Guidelines for Writing a Technical Report

**Introduction**

The introduction should be brief, between 250-500 words and include the following elements:

MAP

* What is the skill that the simulation is intending to teach? Give some background information.
* Why is it an important skill to learn? And how is simulation a valuable method for teaching it?
* Who are the intended groups of learners?

GAP

* Why is this technical report novel?
* What is currently missing in literature?
* What does this report add that is unique?
* How does it build on existing literature (e.g., are there similar reports available)?
* How does it extend or build the body of knowledge?

SOLUTION

* What are the learning objectives?
	+ List only those that are specific to simulation.
	+ Follow SMART learning objectives ([http://uncw.edu/career/documents/WritingSMARTLearningObjectives.pdf)](http://uncw.edu/career/documents/WritingSMARTLearningObjectives.pdf%29)
* What are the anticipated outcomes?

**Technical Report**

*Context, Input, Process, Product*
This section of the technical report is written in a similar way as a cooking recipe.  That is, first one should describe the context, lay out all the ingredients necessary, provide a process of how the ingredients are mixed, and finally how one should know if the cooking was successful.

*Context:* Describe the environment in which the simulation presented in the technical report has been, or could be used.  Explain why this setting in most appropriate.

* In situ
* University/College based simulation facility
* Hospital based simulation facility
* Rural setting
* Urban setting
* Other

*Inputs:* Describe all the necessary infrastructure and human resources that are necessary to implement the simulation case.  If in-situ, please specify what elements need to be brought in, and which are expected to be found in a clinical setting.

* Simulation equipment
* Medical equipment
* Drugs
* Trainees/learners
* Educators
* Confederates
* Other standardized personnel
* Other

*Process:* Describe all processes that are relevant to the execution of the simulation case.

* Certificates required
* Training (of facilitators/educators)
* Chronological flow of events (use flow charts in necessary)

*Products/Outcomes*: Describe the plan for how the learners will be assessed and how your simulation case/scenario will be evaluated.

* Assessment metrics (describe their validity)
* Evaluation methods (*Dubrowski A, Morin MP. Evaluating pain education programs: an integrated approach. Pain Res Manag. 2011 Nov-Dec;16(6):407-10. Review.)*
	+ Process based
	+ Outcome based
	+ Hybrid

*Case*
Please provide a short “stem” for the case. One or two paragraphs that introduce the patient.

*Pre-briefing*
Provide strategies for addressing the following:

* Participants
* Time of session & debrief
* Fiction contract
* Environment
* Equipment
* Rules
* Reiterate the LO’s

*Scenario*
Please use a table or a flow chart to describe how the simulation will unfold. Include details about what happened to the patient, give the back story of the injury or illness, etc. Detail how the case will progress, what the learners will be expected to do and how they will do it.

Authors are encouraged (but not required) to use the template format promulgated by the Duke University Simulation Center, available at [http://anesthesiology.duke.edu/?page\_id=825706.](http://anesthesiology.duke.edu/?page_id=825706)

*Feedback and Debriefing*
Please describe in detail how the learners will be debriefed, which methods of debriefing will be used and why and specify the timing of the feedback/debriefing and why.  Authors may consider using the [LEARN framework](http://www.med.mun.ca/TSRC/Cureus/LEARN.aspx) to guide the selection of tools required for feedback and debriefing (*Sawyer T, Eppich W, Brett-Fleegler M, Grant V, Cheng A: More than one way to debrief: a critical review of healthcare simulation debriefing methods. Simul Healthc. 2016, 11:209-17.)*

*Post Scenario Didactics*
This should include all the medical details that trainees need to learn about the case, e.g. medicine dosages, reason for the chosen treatment, other treatment options. Can be creative here and include additional resources, do a ppt that outlines the important info, a voice recording, etc.

**Discussion**

* What were the learning objectives?
* Who were the learners?
* What were the “lessons learned”?
* What are some possible alternatives if this scenario is adapted to other contexts (e.g., from medicine to nursing)?

**Conclusions**

Concluding statement: why is it important to teach this skill, using simulation as an educational technology of choice, to this particular group of students?

Consider:

* Teaching skills that will be commonly encountered by the learners to prepare them to be effective
* Teaching skills that are high stakes but low frequency
* Other alternatives, such as on-line and didactic setting