A guiding tool for supervising simulation and debriefing activities

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Rationale and aim

Guided self-reflection and direct feedback are well-established strategies to facilitate learning in simulation-based education (SBE) [1-2]. These strategies are also commonly used in faculty development programs [3], to enhance learning for both basic or continuous training of SBE-instructors.

There are several facilitator feedback ratings tools [1-2,4], developed to measure debriefing quality. Although these tools serve their purpose well, they are difficult to apply in formative contexts, and only address the debriefing component. Considering this need, a non-rating tool with an overarching structure was developed: SShADoW - Supervising Simulation And Debriefing Wisely.

SShADoW is a standardized guiding tool that supports *instructor-trainers*, throughout the process of supervising (or shadowing) simulation and debriefing activities. Its aim is to provide a guidance for a structured and standardized reflective conversation on the simulation experience.

Purpose and intended use

SShADoW is meant to be an overarching instrument and cognitive aid to reflect on simulation and debriefing activities. Despite it builds on existing tools it is not bound on any of them (e. g. debriefing models, OSAD, DASH, etc.).

The tool was structured to cover the most relevant aspects of a simulation activity, including all phases (from scenario design to debriefing), through an integrative but flexible approach. SShADoW was primarily developed to be used during simulation instructor courses, although it is expected to be also applicable in longitudinal faculty development programs or as a self-development strategy.

As in any SBE activity, psychological safety should be guaranteed: the application of this guidance tool should be agreed upon and discussion should be handled with appropriate confidentiality.

It is recommended to determine the observation focus before the activity. The tool was sectionally structured, to be adaptable to a course program (e.g. allows focus on specific aspects or the overall activity, based on the learning objectives) or adaptable to individual learner needs (e.g. peer-feedback with previous agreement on the aspects to discuss). See examples of use below.

> *Example 1: On a 3-days instructor course (e.g. EuSim Level 1) the application of the tool would have different focuses throughout the course. On day one, it could be used to observe the first debriefings attempts, focusing on the debriefing structure and the time management. On day two, with participants developing and applying their own scenarios, it would observe the full process: scenario design, briefing, scenario conduction, and debriefing. And, on day three, where participants re-run their scenarios, it could be used, focused on the debriefing, to explore different questioning techniques.*
>
> *Example 2: In a peer-feedback situation, an instructor would ask a colleague to observe a specific aspect of his performance (e.g. if the briefing was structured and comprehensive; if he appropriately involved observers into the debriefing, etc).*
>
> *Example 3: In a personal development strategy, an instructor would record the activity (upon requested permission) and would use the tool for self-assessment.*

After the observation, a dialogue between the involved persons should elaborate on the established/agreed key issues. The supervisor is free to choose any underlying model for structuring the conversation, alternating guided self-reflection and directive feedback. Directive feedback is particularly useful to provide objective guidance (e.g. structured briefing; time-management; etc), allowing a timely discussion. Also useful with novice learners that lack knowledge and experience in a certain topic and self-reflection can be difficult to achieve.

The timing and the duration of the conversation is also flexible and adaptable to the context. In the context of an instructor course, a dedicated time is incorporated in the schedule of the course, and typically occurs immediately the simulation activity. In a different context (e.g. peer-feedback or self-development), the conversation/reflection could be right after or in a near future, at a time where the involved persons are available and susceptible to engage in the discussion/reflection. The duration should allow an efficient and meaningful reflection of the simulation activity.

Orientations for using SShADoW

SShADoW structure covers the full process of a simulation activity, considering that all phases are interrelated: starting with the scenario design and culminating in the debriefing. The "Egg" model (Fig. 1) symbolizes the full process, with the "yolk" representing the core phases of the simulation activity, and the "white" representing the scenario design (involving all core phases).

The following sections introduce each phase, including specific observations and recommended discussion points.

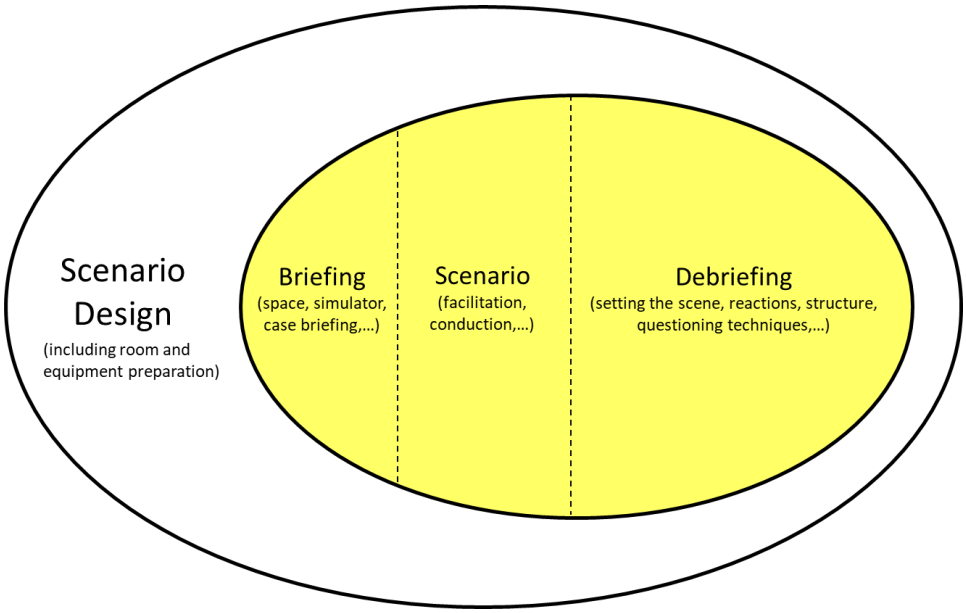

Fig. 1 – The "Egg". The "yolk" represents the core phases of the simulation experience. The "white" represents the scenario design that involves all core phases.

Scenario Design

Standardized simulation design provides a framework for developing effective simulation-based experiences [5]. The scenario design must be approached systemically [6] and stepwise: define target audience and learning objectives, draft a storyboard based on the learning objectives, assess if necessary resources are available (physical and human), and refine/finalize the storyboard.

The scenario design phase may not be applicable to all contexts (e.g. self-reflection or peer-feedback) but may be relevant in instructor courses that covers the full process.

Specific observations (not exhaustive list):

- Follows a structure/template
- Designed based on learning objectives and for a defined target audience
- Assess the needed vs available resources
- Proper deployment of room, equipment, prompts, …

Explore:

- Fitting between participants ability, learning needs and learning objectives, scenario task and complexity

Briefing

There are a variety of terms used in the literature referring to the activities before the simulation exercise meant to prepare and orient participants into the activity. Most commonly used terms are briefing, preparation, familiarisation, or orientation. For the sake of clarity, in the context of this tool, we will use the term briefing.

Conducting a briefing before the simulation exercise is vital for the learner's success, as it provides an adequate orientation of the entire process allied to a psychologically safe environment (Fig. 1). This practice optimises the learning experience by keeping the participants committed and engaged in the simulation exercise, and receptive for debriefing and reflective practice [7].

The briefing of the simulation activity can cover several aspects of the learning experience. These may include reviewing the session's goals and objectives, introducing basic simulation rules (establishing a fiction contract with learners), providing a structured introduction of the general simulation environment (simulators, equipment/material, etc), and specificities to the setting of a simulation scenario (place, times, roles, etc) [8].

The "onion" model (Fig. 2) may provide a useful structure, covering (or "pealing") the different components of the briefing.

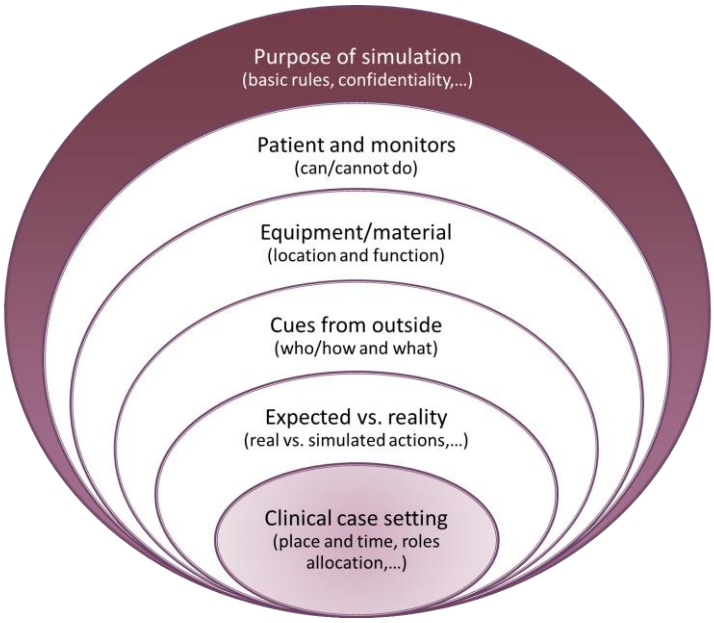

Fig. 2 – The "Onion". This model proposes an order to "peel" the different aspects of the briefing. Outer layer (dark purple) reflects the overarching purpose of simulation. The intermediate layers (white) reflect a structured delivery of the information, covering relevant aspects for the environment familiarisation. The inner core (light purple) reflects specific information relevant to the setting of the clinical case.

The outer layer aims to define the purpose of simulation and include the overarching goals and objectives of the simulation as a learning strategy to improve patient safety, define the confidentiality agreement, and set the basic rules (e. g. fictional contract, learning environment, and timeline of events). The introduction of these aspects is typically addressed before the simulation exercise and, therefore, will not be explicitly included in the proposed tool.

The intermediate layers target elements related to the familiarisation of the simulation environment, namely, the can/cannot do with the patient (simulator or standardised patient), the available equipment/materials (location and functions), how the cues from outside will appear and what type of information is expected to be delivered ("*there are no free lunches*"), and what to expected vs reality. The inner core is specific aspects directly related to the setting of a simulation scenario, such as roles definition (e.g. crash team; consultant available, …), location (e.g. OR, ER, pre-hospital, ward, ...) and time of the day (if relevant, otherwise the actual time is assumed).

The "onion" layers can be rearranged or simplified based on the simulation setting or learners' needs. The aim of this model is to be used as a cognitive aid to monitor how the facilitator conducts and organises the briefing.

Specific observations can include (not exhaustive list):

- Facilitator greets the participant and establish trust and security
- Tasks and agreement of roles between facilitators/operators/confederates
- Systematic (zooming in) and detailed briefing of the environment.
- Facilitator is receptive to questions and invites participants to explore the space
- Clinical case briefing: clear definition of place, time, roles, etc

Explore:

- How did the briefing facilitated/impaired the scenario running and/or the debriefing?
- Balance between necessary information vs too much information

Scenario

The implementation/conduction of the scenario is a multi-task and, potentially, overwhelming event, orchestrated by the facilitator(s), operator, and eventually other elements (standardised patients, confederates, additional faculty, etc). A good balance between complexity/simplicity of the scenario and realism/immersion is a key aspect to achieve a relevant learning experience.

A carefully designed scenario requires preparation and includes many aspects, such as, clear definition of the objectives, clinical situation, progression stages, prompts and life-savers, roles, resources, etc. Still, participants will always bring unexpected complexity. Facilitators are expected to "control" the unfolding of the events, providing an immersive experience to the participants, without excessive intervention.

A “honeycomb” can be a useful graphical representation to monitor these interrelated tasks (Fig. 3).

Fig. 3. The “Honeycomb”. Each cell addresses an aspect of scenario conduction/facilitation.

Example of specific observations (not exhaustive list):

- Balance between complexity and task overload (facilitators)
- Balance between complexity/simplicity and realism
- Specific elements that were included in the scenario to stimulate the learning objectives
- Degree of intervention/interference of the facilitator during the scenario
- Degree of improvisation of the facilitator/operator/others during the scenario
- Degree of immersion of participants during the scenario
- Unexpected events/surprises
- Type of beginning (e. g. jump-start)/ending of scenario

Explore:

- Options to avoid excessive interference from the facilitator
- How improvisation/interferences/lack of realism affect the immersivity of participants
- Prompts/life savers that could be useful for the scenario
- If the learning objectives were properly stimulated through this scenario

Debriefing

Debriefing has been identified as the most important component in the process of learning in simulation [9-10]. Kolb's experiential learning is a cornerstone in the debriefing phase. A learner enters through an experience, reflects on that experience, analyses the process and its meaning and then tries a different approach in a similar future situation based on their new understanding [10, p.168]. There are a number of different methods and techniques used in clinical simulation. According to the review to Sawyer et al. [9] a multitude of debriefing process elements can be

identified in the literature. Considering the structure of the debriefing, most debriefing frameworks consists of 3-4 phases [9-12]: Setting the Scene/Reactions (if applicable), Description/Gather, Analysis, and Summary/Application.

This tool was build considering a D-A-A structure [11] and a learner-centred approach [13], but can be adapted to other structures/frameworks/approaches.

Overall considerations

Considering that there are overall assumptions longitudinal to any debriefing framework and phase, these where compiled as overarching observations.

Psychological Safety:

- Privacy, sitting position, room setup
- Relationship, atmosphere, respect, esteem

Efficiency:

- Time management
- Clear structure/clear transition between phases
- Task management between facilitators, use of resources
- Talking time (facilitators vs participants), involvement
- Communication patterns
- Discuss observers/simulated patient input
- Learning objectives disclosure
- Problem vs. solution oriented

Patient Safety:

- Considering state of the art care, current guidelines, etc.

The "pizza" debriefing model (Fig. 4) offers a visual guidance for structure and time management.

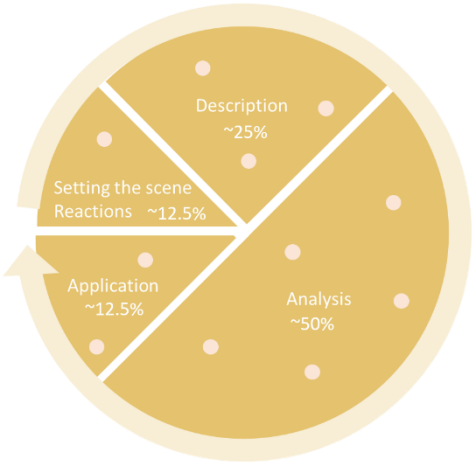

Fig. 4 – The Debriefing Pizza. The slices present the different phases of the debriefing.

Setting the Scene/Reactions

This initial phase introduces the ground rules for debriefing (briefing the debriefing), including its structure. This phase also allows the participants to "blow off steam" by sharing their initial reactions. The different reactions can be noted down ("pearls") and latter explored in the analysis phase [9-10].

Depending on the familiarity of the participants with debriefing and the underlying socio-cultural norms, this phase can be (partially or fully) excluded.

Example of specific observations (not exhaustive list):

- Briefing the debriefing
- Briefly check emotions in one word/sentence
- Collect "pearls"

Description

In this phase, the scenario, their actions should be described chronologically and comprehensively. Typically, it starts with the participant(s) who arrive first, involving the other participants as their actions/interventions occur. The facilitator should use assertiveness/control appropriately to keep participants on track (objectives/facts).

At the end of the description phase there should be a consensus amongst the participants about the learning objectives and how the scenario unfolded. [10].

Some debriefing models, have different approaches to the description phase (e.g. instead of a shared agenda, focus the description in the learning objectives). These variations can be included in the tool, as needed.

Example of specific observations (not exhaustive list):

- Use assertiveness/control appropriately to get a chronological, objective, factual, complete description
- Conclude description clearly
- Achieve a shared mental model
- Collect "pearls"
- Involve participants appropriately

Analysis

In the beginning of this phase, having a consensus of what will be discussed is desirable. This should be an agreement between the participants and the facilitator, bearing in mind that not all topics will be discussed.

This phase is the heart of the debriefing and of the learning process [10]. In the analysing phase the facilitator explores what happened from the participants' perspective and digs deeper into the participants' mental model framing the rationale behind the actions.

The goal is to facilitate participants' reflection on their individual and team technical, cognitive and behavioural skills [12], in alignment with the learning objectives [14]. If the participants are diverting to discussions not related to the learning objectives, the facilitator should decide if this is a relevant topic to add to the discussion or redirect and guide the group to the agreed learning objectives.

To identify the mental models that framed their actions, the facilitator may use different types of questions (open, closed, advocacy and inquiry etc.) The facilitator should encourage an open and joint conversation between all participants, as opposed to one-to-one ("ping-pong") interaction. The facilitator should demonstrate to be an active and respectful listener, with a genuine curiosity about the events [13-17].

Before moving to the application phase, time permitting, the facilitator can ask if there are other burning questions to discuss.

Example of specific observations (not exhaustive list):

- Address successes and improvements
- Use different questions techniques (advocacy and inquiry, circular questions...)
- Use "pearls" to steer discussion
- Use video sequences to support reflection (if applicable)
- Reflection level achieved
- Relevancy of issues addressed
- Pertinency in the light of patient safety

Application

The last phase promotes the transfer between the simulation activity and the working practice. Considering learners are more likely to take ownership of insights that emerge from their own discoveries (learner guided approach) [13], each participant is asked to formulate an action-plan and how to link it and when to implement it in the clinical setting. If the message is not specific (e.g. communication), the facilitator can explore ("dig deeper") how it will be applied through specific examples.

Example of specific observations (not exhaustive list):

- Ask for sustainable take home messages (individual, team, organization)
- Ask for specific action plan and examples (what, when, who, how?)
- Discuss how and when it will be transferred into their daily practice

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This tool was developed in a joint collaboration of EUSIM Faculty from the following Institutions:

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