Citation:

Title: Supporting students’ learning experiences through a pocket size cue card designed around a Reflective Simulation Framework (RSF)

Authors: Indra Jones BA (Hons), PhD, RNT, RGN, DN, SHN, NTF, FHEA, Guillaume Alinier PhD, MPhys, PGCert, CPhys, MInstP, MIPEM, NTF, SFHEA

Affiliations:
1. Independent Reflective Practice Consultant (Formerly Assistant Director of Learning and Teaching, and Principal Lecturer, Health & Human Sciences, University of Hertfordshire, Hatfield, UK)
2. School of Health and Social Care, University of Hertfordshire, Hatfield, UK
3. Hamad Medical Corporation Ambulance Service, Doha, Qatar

Keywords: Reflection, Simulation, Aide memoire, Cue card, Reflective simulation framework, Learning cycle, Independent reflection, Reflective practitioner

Corresponding author:
Professor Guillaume Alinier
School of Health and Social Care
University of Hertfordshire
Hatfield, HERTS, AL10 9AB, UK
Phone: +44 (0) 07960934643 or +974 33512900
Email: indrajones1@gmail.com
Email: G.Alinier@herts.ac.uk

None of the co-authors have any commercial financial support to declare.

Highlights
- A cognitive aid card can help learners organize their thoughts during reflection.
- Structuring the reflective process should help learners who feel overwhelmed by a simulation experience.
- The portable reflective simulation framework card can be used in real clinical practice to encourage independent reflection.
- Reflection helps learners identify and prioritize their learning needs.
Supporting students’ learning experiences through a pocket size cue card designed around a Reflective Simulation Framework (RSF)

Abstract

Introduction:

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

Methods:

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

Results:

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

Conclusions:

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

Introduction

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

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

More widely, the growth of simulation learning in various healthcare and other industries is well documented (Abrahamson, Denson, & Wolf, 2004; Alinier & Platt, 2014; Gaba, 2004) although it is evident that “simulation” can mean different things to different people (Alinier, 2007). According to
Gaba (2004) “simulation is a technique, not a technology, to replace or amplify real life experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion” (p.12). In the absence of meaningful reflection however, such techniques can limit learning to “contextual task training and repetition” (Dreifuerst, 2009, p.109).

This would seem to justify the suggestion that the transference of reflective learning from simulation learning is a key goal (Galloway, 2009). Exactly how this process should occur is less explicit. A review of the literature identified that apart from the many anecdotal claims about the relative merits of reflective learning from simulation exercises there is a notable lack of concrete evidence to show how its effectiveness as a tool or technique is evaluated (Neill & Wotton, 2011). Despite its prominent place in the majority of ‘debriefing’ literature (Decker et al., 2013; Gardner, 2013; Jeffries, 2007; Levett-Jones & Lapkin, 2014; Morse, 2015; Neill & Wotton, 2011; Raemer et al., 2011; Reed, M., & Ravert, 2013; Shinnick, Woo, Horwich, & Steadman, 2011; Zigmont, Kappus, & Sudikoff, 2011), there is little evidence to inform how RP works apart from the general view that reflective learning is a good and important process that should be done by all practitioners. Evidence to support and inform these curricular interventions and innovations remain largely theoretical thus it is unclear which approaches may have efficacy or impact (Andrews, 2005; Mann, Gordon, & McCleod, 2009).

These observations have been re-iterated recently (Aronson, 2011; Morse, 2015) highlighting the absence of guidance and education with regards to a specific model or approach about reflection regarding learners, consequently resulting in “anecdotes devoid of learning” (Aronson, 2011, p.202). This absence of RP guidance highlighted a curricular deficit in appropriate theory-practice resources for our undergraduate learners and was therefore instrumental in informing the Reflective Simulation Framework (RSF) project. This article describes the use of a ‘portable cue card’ or cognitive aid incorporating the RSF which was designed as a tool and technique to support and enhance reflective practice learning in one UK higher education clinical simulation setting. As such the study presented is primarily a descriptive pilot exploring the usefulness during simulation-based learning experiences with undergraduate nursing and paramedic students of a modified debriefing aid, based on Dreifuerst's work (2009).

Previous work

A major study of reflective practice and the learning of healthcare students (Jones, 2008) which explored students’ perceptions of RP in relation to their academic work and clinical practice identified that undergraduate nursing and paramedic students at all levels of study valued the importance of reflective practice for the enhancement of their personal and professional development. The study which also explored students’ perceptions of ‘structured reflection’ also included observations of nurses and paramedic students in the University’s clinical simulation center to identify how and what reflective methods were used. The results showed that while reflective practice concepts, including structured reflection, were considered by the majority of students to be highly important and useful to their learning needs, the use of popular existing reflective frameworks such as Gibbs’ Reflective Cycle (Gibbs, 1988) was considered to be less important and not appropriate for simulation purposes, given the often rapid pace and responses needed during such sessions.

Following the outcomes of the main study by Jones (2008, unpublished) a preliminary survey was undertaken by the authors to test the feasibility of students using a portable reflective cue card incorporating an RSF. The cue card was designed to enhance the students’ learning abilities both during and after simulation exercises but in a way that would be more convenient for them and not too time consuming to use. The need from an educator’s perspective was to consider when, where, and how reflective enquiry took place and how best to focus the students’ learning needs and enhance their reflective skills development from simulation exercises. The broader aim was also to boost motivation for the students’ summative written reflective practice assignments which were often lacking. The time factor involved in documenting RP issues was a major concern for students.
The rationale for reviewing the different theorists and their reflective frameworks was to incorporate key reflective principles that were already familiar to students such as recall, review, analysis, evaluation, and future action. These concepts reflected our curricula outcomes (KSA) including the transfer of theory to practice in real clinical settings.

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

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

This small pilot study was conducted under the University of Hertfordshire’s Reflective Practitioner Guidelines (UPR AS/A/2) which permit the evaluation of learning and teaching tools that fall outside the parameters of major empirical research that require formal ethical approval. To ensure and maintain student confidentiality all questionnaires were anonymously administered.
The RSF, comprised of six components, is grounded in the theoretical reflective learning ideologies of Dewey (1933) and Schön (1983, 1987) in the sense that it is action-focused both during and after practice, yet allows for more focused explorations of simulation experiences whether individualized or shared. It also acknowledges Moon's (2000) concerns that students are not always able to independently initiate reflective processes effectively. Hence the inclusion of more detailed guidance in the RSF about collaborative processes with others, as appropriate. These components outline a learning strategy involving "peer and teacher feedback" (Bland, Topping, & Wood, 2011) as well as self-evaluation.

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

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

The RSF can also be used flexibly according to the students' individual needs to signpost key learning issues which can then be prioritized according to short, medium, and long term needs. These can be related to actual patient outcomes, clinical competency development, or theoretical learning outcomes aligned to KSA’s. There are concerns that skills learning proceeds at different paces for individual students (Ricketts, 2011). To that effect, the RSF is designed to accommodate the individual's learning needs and differing levels of reflective practice abilities. As a reflective tool, the RSF can promote shared learning among different health care disciplines which is compatible with the curriculum philosophy of inter-professional learning. The framework can be used as the basis for verbal discussions, for example in post-scenario or critical incident debriefing including settings outside the simulation environment. Additionally it could help to promote extended written reflections by initially using the reverse side of the laminated cue card for jotting brief comments with a non-permanent pen. Notably, the RSF is deliberately neither cyclical nor linear so that individual students can determine the 'what', 'when', and 'why' of reflective learning rather than following the 'recipe' methods inherent in other frameworks, thereby making it truly learner-centered. The explicit labeling of the components provides clarity of focus for the learners so that they can map and manage their learning. The cue card design was also intended to prompt facilitators about the need to ensure that set curriculum objectives for individual simulation exercises are appropriate for students' academic levels and clinical progression competencies.

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

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

Table 1: Information about the participants

Students were informed that their participation was not compulsory. Students were introduced to the use of the RSF and its components at the beginning of each of the simulation sessions. Reflection was defined and clarified so students understood ‘what’ and ‘how’ the card might enhance the scenario debriefing (Aronson, 2011). Although it is a core aspect of the debriefing phase of a simulation experience, it was emphasized as an individual responsibility and the RSF framework was provided only as an aid. As such the debriefing facilitators were asked not to interfere with the students’ use of the card. As part of the study briefing conducted at the beginning of the session students were encouraged to use the RSF cue card whether they were observing or taking part in a scenario by writing rite brief notes about what was happening during any phase of the session. They were also informed that irrespective of their role in the session they would be asked to provide feedback about the card’s usefulness. This approach evaluated the independent implementation of the RSF cue card in a simulated environment, in preparation for actual clinical practice where they might be expected to reflect without guidance from their mentors or peers. The RSF evaluation was conducted using a 10-item survey (Appendix 1) handed out to the students at the end of their simulation session by the same facilitator who introduced it to them at the start.
The results of the study and student perceptions of the RSF are presented in Table 2 and 3. When asked to score on a 5-point Likert scale about the usefulness of having a structured framework to reflect on simulation experience, the students scored this question 4.11, SD ±0.96, with 75% rating it as useful or very useful (Table 2). The majority of the students (79.2%) stated that they would consider using the RSF outside the context of simulation training (Table 3); 88.9% of the students indicated that the framework could help them to reflect on their learning in clinical practice. To that effect the offer of using a pocket card size version of the framework was positively perceived by 72.2% of the students.

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

<table>
<thead>
<tr>
<th>Responses:</th>
<th>Percentage (number)</th>
<th>Mean: (1-5 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How useful is it to have a model to reflect on simulation experience?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not useful at all:</td>
<td>Not really useful:</td>
<td>Useful:</td>
</tr>
<tr>
<td>1.4% (1)</td>
<td>4.2% (3)</td>
<td>19.4% (14)</td>
</tr>
<tr>
<td><strong>The framework helps me to make links with the simulation debriefing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree:</td>
<td>Disagree:</td>
<td>Not sure:</td>
</tr>
<tr>
<td>1.4% (1)</td>
<td>8.3% (6)</td>
<td>27.8% (20)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Responses:</th>
<th>Percentage (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Would you consider using this framework outside the context of simulation training?</strong></td>
<td>Yes: 79.2% (57)</td>
</tr>
<tr>
<td><strong>Could this framework encourage you to reflect on your learning in clinical practice?</strong></td>
<td>Yes: 88.9% (64)</td>
</tr>
<tr>
<td><strong>Do you feel that it could be useful to have a pocket card size framework to further assist your learning?</strong></td>
<td>Yes: 72.2% (52)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Percentage (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At which point did you start using the reflective framework?</td>
</tr>
<tr>
<td>Simulation activity: 26.4% (19)</td>
</tr>
<tr>
<td>Feedback &amp; review: 62.5% (45)</td>
</tr>
<tr>
<td>Self appraisal: 5.6% (4)</td>
</tr>
<tr>
<td>Identify learning needs: 5.6% (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Which component of the framework do you feel is the most useful to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulation activity: 27.8% (20)</td>
</tr>
<tr>
<td>Feedback &amp; review: 41.7% (30)</td>
</tr>
<tr>
<td>Self appraisal: 9.7% (7)</td>
</tr>
<tr>
<td>Identify learning needs: 11.1% (8)</td>
</tr>
<tr>
<td>Planned action: 5.6% (4)</td>
</tr>
<tr>
<td>Apply and Embed learning: 4.2% (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Which component of the framework do you feel is the least useful to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulation activity: 15.3% (11)</td>
</tr>
<tr>
<td>Feedback &amp; review: 1.4% (1)</td>
</tr>
<tr>
<td>Self appraisal: 20.8% (15)</td>
</tr>
<tr>
<td>Identify learning needs: 8.3% (6)</td>
</tr>
<tr>
<td>Planned action: 20.8% (15)</td>
</tr>
<tr>
<td>Apply and Embed learning: 18.1% (13)</td>
</tr>
<tr>
<td>No response: 15.3% (11)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Which of the following aspects do you find the framework most useful for?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about yourself: 29.2% (21)</td>
</tr>
<tr>
<td>Developing skills: 52.8% (38)</td>
</tr>
<tr>
<td>Increasing your knowledge: 56.9% (41)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What were your identified learning needs as a result of using the framework? (select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical skills: 41.7% (30)</td>
</tr>
<tr>
<td>Patient assessment: 41.7% (30)</td>
</tr>
<tr>
<td>Diagnosis/Treatment: 38.9% (28)</td>
</tr>
<tr>
<td>Communication skills: 31.9% (23)</td>
</tr>
<tr>
<td>Theory: 22.2% (16)</td>
</tr>
<tr>
<td>Technical skills: 20.8% (15)</td>
</tr>
<tr>
<td>Guidelines / Protocols: 18.1% (13)</td>
</tr>
</tbody>
</table>

Discussion

Reflective practice as an integral part of clinical simulation is now a well-established part of our undergraduate curricula. The RSF as a tool and technique has emerged as a result of ongoing pedagogical evaluations and research inquiry over the last seven years. The authors identified a research gap and missed opportunities for maximizing reflective practice learning outcomes. Valuable student feedback received through focus group discussions were both positive and encouraging, and suggested that a more creative approach to reflective simulation was justified to engage both educators and students more effectively. Based on focus group discussions after each session and the students' suggestions, one of the RSF components was later modified and relabeled to clarify the use of language description. The “Apply and Embed” component which was originally labeled “Reflection in live situation” was replaced by “Reflection in clinical practice” (Figure 1) so that it could not be confused with a live “simulated” situation.

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

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

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

During the pilot project, we discovered that while reflective practice is generally accepted by faculty to be important and useful, previously learners were often expected to ‘get on with it’ or manage by themselves without any concrete guidance. The use of an RSF cue card at this stage looks promising and could therefore be a useful personal aide memoire and visual focus for meeting educational and
personal learning outcomes. It also has the advantage of being useful in both simulation and actual
clinical practice, hence providing a practical building block to encourage continuing reflection.

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

Acknowledgement
The authors would like to thank Mrs. Krishna Ruparelia, Principal Technical Officer in the
Hertfordshire Intensive Care & Emergency Simulation Centre at the University of Hertfordshire, for
her assistance during the conduct of this study. Special thanks are given to the students who agreed
to use the RSF for its evaluation during their simulation sessions and the facilitators who co-operated
with the survey project. The authors also wish to acknowledge the valuable contributions of the
reviewers and especially Professor Suzie Kardong-Edgren for her input. This study was conducted
without funding.

References
anesthesiology residents. *Quality & Safety in Health Care*, 13, 395-399.
29(8), e243-250.
study design and initial results. *Nurse Education in Practice*, 4(3), 200-207.
Alinier, G., & Platt, A. (2014). International overview of high-level simulation education initiatives in
NSWICET International Centre for Vet Teaching and Learning.
doi: 10.1016/j.nedt.2010.10.013
Standards of Best Practice: Simulation Standard VI: The Debriefing Process. *Clinical
Simulation in Nursing*, 9, e26-e29.
Education Perspectives*, 30(2), 109-114.
Suppl 1, i2-10.
care professionals*. The Online Journal of Issues in Nursing, 14(2), Manuscript 3.
Education Unit, Oxford Polytechnic.
League for Nursing.
34-38.
Development of Critical Reflection in the Health Professions* (pp. 38-46). York: Higher
Education Academy Health Sciences and Practice.
fulfilment of the requirements for the degree of Doctor of Philosophy. (Doctor of Philosophy),
University of Hertfordshire, Hatfield.
The case for structured reflection in the paramedic curriculum. Pre-Hospital Immediate Care, 4(3), 150-152.


Reflection and reflective practice in health professions education: a systematic review. Advances in Health Sciences Education : Theory & Practice, 14, 595-621.


Debriefing: The Most Important Component in Simulation?. 7(3), e105-e111.