cantrell et al., 2017). Participating in simulation is a stressful event (Cantrell et al., 2017; Lestander et al., 2016; Najjar et al., 2015) that can either optimise or diminish learning (Lavoie et al., 2012; Murphy et al., 2004). Time and emotional processing (Naude et al., 2014) are key components of the debrief experience. With sufficient time, students can actively work through emotions that emerge as part of the simulation, including anxiety and fear (Najjar et al., 2015). Evidence suggests that time for expressing one's thoughts and emotions after simulation is rarely adequate (Lestander et al., 2016; Tutticci et al., 2016). Unfortunately, there is no evidence to define the optimum timeframe for the debriefing phase of simulation, or whether debriefing requires more or less time than the simulation scenario itself (Hall & Tori, 2017; Levett-Jones & Lapkin, 2014).

What is unambiguous is the sequencing of debriefing components: reaction, analysis, and summary (Decker et al., 2013). Emotional and affective processing (the individual's reaction) must precede cognitive processing (analysis) and formalised reflective thinking (analysis and summary). Facilitators often experience a sense of urgency in the debrief, as they seek to tick off key outcomes for the simulation, optimise student learning and, if required, prepare students for assessment. The conundrum is a tension between debrief for expediency and/or optimising reflection and student capacity to reflect. An implied expectation is that debrief will be a reflective experience. However, a short-term approach to debrief can inhibit reflection by curtailing emotional processing. A practical approach to this tension is to plan for the debrief, with allocated space and facilitator prompts (cues) to trigger emotional processing early in the debrief.

High anxiety resulting from the simulation experience can be so overwhelming that it inhibits student cognitive processing. Likewise, students have acknowledged that, to be able to reflect effectively, they needed to be emotionally willing to reflect (Asselin, 2011) and be invested in the process (Ryan, 2014). The effect of a safe and trusting environment cannot be underestimated for effective reflection (Hall & Tori, 2017). The opportunity to alleviate stress and anxiety, and to encourage subsequent emotional expression and processing, exists within a safe simulation debrief environment (Najjar et al., 2015). Some authors suggest that change in this area of simulation pedagogy is warranted (Cantrell et al., 2017). Students as peers are an often-overlooked resource in the learning and teaching space. Educators focus on providing a service to their 'consumer group' and, as a result, students' value as contributors to learning is often neglected. Peers are likely to readily understand their peers. They can provide insight and empathy that is particularly beneficial in an emotionally charged experience such as simulation.

Emotion can play a complex and dynamic role in the learning process (Naude et al., 2015) and, in simulations, the quality of group interactions and collaboration can influence the level of engagement and learning. Simulation is a highly social activity (Najjar et al., 2015) and, with enhanced peer-to-peer interaction, can also be a safe learning environment. The safe environment, engendered by peer-group learning, can increase empathy, and reduce the risk of judgment, improving collegial relationships (Brown et al., 2017). The level of comfort students have with their peer group within the simulation experience can influence anxiety and subsequent

learning (Najjar et al., 2015). This extends to the debrief facilitator, who is instrumental in creating a safe and successful debriefing experience (Boese et al., 2013; Fey & Jenkins, 2015). Typically, the facilitator is an academic (Chronister & Brown, 2012) and standard practice recognises the importance of this role (Dreifuerst & Decker, 2012; Hall & Tori, 2017; Neill & Wotton, 2011). However, if the facilitator approaches the debrief with a teacher-centred attitude, valuable learning opportunities and reflective experiences may be lost. Practically speaking, facilitators can support emotional safety by formally establishing students in groups and partnerships to inform simulation design and implementation. The facilitator can then informally or intentionally step back from the debrief and allow students to tag and express emotion between themselves, before stepping back in to guide discussion toward critical reflection.

The affective component of simulated experience should always be planned and conducted (Lavoie et al., 2012). Students need to debrief about the simulation experience itself, not necessarily about the content within the scenario (Najjar et al., 2015). Indeed, simulation stress can inhibit self-evaluation and critical reflection (Boostel et al., 2018). The value of emotional processing as an objective outcome of debrief needs to be recognised, formally incorporated into debrief frameworks, and actively practised. The debrief facilitator requires training to effectively build a collaborative, safe environment that enables students to share and express emotion. Emotional release can redirect the attention of the student to reflective learning (Dreifuerst, 2009).

D Strategy 4: Student-centred approach to reflection: Peers leading learning and collaboration for practice readiness

Student centred-ness is a well-known idiom within higher education and has been a key focus for some time (Chickering & Gamson, 1987). More recently, it has become part of discussions about simulation (Kelly et al., 2016). Student centred-ness is characterised by recognition of learner autonomy (Naude et al., 2014) with a focus on creating active, learner-centred experiences (Jefferies, 2007). A practical application of student-centred learning within simulation pedagogy is the involvement of peers in a learning leadership role (Brown et al., 2014; Dumas et al., 2015; Owen & Ward-Smith, 2014) and greater collaboration between peers during simulation debrief (Onda, 2012). The opportunity for peer collaboration increases when the facilitator minimises instruction (i.e. teaching) and prompts students to create a 'reflective circle' where they lead and own the discourse. With the involvement in debrief of more experienced peers (Naude et al., 2014), proficient simulation facilitators (Boese et al., 2013), and students themselves (Valler-Jones, 2014), it shifts the focus from instruction and instructor to reflection and student. Student engagement and quality reflection can be achieved when students take a leadership role in debrief and engage in peer collaboration towards self-discovery (Burke & Mancuso, 2012).

Checks and balances are needed to ensure that reflection is guided to optimise evidence-based knowledge acquisition and its application to practice (Decker et al., 2013). Skilled debriefing is essential to develop critical thinking skills, achieve expected learning outcomes, encourage reflective learning, and build students' resolution to apply knowledge to practice (Burke & Mancuso, 2012). Additionally, contact with a skilled debriefer, who can help students cope with challenges in a positive and constructive way, will promote discussion rather than stymie it. There are times within a simulation debrief when explicit teaching is required (Onda, 2012) to minimise the transfer of mistakes into practice (Decker et al., 2013). When implementing simulation and considering facilitator skill mix, nurse educators should consider pairing a student with an experienced faculty facilitator to provide a blend of student-centred learning and partnership with a more experienced other (peer or nurse educator) who can provide support and instruction when required (Valler-Jones, 2014).

III WHY IS IT IMPORTANT TO OPTIMISE REFLECTIVE THINKING?

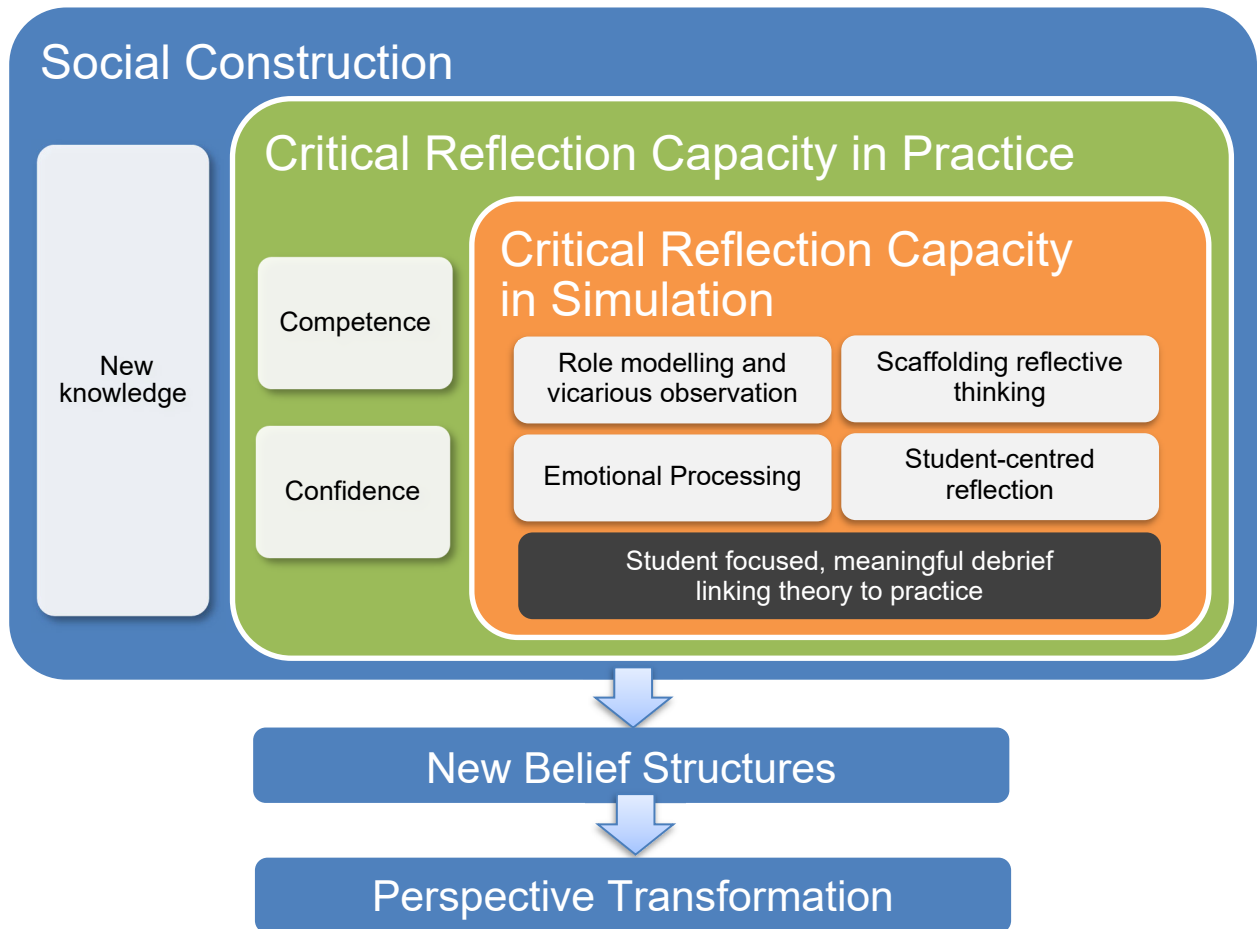
A Transformation

Reflective thinking is a complex skill. It is not intuitive (Ryan, 2012), innate (McAllister et al., 2013) nor automatic (Decker et al., 2013), and requires specific pedagogic interventions for students to do well (Ryan, 2010). To think deeply and critically results in transformative action (Fernández-Peña et al., 2016). The state of 'reflexivity' is the endpoint of critical reflection, with the individual and their environment being 're-imagined' (Ryan, 2013). The changes that arise from critical reflection can provide an individual with social and personal improvements. A reflective practitioner can modify their internal cognitive processes to cause deliberate action and effect change – either in their behaviour or in their practice environment. However, critical reflection, as the highest level of reflection (Kember et al., 2000), is difficult to achieve, particularly for undergraduate nursing students (Crowe & O'Malley, 2006).

Students' simulation experiences in debrief should be examined as part of a broader transformative process, enabling access to deep and substantive knowledge (Barton & Ryan, 2014). Reflection can be practised during or after simulation and clinical experience, thereby making the learning available for conscious choice and modification or rejection by the nursing student. This action-oriented reflection, or reflexivity (Archer, 2012), must reach a critical reflexive point for deep, active learning to occur. Such critical reflection sees the pedagogic process as one of knowledge transformation rather than knowledge transmission (Kalantzis & Cope, 2008; Leonardo, 2004). The construction of new knowledge can then begin (Kalk et al., 2014). The presence of, and collaboration with, peers in the construction of knowledge is not disputed (Naude et al., 2014) and can positively contribute to the experience of learning (Lestander et al., 2016) and the transformation of oneself and of one's practice.

The model below (Figure 1) distils the progression of reflective competence and confidence from deliberate reflection to professional reflective practice and the development of new knowledge, meanings, practice, and confidence.

Figure 1
Critical Reflection and the Social Construction of Knowledge



B Integration of reflection into all aspects of practice – a key objective of an undergraduate nursing education

The objective of simulation is to prepare nursing students for clinical practice by providing a safe but challenging learning environment in which they can practise professionally (Boese et al., 2013). This is certainly true for the clinical skills required of a registered nurse, but also for the development and consolidation of more tenuous, soft and complex graduate attributes such as reflective thinking (Chamorro-Premuzic et al., 2010). Undergraduate nursing students need to expand their scope of reflective practice from the simulation environment to all aspects of their professional practice. This expansion of scope is another key objective of simulation pedagogy, though less well articulated. To foster the expansion of reflective practice, the literature suggests using reflective frameworks for the evaluation of self, rather than using satisfaction surveys to evaluate others' teaching and how satisfied a learner it makes the student. Evaluation of satisfaction is insufficient to gauge the impact of quality learning and teaching experiences (Ryan, 2015). Scaffolding evaluation of teaching and learning experiences using reflective frameworks assists the nursing student to examine themselves and their beliefs, philosophies, and practices (Ryan, 2015). They are more likely to see themselves as active change agents and life-long learners within their profession (Mezirow, 2006). Students who take responsibility for deepening their reflective thinking (Samuel & Betts, 2007) and who internalise the process (focusing on 'what I can change' rather than commenting on what 'they (the teachers) need to change') will develop into robust reflective practitioners. This paradigm shift from external to internal review and critique of practice is the hallmark of critical reflection and transformative practice.

IV CONCLUSION

Standards for debriefing practice mitigate against a lacklustre reflective experience. Whilst standard practice for debriefing is articulated and rigorous (INACSL, 2016), there are gaps within the practice of simulation debrief which, if not addressed, can impede effective reflection-on-action and comprehensive reflective practice. Unless a student is enabled to reflectively think, the objective of debriefing is compromised, and the student misses an opportunity to hone and develop their reflective practice. Four key strategies have been presented as practical approaches for nurse educators to include in simulation design and delivery with the objective of improving student reflective capacity: role modelling and vicarious observation, scaffolding of reflective thinking, emotional processing, and student-centred reflection. Safe and trusting environments, where reflection is scaffolded and peer collaboration is encouraged, will optimise student reflection. Explicit teaching and role modelling of reflection will support the learner to develop a reconstructed story and implement change as required, bolstered by improved self-confidence. Reflective evaluation will assist with the translation of reflective thinking from designated formal reflective activities to all aspects of academic and professional practice.

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