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8 **Title: Supporting students' learning experiences through a pocket size cue card designed around a**
9 **Reflective Simulation Framework (RSF)**
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34 **Highlights**

- 35 - **A cognitive aid card can help learners organize their thoughts during reflection.**

- 36 - **Structuring the reflective process should help learners who feel overwhelmed by a**
37 **simulation experience.**
38 - **The portable reflective simulation framework card can be used in real clinical practice to**
39 **encourage independent reflection.**
40 - **Reflection helps learners identify and prioritize their learning needs.**
41
42

43 **Supporting students' learning experiences through a pocket size cue card designed around a**
44 **Reflective Simulation Framework (RSF)**

45 **Abstract**

46 **Introduction:**

47 According to the growing literature on simulation in nursing, reflective practice (RP) is a *key tenet*
48 *and an integral* component of simulation-based learning outcomes in many higher education
49 curricula, albeit mainly through the blanket terms of 'feedback' or 'debriefing' processes. Yet given
50 its importance and the available literature on both RP and clinical simulation (including numerous
51 models/frameworks) there is currently a lack of empirical testing or concrete evidence to inform how
52 formal reflective practice methods are utilized to ensure that appropriate student-centered learning
53 outcomes are achieved. This article aims to discuss the usefulness of a portable structured
54 framework that was designed to test the integration of RP during simulation-based learning
55 experiences with undergraduate nursing and paramedic students. As part of ongoing simulation
56 developments and refinement of reflective learning methods with these students, a small scale pilot
57 project was undertaken to evaluate the use of a portable reflective simulation framework (**RSF**) as a
58 structured tool and technique to support and maximize learning aligned to curricula outcomes.

59 **Methods:**

60 A survey using a ten-item questionnaire explored the actual and potential use of a pocket sized RSF
61 'cue' card that was randomly assigned to groups of undergraduate nursing and paramedic students
62 (N=72). Students received the RSF cue cards before the start of scenario-based simulation activities
63 and *were asked to complete* the survey afterwards.

64 **Results:**

65 The majority of students considered the **RSF** to be a useful tool for post-simulation learning. Eighty-
66 nine percent of students also indicated that it would further encourage them to reflect on their
67 learning in clinical practice, particularly for practical/technical skills such as patient assessment and
68 diagnosis. Notably use of the RSF for the identification of theoretical learning needs was scored much
69 less (22.2%).

70 **Conclusions:**

71 The students surveyed generally agreed that the use of a pocket sized RSF cue card was a highly
72 beneficial tool for enabling them to individually identify and prioritize their learning needs especially
73 post-simulation. However, the emergent imbalance of the theory/practice usefulness of the RSF
74 suggests that educators need to ensure that important aspects such as theoretical applications are
75 addressed if clinical simulation and RP are to contribute to wider learning outcomes beyond practical
76 competencies alone. Further studies to test and extrapolate more in-depth use and efficacy of the
77 RSF with students and facilitators are also recommended.

78

79 **Introduction**

80 The importance of reflective practice (reflection during and after experiences) in nursing and other
81 healthcare curricula remains a popular learning concept. It alleges many benefits including the merits
82 of professional development and clinical competencies. There are numerous definitions which are
83 amply reported in the wider literature and not pursued here (Schön, 1983; Boud et al., 1985; Moon,
84 2000). The general consensus however, is that RP is concerned with the active review and
85 examination of an episode of practice through analysis and evaluation in order to inform and benefit
86 future practice. In addition, the burgeoning nursing simulation literature continues to highlight the
87 inextricable links with RP as the core activity (Alinier, Hunt, & Gordon, 2004; Garrett, MacPhee, &
88 Jackson, 2011; Levett-Jones et al., 2011; Morse, 2015).

89 This report supports the view that RP is a key aspect of simulation learning if not *the* key aspect.

90 Further, the need to 'structure' reflection is not new and has been evident in the wide spread
91 publications of various popular theoretical frameworks (cyclical and linear) including those of Kolb
92 (1984), Gibbs (1988), and Johns (1994) for example. In nursing especially, structured reflection is
93 believed to promote a more integrated approach to learning by linking thinking, feeling, and doing
94 (Graham, Waight, & Scammell, 1998). Similar recommendations in contemporary paramedic
95 education were made by Jones and Cookson (2000). They argued that RP should be linked to
96 curricula outcomes and based on a knowledge, skills, and attributes (KSA) approach to learning, thus
97 strengthening the familiar informal verbal debriefing process traditionally used in paramedic
98 practice. This initiative was in response to a conscious attempt by ambulance service providers to
99 move away from rigid practice protocols, predominantly focused on clinical or technical skills during
100 debriefing sessions, often at the expense of missed learning opportunities around non-technical skills
101 such as communication and team work skills.

102 More widely, the growth of simulation learning in various healthcare and other industries is well
103 documented (Abrahamson, Denson, & Wolf, 2004; Alinier & Platt, 2014; Gaba, 2004) although it is
104 evident that "simulation" can mean different things to different people (Alinier, 2007). According to

105 Gaba (2004) "*simulation is a technique, not a technology, to replace or amplify real life experiences*
106 *with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the*
107 *real world in a fully interactive fashion*" (p.i2). In the absence of meaningful reflection however, such
108 techniques can limit learning to "contextual task training and repetition" (Dreifuerst, 2009, p.109).
109 This would seem to justify the suggestion that the transference of reflective learning from simulation
110 learning is a key goal (Galloway, 2009). Exactly how this process should occur is less explicit.
111 A review of the literature identified that apart from the many anecdotal claims about the relative
112 merits of reflective learning from simulation exercises there is a notable lack of concrete evidence to
113 show how its effectiveness as a tool or technique is evaluated (Neill & Wotton, 2011). Despite its
114 prominent place in the majority of 'debriefing' literature (Decker et al., 2013; Gardner, 2013; Jeffries,
115 2007; Levett-Jones & Lapkin, 2014; Morse, 2015; Neill & Wotton, 2011; Raemer et al., 2011; Reed,
116 M., & Ravert, 2013; Shinnick, Woo, Horwich, & Steadman, 2011; Zigmont, Kappus, & Sudikoff, 2011),
117 there is little evidence to inform how RP works apart from the general view that reflective learning is
118 a good and important process that should be done by all practitioners. Evidence to support and
119 inform these curricular interventions and innovations remain largely theoretical thus it is unclear
120 which approaches may have efficacy or impact (Andrews, 2005; Mann, Gordon, & McCleod, 2009).
121 These observations have been re-iterated recently (Aronson, 2011; Morse, 2015) highlighting the
122 absence of guidance and education with regards to a specific model or approach about reflection
123 regarding learners, consequently resulting in "anecdotes devoid of learning" (Aronson, 2011, p.202).
124 This absence of RP guidance highlighted a curricular deficit in appropriate theory-practice resources
125 for our undergraduate learners and was therefore instrumental in informing the Reflective
126 Simulation Framework (RSF) project. This article describes the use of a 'portable cue card' or
127 cognitive aid incorporating the RSF which was designed as a tool and technique to support and
128 enhance reflective practice learning in one UK higher education clinical simulation setting. As such
129 the study presented is primarily a descriptive pilot exploring the usefulness during simulation-based

130 learning experiences with undergraduate nursing and paramedic students of a modified debriefing
131 aid, based on Dreifuerst's work (2009).
132
133 **Previous work**
134 A major study of reflective practice and the learning of healthcare students (Jones, 2008) which
135 explored students' perceptions of RP in relation to their academic work and clinical practice
136 identified that undergraduate nursing and paramedic students at all levels of study valued the
137 importance of reflective practice for the enhancement of their personal and professional
138 development. The study which also explored students' perceptions of 'structured reflection' also
139 included observations of nurses and paramedic students in the University's clinical simulation center
140 to identify how and what reflective methods were used. The results showed that while reflective
141 practice concepts, including structured reflection, were considered by the majority of students to be
142 highly important and useful to their learning needs, the use of popular existing reflective frameworks
143 such as Gibbs' Reflective Cycle (Gibbs, 1988) was considered to be less important and not
144 appropriate for simulation purposes, given the often rapid pace and responses needed during such
145 sessions.
146 Following the outcomes of the main study by Jones (2008, unpublished) a preliminary survey was
147 undertaken by the authors to test the feasibility of students using a portable reflective cue card
148 incorporating an **RSF**. The cue card was designed to enhance the students' learning abilities both
149 during and after simulation exercises but in a way that would be more convenient for them and not
150 too time consuming to use. The need from an educator's perspective was to consider *when, where,*
151 *and how* reflective enquiry took place and how best to focus the students' learning needs and
152 enhance their reflective skills development from simulation exercises. The broader aim was also to
153 boost motivation for the students' summative written reflective practice assignments which were
154 often lacking. The time factor involved in documenting RP issues was a major concern for students

155 when taking into account the demands of daily clinical practice that did not always prove conducive
156 to written reflection, however well intended.

157 The **RSF** was also designed to complement the widely used open group discussions in the clinical
158 simulation environment so that salient issues could be rapidly noted for later recall. Resistance to
159 reflective writing among undergraduate healthcare students had been previously identified (Jones,
160 2004, 2008). In the past, it was observed that many of the reflective activities following clinical
161 simulation exercises lacked continuity with follow up sessions (including real life clinical practice)
162 because of lack of documentation by students. Evaluations of the teaching approaches to reflective
163 simulation learning at that time, demonstrated that sessions were predominantly teacher-led,
164 resulting in passive learning, *as opposed to a facilitated debriefing* process that should be student-
165 driven and collaborative. The lack of focus regarding the effective achievements of curricula learning
166 outcomes and general resistance by students to the formalization of reflective simulation needed to
167 be resolved at faculty level, in line with quality assurance policies. These factors were instrumental
168 and compelling in driving the development of a practical student-centered tool.

169 The idea of an RSF was posited with small focus groups of students with the possibility of trialing a
170 pocket sized reflective cue card. It was anticipated that the card could serve both students and
171 facilitators by focusing reflective learning creatively and flexibly whilst ensuring that the outcomes
172 for learning were aligned with the wider curriculum, i.e. competency, knowledge, and skills
173 development (Aronson,(2011). Moreover, it was envisaged that learning would be student owned
174 and driven, both of which were fundamental to the development and use of the RSF. However,
175 before the RSF could be designed, a review and critique of existing frameworks was undertaken to
176 ensure that the essence of both reflective practice and simulation were retained whilst contained in
177 a structured format. We planned to build on what the students already knew and to incorporate
178 their ideas to produce a more practicable and workable debriefing tool.

179

180 **Why a new Tool? A Review of Reflective Frameworks**

181 The rationale for reviewing the different theorists and their reflective frameworks was to incorporate
182 key reflective principles that were already familiar to students such as recall, review, analysis,
183 evaluation, and future action. These concepts reflected our curricula outcomes (KSA) including the
184 transfer of theory to practice in real clinical settings.

185 In general, reflective frameworks or models may be summarized as being either cyclical or linear, and
186 are designed to enable a systematic approach to guide learning by taking the reflector through a
187 series of cognitive stages. It is suggested that a structured approach encourages more productive and
188 potent reflective learning than informal discussions (Ghaye & Lillyman, 1997; Platzler, Blake, &
189 Snelling, 1997). That is not to say that informal methods of reflective learning should be devalued.

190 Since the early emergence of Kolb's learning cycle (Kolb, 1984) and the growing popularity of
191 reflective practice, a number of generic frameworks for RP, mainly cyclical or iterative have followed
192 (Boud, Keogh, & Walker,1985; Gibbs, 1998). Discipline specific frameworks have also emerged such
193 as Johns' model of structured reflection in nursing (Johns, 1993, 1996). However, we identified that
194 the simulation environment, like the clinical environment, needed an alternative framework that
195 would be more practical and flexible, and accommodate the individual's personal and professional
196 learning needs. Additionally, the new framework was designed to include the potential for
197 immediate, intermediate, and longer term reflective learning, whilst integrating theory and practice
198 seamlessly between simulation and actual clinical settings. This was the *raison-d'être* of the
199 proposed RSF!

200 This small pilot study was conducted under the University of Hertfordshire's Reflective Practitioner
201 Guidelines (UPR AS/A/2) which permit the evaluation of learning and teaching tools that fall outside
202 the parameters of major empirical research that require formal ethical approval. To ensure and
203 maintain student confidentiality all questionnaires were anonymously administered.

204

205 **RSF – The Tool and Technique**

206 The RSF, comprised of six components, is grounded in the theoretical reflective learning ideologies of
 207 Dewey (1933) and Schön (1983, 1987) in the sense that it is action-focused both during and after
 208 practice, yet allows for more focused explorations of simulation experiences whether individualized
 209 or shared. It also acknowledges Moon's (2000) concerns that students are not always able to
 210 independently initiate reflective processes effectively. Hence the inclusion of more detailed guidance
 211 in the RSF about collaborative processes with others, as appropriate. These components outline a
 212 learning strategy involving "peer and teacher feedback" (Bland, Topping, & Wood, 2011) as well as
 213 self-evaluation.

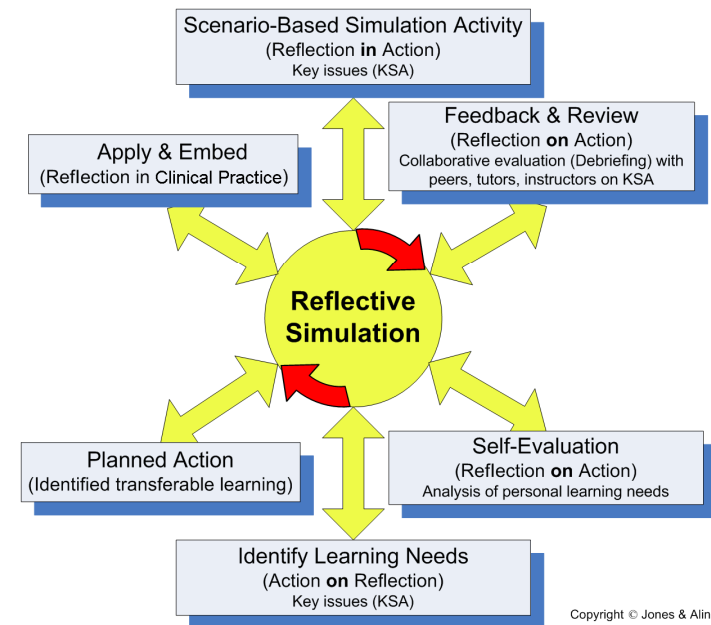
214 Designed as a cognitive aid, the key advantages of the RSF are its:

- 215 • Emphasis on active learning (before, during, and after simulation)
- 216 • Linkage of theory to practice (Simulation and real clinical world)
- 217 • Accommodation of both individual and collaborative learning
- 218 • Flexibility, portability, and accessibility
- 219 • Visual impact triggering and encouraging reflection
- 220 • Potential to encourage written documentation
- 221 • Format providing structure and focus

222 The RSF can also be used flexibly according to the students' individual needs to signpost key learning
 223 issues which can then be prioritized according to short, medium, and long term needs. These can be
 224 related to actual patient outcomes, clinical competency development, or theoretical learning
 225 outcomes aligned to KSAs. There are concerns that skills learning proceeds at different paces for
 226 individual students (Ricketts, 2011). To that effect, the RSF is designed to accommodate the
 227 individual's learning needs and differing levels of reflective practice abilities. As a reflective tool, the
 228 RSF can promote shared learning among different health care disciplines which is compatible with
 229 the curriculum philosophy of inter-professional learning. The framework can be used as the basis for
 230 verbal discussions, for example in post-scenario or critical incident debriefing including settings

231 outside the simulation environment. Additionally it could help to promote extended written
 232 reflections by initially using the reverse side of the laminated cue card for jotting brief comments
 233 with a non-permanent pen. Notably, the RSF is deliberately neither cyclical nor linear so that
 234 individual students can determine the 'what', 'when', and 'why' of reflective learning rather than
 235 following the 'recipe' methods inherent in other frameworks, thereby making it truly learner-
 236 centered. The explicit labeling of the components provides clarity of focus for the learners so that
 237 they can map and manage their learning. The cue card design was also intended to prompt
 238 facilitators about the need to ensure that set curriculum objectives for individual simulation exercises
 239 are appropriate for students' academic levels and clinical progression competencies.

The six components of the Reflective Simulation Framework (RSF)
 (Incorporating Knowledge, Skills, and Attributes (KSA))



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Figure 1: The Reflective Simulation Framework as presented on the cue card.

243 **Methods - Evaluation of the RSF**

244 A small pilot survey was conducted to evaluate the perceived value and potential use of the pocket
245 sized RSF cue card in the context of simulation training and beyond if judged appropriate. This
246 evaluation study made use of a convenience sample of undergraduate healthcare students taking
247 part in high-fidelity simulation sessions. High-fidelity simulation as defined by Alinier (2011) proposes
248 that students are not pre-alerted to the exact scenario they are tackling, and do not receive
249 prompting, unless they call for more senior help; in which case the support they would expect in real
250 clinical practice might be provided. To that effect the students took part in a range of unexpected
251 clinical scenarios appropriate to their level of experience and without direct guidance from a tutor,
252 consequently simulating a real patient encounter (Alinier, 2011). The participants were
253 undergraduate healthcare students studying at a single UK higher education institution, at different
254 years in their program of study as reported in Table 1. The majority of students were in their final
255 year, specializing in adult care or pediatric nursing but the sample also included some first and final
256 year paramedic students. Evaluation data was collected from a total of 72 students over 7 randomly
257 selected uni-professional simulation sessions which took place in the same simulation center and
258 under similar experiential learning conditions. The scenario's learning objectives covered the clinical
259 management of each patient's case as well as generic team working and communication learning
260 objectives. We anticipated that these learning objectives could be largely achieved because the
261 learning experiences were realistic to the students and facilitated in a safe formative learning
262 environment. The foundations for this were created by ensuring that a commonly adopted
263 orientation phase to the learning environment and simulation technology was revisited prior to all
264 high-fidelity simulation activities. This included explanations concerning student expectations during
265 the scenarios and debriefing phases. These are key factors to create an environment within which
266 students should be able to reflect (Aronson, 2011). Emphasis was placed on relevant Crisis Resource
267 Management elements (Rall & Gaba, 2005) such as clear communication, teamwork, anticipating and
268 planning, and preventing fixation errors in order to enrich the students' learning experience.

269

Discipline	Year of study	Number (Female/Male)	Percentage participants
Adult Nursing	3	34 (33/1)	47.2%
Children Nursing	3	22 (22/0)	30.6%
Paramedic	1	8 (5/3)	11.1%
Paramedic	4	8 (4/4)	11.1%
Total		72 (64/8)	100%

270 Table 1: Information about the participants

271

272 Students were informed that their participation was not compulsory. Students were introduced to
273 the use of the RSF and its components at the beginning of each of the simulation sessions. Reflection
274 was defined and clarified so students understood 'what' and 'how' the card might enhance the
275 scenario debriefing (Aronson, 2011). Although it is a core aspect of the debriefing phase of a
276 simulation experience, it was emphasized as an individual responsibility and the RSF framework was
277 provided only as an aid. As such the debriefing facilitators were asked not to interfere with the
278 students' use of the card. As part of the study briefing conducted at the beginning of the session
279 students were encouraged to use the RSF cue card whether they were observing or taking part in a
280 scenario by writing rite brief notes about what was happening during any phase of the session. They
281 were also informed that irrespective of their role in the session they would be asked to provide
282 feedback about the card's usefulness. This approach evaluated the independent implementation of
283 the RSF cue card in a simulated environment, in preparation for actual clinical practice where they
284 might be expected to reflect without guidance from their mentors or peers. The RSF evaluation was
285 conducted using a 10-item survey (Appendix 1) handed out to the students at the end of their
286 simulation session by the same facilitator who introduced it to them at the start.

287

288 **Results**

289 The results of the study and student perceptions of the RSF are presented in Table 2 and 3. When
 290 asked to score on a 5-point Likert scale about ‘the usefulness of having a structured framework to
 291 reflect on simulation experience, the students scored this question 4.11, SD ±0.96, with 75% rating it
 292 as useful or very useful (Table 2). The majority of the students (79.2%) stated that they would
 293 consider using the RSF outside the context of simulation training (Table 3); 88.9% of the students
 294 indicated that the framework could help them to reflect on their learning in clinical practice. To that
 295 effect the offer of using a pocket card size version of the framework was positively perceived by
 296 72.2% of the students.

	Responses:					Mean: (1-5 scale)
	Percentage (number)					
How useful is it to have a model to reflect on simulation experience?	Not useful at all: 1.4% (1)	Not really useful: 4.2% (3)	Not sure: 19.4% (14)	Useful: 31.9% (23)	Very useful: 43.1% (31)	4.11 SD: 0.96
The framework helps me to make links with the simulation debriefing	Strongly disagree: 1.4% (1)	Disagree: 8.3% (6)	Not sure: 27.8% (20)	Agree: 34.7% (25)	Strongly agree: 27.8% (20)	3.79 SD: 0.99

297 Table 2: Results of the RSF evaluation study – Part 1

	Responses:		
	Percentage (number)		
Would you consider using this framework outside the context of simulation training?	Yes: 79.2% (57)	No: 19.4% (14)	Missing: 1.4% (1)
Could this framework encourage you to reflect on your learning in clinical practice?	Yes: 88.9% (64)	No: 11.1% (8)	Missing: 0% (0)
Do you feel that it could be useful to have a pocket card size framework to further assist your learning?	Yes: 72.2% (52)	No: 25.0% (18)	Missing: 2.8% (2)

298 Table 3: Results of the RSF evaluation study – Part 2

299
 300
 301 Table 4 presents the results of a series of questions derived from students’ responses to appraise
 302 specific aspects of the RSF to determine its usefulness. As expected for this type of tool, it emerged
 303 that most students (62.5%) started to use it in the “feedback and review” phase, which in this
 304 context was the scenario debriefing period. Interestingly 26.4% of students also reported starting to
 305 use it during the simulation activity itself. The “feedback and review” component was rated by 41.7%
 306 of the students as the most useful aspect of the framework. No particular RSF component was rated
 307 as the least useful and interestingly 15.3% of the students abstained from answering this question.
 308 Given a choice of three learning aspects from which they could select more than one option if
 309 required, 56.9% of the students thought the framework was useful to increase their knowledge, 52.8
 310 % selected “developing skills” and 29.2% selected “learning about yourself”. Regarding the post-
 311 scenario experience, 97.2% of students indicated that using the framework helped them to identify
 312 at least one learning need. On average students selected 2.17, SD±1.40 of the proposed themed
 313 learning needs, with “clinical skills” and “patient assessment” each being selected by 41.7% of the
 314 students. The “guidelines/protocols” theme was selected by only 18.1% of the students.

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	Responses:						
	Percentage (number)						
At which point did you start using the reflective framework?	Simulation activity: 26.4% (19)		Feedback & review: 62.5% (45)		Self appraisal: 5.6% (4)		Identify learning needs: 5.6% (4)
Which component of the framework do you feel is the most useful to you?	Simulation activity: 27.8% (20)	Feedback & review: 41.7% (30)	Self appraisal: 9.7% (7)	Identify learning needs: 11.1% (8)	Planned action: 5.6% (4)	Apply and Embed learning: 4.2% (3)	
Which component of the framework do you feel is the least useful to you?	Simulation activity: 15.3% (11)	Feedback & review: 1.4% (1)	Self appraisal: 20.8% (15)	Identify learning needs: 8.3% (6)	Planned action: 20.8% (15)	Apply and Embed learning: 18.1% (13)	No response: 15.3% (11)
Which of the following aspects do you find the framework most useful for?	Learning about yourself: 29.2% (21)		Developing skills: 52.8% (38)		Increasing your knowledge: 56.9% (41)		
What were your identified learning needs as a result of using the framework? (select all that apply)	Clinical skills: 41.7% (30)	Patient assessment: 41.7% (30)	Diagnosis/Treatment: 38.9% (28)	Communication skills: 31.9% (23)	Theory: 22.2% (16)	Technical skills: 20.8% (15)	Guidelines / Protocols: 18.1% (13)

324 Table 4: Results of the RSF evaluation study – Part 3

325

326 **Discussion**

327 Reflective practice as an integral part of clinical simulation is now a well established part of our
328 undergraduate curricula. The RSF as a tool and technique has emerged as a result of ongoing
329 pedagogical evaluations and research enquiry over the last seven years. The authors identified a
330 research gap and missed opportunities for maximizing reflective practice learning outcomes.
331 Valuable student feedback received through focus group discussions were both positive and
332 encouraging, and suggested that a more creative approach to reflective simulation was justified to
333 engage both educators and students more effectively. Based on focus group discussions after each
334 session and the students’ suggestions, one of the RSF components was later modified and relabeled
335 to clarify the use of language description. The “Apply and Embed” component which was originally

336 labeled “Reflection in live situation” was replaced by “Reflection in clinical practice” (Figure 1) so that
337 it could not be confused with a live “simulated” situation.

338 The reason why the “feedback and review” component was the most highly rated may have been
339 due to the fact that it was the time when students were guided in their reflection through the
340 facilitated debriefing which prompted the students to think about the decisions and actions taken
341 during the scenario. The students’ response to identifying the least useful component seemed to
342 evidence that they did not want to reject any particular component of the RSF.

343

344 Although the information collected does not allow us to verify the following hypothesis, it is likely
345 that the students who reported starting using the framework during the simulation activity phase
346 might have selected this option from an observer’s perspective (with the RSF card in their hand)
347 rather than while being engaged in the experiential learning activity as a scenario participant. This
348 comment is made based on the fact that during most simulation sessions with nursing students, all
349 students did not get the opportunity to take part in a scenario. Consequently it is acknowledged that
350 from a validity and reliability perspective this assumption would need to be further explored. In
351 general, the framework helped students truly link the simulation-based experience with the
352 debriefing phase that followed to bring to the conscious level and obtain clarification with regards to
353 their decisions and actions that occurred during the scenario.

354

355 Meanwhile, in the absence of any similar published studies, we hope that this report will be of
356 interest and use to both new and experienced simulation facilitators who aspire to encourage more
357 meaningful reflective learning.

358 During the pilot project, we discovered that while reflective practice is generally accepted by faculty
359 to be important and useful, previously learners were often expected to ‘get on with it’ or manage by
360 themselves without any concrete guidance. The use of an RSF cue card at this stage looks promising
361 and could therefore be a useful personal aide memoire and visual focus for meeting educational and

362 personal learning outcomes. It also has the advantage of being useful in both simulation and actual
363 clinical practice, hence providing a practical building block to encourage continuing reflection.

364
365 **Limitations**
366 The limitations of the small scale pilot study underpinning this report are acknowledged. In particular
367 it cannot be claimed from this study that RP was enhanced for those who tested the card over
368 students who did not, or for the students who took part in the simulation experiences versus those
369 who only had the opportunity to use the cue card in an observer capacity. This was not the aim of
370 this pilot study. Similarly, the relative merits of a shared framework between facilitators, students,
371 and peers could have been tested but this would have involved a much larger study and additional
372 resources, which at the time was not possible. However taking these limitations into account, future
373 studies into the RSF as a tool and technique for further enhancing reflective simulation learning are
374 in progress and will be reported at a later stage.

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