SCSChf: Immersive simulation for planned learning

If you're short on time, just go to the **What?** Section
If you want the full picture, start here…

Introduction
People often talk about debriefing models, and there are many out there. At SCSChf, we think more in terms of the entire process of using simulation rather than a model for debriefing in isolation. We believe that the ultimate value in terms of efficacy of learning and efficiency of total resource lies in using simulation for planned learning. We use the word 'immersive' to refer to the type of simulation that is built to achieve psychologically high fidelity, where the participants act and react in way very similar or indeed identical to the way they would in a real situation.

Why?
If we take constructivism as a basis for creating learning, we accept that intelligent adults will construct their own learning, in their own mind, based on the experiences they have. A logical extension of this is that when using simulation, we can shape the experience they have by designing and controlling the activities they engage with. Furthermore, if we manage to direct the simulated activity in such a way that it includes all of the building blocks for the learning we plan, when it comes to debriefing, the participants will be constructing the learning we intended as soon as we all walk into the debriefing.

Taking a broad look at overall resource utilisation in healthcare education by considering efficiency, simulation for planned learning makes sense. If we were to use simulation for formative assessment (assessment for learning), we should first make sure that we are using every opportunity for formative assessment in real clinical practice. Until we are truly making full use of every clinical encounter for learning, should we really be using more resources to do that in simulation? Real clinical encounters do not have the potential controls over the experience that simulation can do. Therefore, if we create simulated encounters without controls over the experience with the aim of debriefing and formative assessment, we should really have a debriefer in the corner of every real clinical encounter to make use of those first. On a related note, simulation for practise of uncommon or critical events is certainly useful, but we would ask whether it really needs to be an immersive simulated environment to do that. Taking it a step further perhaps some aspects of that practise could be embedded into your planned learning events. Using simulation for summative assessment (assessment of learning) is clearly happening but will not be considered any further here.

Of course, simulation can be used for all of the purposes mentioned above, and more. All we are suggesting is that simulation for planned learning is the most efficient. Do this first to maximise the use of your resource.

How?
Saying that simulated activity is built on learning objectives and actually achieving that are often not the same thing! With simulation for planned learning, we can make full use of the concept of constructivism. We can meticulously build every single part of the simulated activity to contain the building block materials that will help participants to construct the

planned learning within the debriefing. Once the activity is built, we also need to ensure we actively drive the participants through from start to end. Meanwhile, from the participant perspective they are just experiencing a simulated activity, engaging with it in a way that approaches real life, whereby their thoughts and actions are identical or at least similar to those that would occur outside the simulated environment.

Although this may sound strange, the first part of the process for using this approach is divorcing yourself from real life. Do not simply recreate things that happen in real life, rather be the writer and director of an experience that results in the creation of new learning, which you have planned to deliver. The simulated activity can be stripped back to the bare minimum required to deliver the learning objectives as outcomes by the end of the debriefing. Of course, there must be realistic elements embedded and the participants must feel that they are in a real environment with a real clinical encounter, but this is achievable without all of the extraneous complexity of real life.

It's useful to remember that the learning will occur by the end of the debriefing, so think of your learning objectives written in the form "at the end of the scenario and debriefing the participants will be able to…". Each learning objective will correspond to a discrete part of the scenario. When you come to build each part of the simulated scenario, all you need is *enough* to spark that conversation in debriefing that will result in the learning you planned. This applies to whichever domain your learning objectives may lie. If you immerse participants in a simulated scenario and create stress and a sense of urgency, you will certainly create material to talk and learn about non-technical skills. The problem is that this approach is random and to deliver a programme of learning about non-technical skills would require multiple runs and inefficiency. By specifically designing each part of the scenario to give you material to have a debriefing conversation about each of the specific learning objectives, you can reliably deliver what you planned.

In order to achieve this scenario efficiency, we use Transition Triggers as an indication to move through the scenario stages or States. A Transition Trigger is something that the participants do or say that signals we have the material required for the debriefing conversation to cover the particular learning objective. Choosing a Transition Trigger has to consider which actions or words you would observe that suggest the participants are thinking about, or at least have the building block material to think about your specific learning conversation when it comes to debriefing. They need to be specific enough to link to the specific conversation you want to have. Each State of the scenario just has to have enough material, and the more you use this approach, the more you realise the pieces of information or data you can insert to the scenario itself to allow the conversation to occur in debriefing. It's probably worth thinking of each scenario State along with its Transition Trigger as a lightbulb going off in the participants minds "that's interesting, I really want to think about and discuss this more". In general and up to a point, the more participants have to think about your scenario State, the easier it will be to have a debriefing conversation about it.

If we accept that learners will construct their own learning from the activity, we must ensure that we actually have the material within the scenario State. This means that whatever the participants do or don't do, the Transition Trigger must occur, otherwise you don't have the material for your debrief. This is where the concept of Prompts comes in. A Prompt is

something that you use to move the scenario state towards the Transition Trigger. Any Prompts used need to come across as realistic and embedded within the situation so as not to break the immersion. Prompts may include things the simulated patient says or does, physiology changes, or other things in the environment. We would always have an embedded faculty member or confederate within each scenario. This person appears as part of the participant simulated team, acting in a realistic role and working with them, but with a communication to the scenario drivers so that Prompts can be fed in via this person in the form of comments, questions or actions. Much care must be taken in the way that this person interacts with the participants and feeds Prompts in, as they are at the most risk of breaking immersion. As long as the comments, questions or actions are realistic within the situation you will find you can Prompt a scenario state forward without breaking immersion.

In terms of immersion of participants, it's worth considering trying to predict what may or may not happen so that you can prepare for or build out any of the aspects that could break immersion. In general, if there's something that the participants will have to pretend to do (e.g. venous access in a manikin without venous access functionality) we would try and build that out of the scenario. The confederate faculty can be very useful for these situations by realistically appearing to do the things that actually can't be done in a realistic way. In the rare situation where it would break immersion for someone other than the participants to perform the task, because it would always be them, then we do everything to find a way for that to happen without an element of pretending.

Once you have driven your participants through the scenario, generating the material for each learning objective conversation in turn, it's time for the Debrief. The SCSChf debriefing model is simple and has much in common with other debriefing models. It's used both in simulation and for debriefing real clinical situations, but the real strength is in using the SCSChf methodology in its entirety. The first part is the Reactions phase, a short period of trying to understand participants' emotional reaction to the simulated activity. This is a kind of acknowledgement and blowing off steam to be able to continue with the debrief. At this point you get an idea of the degree of immersion and engagement with the simulated activity with an opportunity to defuse the situation if you have overchallenged the participants. You can then move on to the Agenda phase which you are going to ultimately use to focus the debriefing onto the learning conversations you planned. There are multiple ways to do this, the most common is by asking what the participants they found easy, and then whether there were any things that were more of a challenge. All of the words that they say are collected so that the debriefing conversation belongs to them and all of them. Towards the end of the Agenda phase, the facilitator selects the topics from the list of words. This of course links to the planned learning objectives, and they will have said them because you have designed and actively run the simulated activity from start to end. The next part is where the real learning occurs, using the signposted agenda to focus the conversations you facilitate each conversation in turn to help participants construct the new learning you had planned. Microteaching is included in the debriefing model, because some facilitators may feel the urge to tell the participants things. Ensuring that any didactic delivery of teaching is confined to one small part of the debriefing makes facilitated learning much easier than when it is sprinkled through the debrief. Once you gain experience of meticulous scenario design, Microteaching becomes less relevant as you are able to build all of the necessary elements into the scenario. Often as part of Analysis we use short, signposted video clips that are

aligned to the planned learning objectives and used to rapidly develop the conversation. Once you have facilitated the learning conversations around all of your planned learning objectives, and helped people to distil out the learning, the debriefing is finished. The final thing is a check on whether you have done your job today, the Take Home Messages. Asking participants what they have taken away from the conversation hopefully gets back an indication of whether their learning outcomes match to the learning objectives you planned. If they don't, then you have failed, there is little point in telling them what you hoped they would have learned because they have already constructed the learning for themselves: and that's what matters. Following the methodology from start to finish means that the actual outcome will match the planned objectives.

What?

To summarise: the SCSChf approach to using immersive simulation for planned learning begins with defining precisely what you plan for participants to learn. Everything then stems from that point. The SCSChf approach is believing in the power of constructivism and trusting in the methodology to deliver the learning you plan.

- Define the Learning Objectives for your participant learners.
- Meticulously build your simulated activity to contain the material required to produce the debriefing conversation you need: build the scenario to drive to the Transition Triggers.
- Refine your simulated activity to immerse your participants as if it were real: which aspects need to be there?
- Actively drive your simulated activity to guarantee you have the material required to produce the debriefing conversation you need: use realistic Prompts to scaffold the material as required.
- Sit back and enjoy your debriefing: use the Reactions, Agenda, Analysis approach to provide a safe platform for a focussed and efficient discussion that belongs to the participant learners and ends with everyone walking out of the room having learned what you set out to deliver.
- Assess your own performance by discovering what learning the participant learners have constructed in their own minds, based on the activity you gave them and the conversation you helped them to have: ask them what their Take Home Messages are.

If you want to know more about how to apply these concepts, please get in touch with us, please come and spend time with us on our Faculty Development courses.

Constructive alignment:

Scenario is built on learning objectives

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Scenario is driven to cover learning objectives

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Debriefing is concentrated around learning objectives

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THMs mirror the learning objectives

Scenario Storyboard				
STATE NAME	STATE	DESIRED LEARNER BEHAVIOURS & TRIGGERS TO MOVE TO NEXT STATE		
(LO 1)	Patient response Physiology Other Events	Learner Actions: May happen May not Not essential Use to predict potential miscues	**Transition Trigger:** The one learner action that must happen Aligned to LO **Prompts:** Physiology Subtle Patient response Make Realistic! Faculty Make Very Realistic!! Events	Additional Points Other things to cover in debriefing associated to the state
(LO 2)	Patient response Physiology Other Events	Learner Actions:	**Transition Trigger:** **Prompts:** Physiology Patient response Faculty Events	Additional Points


How do you feel?
REACTIONS
Has anyone seen anything like this before?
What went well in there?
Any things that were more of a challenge?
AGENDA
GOOD / CHALLENGE
What were you thinking from the easy seats?
What have you learnt from this?
THM
Let's quickly clear up…
MICROTEACH
ANALYSIS
What was happening leading up to…
What do you think about…
Tell me more about…
I'm interested in…
QUESTIONS
VIDEO
I want you to look specifically at…