

# The Art of Sim-Making: What to Learn from Film-Making

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## Abstract

The components of each stage have similarities as well as differences, which make each unique in its own right. As the film-making and the movie industry may have much we can learn from, some of these will be covered under the different sections of the paper, for example, “Writing Powerful Narratives,” depiction of emotional elements, specific industry-driven developments as well as the “cultural considerations” in both.

For medical simulation and simulation-based education, the corresponding stages are as follows:

- Development
- Preproduction
- Production
- Postproduction and
- Distribution.

The art of sim-making has many similarities to that of film-making. In fact, there is potentially much to be learnt from the film-making process in cinematography and storytelling. Both film-making and sim-making can be seen from the artistic perspective as starting with a large piece of blank, white sheet of paper, which will need to be colored by the “artists” and personnel involved; in the former, to come up with the film and for the latter, to engage learners and ensure learning takes place, which is then translated into action for patients in the actual clinical care areas. Both entities have to go through a series of systematic stages.

For film-making, the stages are as follows:

- Identification of problems and needs analysis
- Setting objectives, based on educational strategies
- Implementation of the simulation activity
- Debriefing and evaluation, as well as
- Fine-tuning for future use and archiving of scenarios/cases.

**Keywords:** Debriefing, distribution, film-making, medical simulation, narrative, production, scenario, script, story

## INTRODUCTION

Film-making is the assembly of state-of-the-art technology to convert thoughts and ideas into images on screen. It involves the conceptualization and creation of ideas, envisioned in your mind’s eye that is being written down into a meaningful script. Film-making does include complex and discrete stages,

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which take place before audiences see the final product on big screen. Cinematography which is derived from a Greek word which means “writing with movement,” is a specialized craft of making motion pictures by capturing stories with emotions, using technical capabilities. Inspiration from life experiences, lessons from decision-making, and choices as well as one’s journey with significant emotional impact may contribute toward the generation of ideas, which can be researched and converted into meaningful scripts for a story, fit for the big screen. Cinematic productions also may be used to demonstrate a moral, promote an agenda, or reinforce specific beliefs. New technology is always changing the film making process but the underlying idea is always to tell a story or to educate in a way that brings the audience into the world you have created. The glitz, glamor, and glitter of film-making, with the special effects, integrated with good scripts and seasoned actors, can result in an exciting and phenomenal movie.<sup>[1-3]</sup>

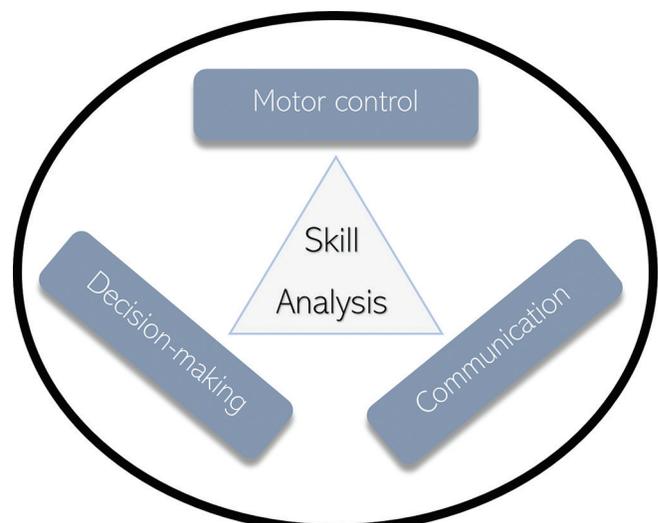
New digital technology has become more pervasive and is now used more frequently in the creation of films. It has enabled a new type of creativity through immersion and integration. Digital technology can remove physical constraints, enhance the visual effects significantly and even use computer-generated characters. Virtual film-making has opened up opportunities. Film-making is often cited as the biggest beneficiary of digital technology. Virtual production is now used on most big budget films and is filtering down into all the aspects of film-making. Virtual production allows a director to first capture the performance of the actors using motion capture to preview out the story. Once the director is happy with the performances, they can go back and virtually enter the scene in real time. While the capture is played back the director has the ability to find, add lighting and FX (special effects) to help tell the story. Even more advanced is artificial intelligence (AI)-driven filming of the future. This is where a dynamic film is an experience that the audience at the center of the powerful story is able to effect in real time, thus affecting the storyline.<sup>[3,4]</sup>

Simulation represents a technique that can replicate or amplify actual real-life experiences, through controlled and guided immersive interventions or steps. The simulated experiential learning can be powerful enough to evoke actions, interventions, emotions, and decision-making closely resembling the real-world situation encountered by practitioners. Simulation has been used in industries such as aviation, military warfare planning, business scenarios strengths, weaknesses, opportunities and threats analyses, and several others. Medical simulation is relatively newer and continues to develop. There is much for us to learn from the more established industries. Simulation can be utilized for a variety of purposes: For training, for simulation-based acquisitions, *in situ* simulation in actual work environment, for analyzing strategies or workflow in the identification of latent threats, safety issues, medical errors, whole system functioning, and other combination of reasons.<sup>[5-8]</sup> A successful simulation requires a very robust design. The model of

simulation used can also vary from live simulation to virtual simulation, where the interphase is on the human personnel playing a central role by exerting:<sup>[5]</sup> [Figure 1].

- a. Motor control skills
- b. Decision-making skills
- c. Communications skills.

Virtual simulation may involve character animation, use of AI, and impactful audio accompaniment. Constructive simulated models are also available for integrated use with people and operating systems. The ultimate goal of these spectrum of simulation is to authenticate good and impactful learning experiences.<sup>[5,8,9]</sup> The scenarios and events chosen can stimulate discussions as well as address knowledge and skills gaps. The spectrum of training using simulation can be used for training novices at the undergraduate level, to medical practitioners in training and even faculty development.<sup>[8-12]</sup> When it comes to simulation, ideas for scenarios are obtained from clinical settings and experiential exposures of the person or faculty organizing the training. Using “pattern recognition” which involves a constellation of signs and symptoms, rare cases as well as presentation in certain diseases and challenging simulation scenarios are created, with scientific details and rigor, vital signs progression, and the realistic unfolding of a clinical situation.<sup>[13]</sup> Unlike some of the more subjective elements in film-making, medical simulation requires well researched, evidence-based details, adequate planning, and often correlation with clinical investigations and results. There must also be clearly defined learning objectives for such simulation sessions. While scenarios are scripted, there is room for spontaneity of actions from the participants and this adds to the fidelity and immersion of the experience. Finally, before embarking on any form of simulation-based training, it is important to perform the appropriate needs assessment and gap analysis to see where and how it fits into an existing curriculum or training program.



**Figure 1:** Human personnel role in simulation

When considered carefully, the art of sim-making has many similarities to that of film-making. In fact, there is potentially much to be learnt from the exciting areas of film-making, cinematography, and big screen movies. Both film-making and sim-making use a form of a storyboard. From an artistic perspective, it starts with a large piece of blank, white sheet of paper, which will need to be colored by the “artists” and personnel involved; in the former, to come up with the film and for the latter, to engage learners and ensure learning takes place, which is then translated into action for patients in the actual clinical care areas.

## DEVELOPMENT PHASE/IDENTIFICATION OF PROBLEMS AND NEEDS ANALYSIS

This is the first step in film-making, where the planning and putting together of the ideas take place. Conceptualization of the film, its genre, proposed length, scale and details are comprehensively pieced. The film may be an adaptation from a book (e.g., a novel or an autobiography), be based on some personal experience or a remake of an older production. There will be the need for research into the necessary and relevant details pertaining to the film. The target audience group may also be decided upon. It could be a film with a generic outreach to the community of all ages, or targeted to specific groups such as children, teenagers and young adults, seniors, and retirees. However, often a movie planned to reach out to certain groups may appeal to the masses. For example, animated Disney movies are well loved not just by the younger generation, but they have a much wider appeal.<sup>[1]</sup>

During this phase, the financing capabilities must also be projected and reviewed. This can determine the size of the production, operations, and assets to be acquired. This is also when potential liabilities must be analyzed. Essentially, the developmental phase is when the who, where, what and how are all decided upon.

Similarly, in medical simulation, the scenario or story will be determined by the curriculum or needs of the program. The first stage is the identification of the problem and performing the needs analysis. The faculty will decide on the spectrum of simulation and technology to be utilized to meet the learning objectives. This has to be aligned against the target group of learners, their levels of competencies, and capabilities. There is the decision about using high fidelity versus low fidelity simulation, incorporation of task trainers when using hybrid simulation, incorporation of standardized patients or just team-based scenario management. These decisions are often based on available resources and financial capabilities of the institution.<sup>[7,14]</sup> The exact flow of the scenario and script must be decided as well as the characters involved, for example, patients, health-care staff, confederates as relatives. Some scenarios may involve inter-professional teams of health-care providers. This can set the stage for teamwork assessment, crisis resource management, and closed loop communications among others. The setting and location can be chosen as

well and this is usually done to depict exactly where the scenario takes place, such as the intensive care unit, general ward, the operating theater or the emergency department. *In situ* simulation versus laboratory simulation must also be finalized. In this development phase, all the necessary assets and equipment to be procured must be prepared. It is important at this stage that there is “buy in” from the administration and faculty.<sup>[15]</sup> The faculty in charge must also be aware of any potential complications and issues as well as potential liabilities.<sup>[11]</sup>

### “Writing Powerful Narratives” and finding your story

In both film-making and medical simulation, the conceptualization and integration of ideas into a narrative which tells a compelling story is critical. The script is the most important part in the filmmaking process. If the audience is engrossed into the film then the vision of the director can be told without question. If the story is not compelling then your eye will wonder on the screen. In the words of James Cameron “If they are not looking where you want them to, then there is no point to the shot.” The initial script will be developed, edited, and modified along the way to fit a storyline. It will be driven by the creativity and inspiration of the script-writer. From the broad ranging scripts, a final version will then be put to production to generate a movie or film. Scripts have structure: introduction, body, and the ending, which will be interspersed with exciting characters, dialogs, and settings. Screen writing and screenplay will then review how to enhance the dramatization, add structure, fine-tune dialogs, characters, and style.

Scenario writing in medical simulation can be challenging. This must be curated to meet the learning objectives. These scenarios will have the introduction, which then develops into the body of the case and finally, the closure and outcomes. The body of the scenario can vary in length, depending on how many issues have to be handled and how complex these issues are. Scenarios can have single or multiple patients, health-care staff, and confederates, who can add in some degree of realism. The length, flow, number of curve-balls at strategic points, and complications can be varied accordingly to suit needs of learner groups. These scenarios are planned with some degree of versatility to assess different elements, for example, clinical reasoning and decision-making processes.<sup>[14,16]</sup>

Scenarios can be chosen on the basis of:

- a. Commonly seen clinical cases
- b. Rare and uncommon clinical cases, which certain groups of health-care practitioners need to know how to manage
- c. Complex cases requiring inter-professional staff
- d. High performance team assessment and inter-professional practice
- e. Testing for latent threats in certain clinical environment
- f. Others, for example, high risk clinical cases, crisis communications, and leadership.

The important consideration is that these scenarios are relevant and useful to achieve the learning objectives. They are often

also peer-reviewed by a fellow faculty. A common way to align everyone who wants to draft a simulation scenario is to have standardized framework or guide. The mnemonic S: Specific, M: Measurable, A: Attainable, R: Relevant and T: Timely, is often used<sup>[13,16]</sup> [Figure 2].

The bottom-line in both film-making and medical simulation scenarios is: Are we telling a powerful enough story to make the impact?

### PRE-PRODUCTION PHASE/SETTING THE OBJECTIVES

This is the phase where every step of creating the film is planned and designed carefully with all the details of execution. The film director would have made the decision as to how his movie will be delivered to the audience, for example, through big screen, through large scale theater performances, using forum theater play concept or even a virtual movie. The director is responsible for the story-telling. The wider the understanding of the human experiences, the broader, more creative and all-encompassing one can be. The storyboard of each scene will also be set with the concept artist and they will create the visual images to assist the director in communicating the ideas. The producer of the film will conduct the hiring of the film crew, whilst the production designer is responsible for the overall visual concept. The latter will work closely with costume designers, choreographers, photographers, special effects, videographers as well as the musical composer, sound designer and mixer, as relevant. There are many specialized roles and duties in film production today. In virtual film-making, the preproduction and production phases are more closely linked to the postproduction phase.<sup>[1,17]</sup>

In medical simulation, the faculty in charge is the equivalent of the film director. He may work with a few other faculty, the simulation educator and technologist as well as the operations staff. They will discuss the scenarios, modes of simulation to be utilized and the execution of the scenario. Issues such as the commencement of the scenario, its flow, when to showcase investigations results, radiographs, response to call for help from other specialists, when to bring in the confederates and the like, have to be addressed. The simulation technologist



Example of using 'SMART' goal framework in medical simulation scenario

**Figure 2:** The S: Specific, M: Measurable, A: Attainable, R: Relevant and T: Timely objectives for scenario writing

will also assist with operational matters, equipment testing, preparation, and set-up. Moulage in medical simulation is similar to “costume and make-up” in film-making which can add to the realism dimension of the scenario as well as enhance the learning experience. Props will need to be sourced and placed within the environment as well the setup of the room in which the scenario takes place. Besides these, there is also a need to arrange for audio-visual and information technology (IT) staff support. They may help with recording, videography and play-back and other transmission.<sup>[18,19]</sup> During COVID-19, where more computer-based simulations were conducted due to the need for safe distancing, the IT and technical staff were kept very busy to ensure smooth, glitch-free, and timely transmission.

### PRODUCTION PHASE/IMPLEMENTATION OF THE SIMULATION

Here is where the actual “shooting” of the film takes place on location. All the staff, personnel, cast, and crew will assemble according to the schedule and call sheets which would have been shared with everyone involved. This is also where some groups would conduct casting, sound recording, costumes trials, lighting and screening for the final project. If the location has been decided, it will be the venue where the team would meet and film.<sup>[20,21]</sup> At times, there may be a need to use recording studios or specific sets which have been constructed in the preproduction phase. Practice runs may be done as scenes being filmed may need to be repeated until a satisfactory frame is obtained. This will continue until all scenes have been shot and completed.

Dry runs or practice runs can be conducted with medical simulation, before the final scenario is confirmed. Prebriefing and role allocation for learners must be done before the scenario management commences. The team assembled would include faculty, standardized patients (SPs), simulation educator and technologist, and operations personnel as well as the IT staff. The venue will be either in the simulation laboratory or in the “*in situ* location” where it will be run. Changes and edits made in the preproduction stage will be incorporated here. The scenario would have been fine-tuned accordingly if the team deemed this necessary to ensure clarity and the learning goals are met. The fidelity or level of realism would also have been decided in the preproduction phase. SPs and staff involved will adhere to an agreed script and dialog.<sup>[22,23]</sup> Video recording will be done according to the best angles and views decided during practice. In medical simulation conducted in a simulation facility such as a simulation laboratory, the production team will be stationed behind the one-way mirror, whilst the “patient” and actors as well as SPs will be in the laboratory itself.<sup>[23,24]</sup>

### POST PRODUCTION PHASE/DEBRIEFING AND EVALUATION

The director and editor will review all takes and create a director’s rough cut of the film. They will be looking at the

acting, actors' performances, flow of the scene and how the storyline is built up, from the introduction to the body and finally the closure. Costume, make-up, choreography, blending of the music as well as integration from scene to scene are also reviewed. Changes may be required and at times, a retake of certain scenes may prove necessary. Similarly, cuts can be made as deemed appropriate. Once a approved cut is finished the film will be enhanced with visual effects, sound editing and a music score. This stage will be the final phase before release and so every aspect of the production must be vetted carefully. The end result will be the film coming together ready for the next phase, i.e., screening and distribution.

The post production phase of filmmaking is comparable to the post simulation stage, whereby the team would have managed the patient in the scenario and would leave the "scene" and be prepared for terminal debriefing. The latter is debriefing conducted at the end of the whole scenario management.<sup>[25-27]</sup> The debriefer or facilitator is also like a movie director in that they are meant to guide the discussion to elicit the emotions of the experience, cover the learning objectives, and make it memorable or recallable.<sup>[28]</sup> There is also the possibility of conducting micro-debriefing, where there will be appropriate stops during the conduct of the scenario, for the faculty to debrief and share certain pointers, before the team proceeds to the next stage of the same scenario. Micro-debriefing is more suited for novice learners, medical students or staff doing simulation based learning for the first time, whereby more supervision and direction will be needed. At times, the team may want to repeat their handling of the whole scenario again. This can be repeated until they are all confident and have attained a certain level of competence. This is also known as deliberate practice.<sup>[29,30]</sup>

Showmanship, despite the fact that many in Medicine may not have given this thought, plays a critical role in building rapport and interaction with patients. The right balance of verbal and nonverbal communications skills is important. Simulation training with the feedback and debriefing following each scenario can help practitioners enhance their presentation skills, which does involve some degree of showmanship. This is helpful with their presentations at seminars, conferences, to small groups, interaction with inter-professional staff, summarising the information gathered from history taking and also during examinations. They will learn the art of delivery and presentation during some of the simulation sessions [Table 1].

**Table 1: The art of presentation**

Techniques and Pointers	
D	Delivery skills
E	Expectations, of self, of others you are interacting with
T	Topic or Theme, know this well, read about it to boost confidence
A	Audience, understand the people you are talking, presenting to
I	Individual conversation, for example, to patient, to a learner
L	Language choice, including choice of words to be used

## DISTRIBUTION PHASE/FINE-TUNING FOR FUTURE RUNS AND ARCHIVING THE SCENARIOS

At this final stage. The film is ready for viewing and release to cinemas, theatres, for digital video discs, appropriate streaming platform and other alternative digital media platforms. Promotional marketing would also have been planned for this phase. Sale to consumers will then follow suit.<sup>[1,3]</sup>

For medical simulation, the scenarios created can be archived for future use and reference. There are some institutions and academic centers that may share these in the form of online scenario library as well. If scenarios are VR, AR, or other type of video productions they would be made available at this point for the desired audience to experience them.

## SPECIAL CONSIDERATIONS

### Handling emotional situations and death

Good films are littered with many emotional scenes which can make the heart of the audiences go aflutter! Films can make us cry, laugh, feel joy and sadness as we identify with the characters. There may be occasions for celebrations, break-ups, death, sadness, rejection and even a spectrum of mental health manifestations. Good actors can personify emotions very accurately and realistically. These can be very impactful on viewers.<sup>[17,18,20,21]</sup>

Similarly, SPs involved in medical simulation perform and act out the scenarios to create as much realism as possible. This helps enhance the fidelity of the simulation scenario. There are indeed emotions involved in handling some of these scenarios and cases which can impact learners. It is important to ensure the psychological safety of SP's, learners, and participants in every simulation scenario. This may have been the reason as to why, in the early days of medical simulation, it was believed that "the manikin should not die". This thought has evolved over the years and today, this is not 'taboo'. In fact, simulation scenarios are being used to train and help learners practice the technique of informing death and breaking bad news.<sup>[31,32]</sup> The experience is thought to be useful for learners to understand the emotions, fear, sadness and limitations involved in such experiences. Staging the manikin's death must be planned appropriately in a sensitive way, just as these death scenes must be planned and shot in the same manner for films. The prebrief done before the conduct of the simulation proper must address these issues adequately. Facilitators and faculty must be aware when using these scenarios and watch their learners closely to monitor their emotional state. During debriefing, these may be addressed as needed, with honesty, but never with blame, humiliation or criticisms.<sup>[27,33,34]</sup>

### Racial and gender issues

Public sensibilities and acceptable behaviors have changed over time. Some films that were made in the 1950–1960's could be considered unacceptable to today's audiences. This is evidenced by the evolution of the Motion Picture Production Code or Hays Code to the current grading system

of films.<sup>[35]</sup> Topics that may have been taboo or unacceptable in the past are now routinely included as part of the modern cinematic productions. Issues pertaining to certain biases, discrimination, gender, sexual orientation, race, and religion have been depicted in many movies today. These have to be planned with a heightened degree of awareness and sensitivity. The director must be familiar with all the potential nuances as well as repercussions that may arise. Film critics and observers today are responsible for viewing, taking notes and analyzing the acting, plot, development, writing, directing, and editing. They will use their writing and analytical skills to craft professional reviews, which can affect audiences' decision and interpretation of a film. Racial inequities are also seen in medicine.<sup>[36]</sup> These may be specific and unique to countries and culture. Properly planned simulation can potentially address some of the hidden biases.<sup>[37]</sup> Similarly, inserting gender identity issues and gender inequality concerns in simulations can help create awareness and address some of the problems.<sup>[38]</sup> Simulation, similar to the movie industry can be used to address, in a small part, some of societies social ills and help start the dialog.

### Movie industry and simulation-driven development

The movie industry has sparked off many new and technologically driven developments. It is at the forefront in many aspects of technological trends. Technology will continue to revolutionize the industry from multiple perspectives. Some of these include digital media trends, the use of glasses-free three-dimensional (3-D) technology for movie-goers who dislike the flimsy eye-wear, use of more virtual and augmented reality applications, whether on its own or integrated into various aspects of a movie. These days many companies are offering 3-D printed sets and props as well. AI too have made its impact through the use of AI scripts, AI designs and screenplay. In shooting of the film itself, drones have enabled fantastic aerial footages and views, not possible with traditional techniques.<sup>[3,39]</sup>

From the development and progress made in the arena of medical simulation, areas such as product development have also moved ahead. Expansion of technological advancements, the increased demand for minimally invasive procedures and greater awareness of patient safety issues are also other factors which continue to drive the simulation market growth. Innovation in surgical tools has also been noted to have some push on the market as these similar types of equipment and tools are needed for the simulation-based training and practice. There has also been enhancement in regulatory and safety registration for equipment with time. Industry partners too have assisted practitioners in upscaling quality by their involvement in testing, cost efficiency negotiations, and sharing best practices through their networks. Simulation tools and product development have also kept up to some degree with life sciences product development. All these are important to provide learners using simulation a better, enhanced experience, which is well integrated for practical use. Finally, COVID-19 has also made a significant impact

on medical education globally. It has seen the use of virtual simulation to replace clinical hours, to enhance procedural and clinical skills as well as expand the realm of remote learning.

### WHAT MEDICAL SIMULATION CAN LEARN FROM FILM-MAKING

Medical simulation scenarios are usually very focused and to the point, especially in meeting the set learning objectives. Taking the example of filmmaking, a touch more creativity can make these scenarios come “alive,” be memorable and more impactful. These can all contribute towards better learning as well. Some examples of these would include using more descriptive terminology in the conversations (e.g., history taking, in conversations between healthcare staff and patient or relatives), adding more creative and interesting costumes and moulage applications. The creation of the ambience can certainly play a part in the ‘immersive component’.<sup>[6,7]</sup>

Films are archived and can be watched again and again, for many years to come. In many simulation centers, the video of each team is kept for use only for that particular team and there is no archiving. Consent is usually taken for the video-taping to be done and subsequently used for the debriefing only.

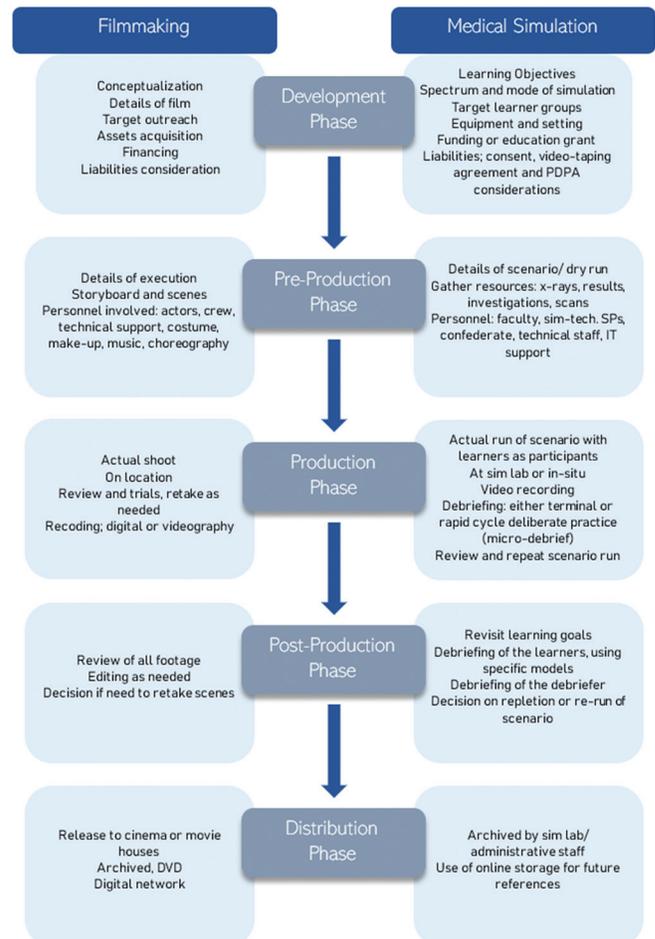


Figure 3: Comparison between film-making and medical simulation

**Table 2: Comparison of film-making and medical simulation**

Stages	Filmmaking	Medical simulation
Development phase/ identification of problems and needs analysis	Conceptualization Details of film Target outreach Assets acquisition Financing Liabilities consideration The Story	Learning objectives Spectrum and mode of simulation Target learner groups Equipment and setting Funding or education grant Liabilities; consent, video-taping agreement and PDPA considerations The scenario
Preproduction phase/setting the objectives	Details of execution Storyboard and scenes Personnel involved: Actors, crew, technical support, costume, make-up, music, choreography	Details of scenario/dry run Gather resources: Xrays, results, investigations, scans Personnel: Faculty, sim-tech. SPs, confederate, technical staff, IT support
Production phase/ implementation of the simulation	Actual shoot On location Review and trials, retake as needed Recoding; digital or videography	Actual run of scenario with learners as participants At sim lab or <i>in situ</i> Video recording Debriefing; either terminal or rapid cycle deliberate practice (micro-debrief) Review and repeat scenario run
Postproduction phase/debriefing and evaluation	Review of all footages Edit, change as needed Decision if need to retake scenes	Revisit learning goals Debriefing of the learners, using specific models Debriefing of the debriefer Decision on repetition or re-run of scenario
Distribution phase/ fine-tuning and archiving scenarios	Release to cinema or movie houses Archived, DVD Digital network	Archived by sim lab/administrative staff Use of online storage for future references

PDPA: Personal data protection act, IT: Information technology, SPs: Standardised patients

Archiving these videos is much less frequently done. However, there may be value in doing this as some good video examples can be played back for teaching purposes, to illustrate certain points. Medical moulaging has developed over the years but there is still potential for improvement. Many moulaging techniques used in simulation centers have been developed in the film industry. There are simulation product companies that began as special effects specialists. Simulation technologists may be able to get training from places such as WetaWorkshop, Universal Studios, or Disney movie workshops. Their creativity level is very high and can certainly be applied to health-care simulation.<sup>[3,20]</sup>

Whilst the film industry has made much advancement, medical simulation is still catching up; from script writing for the scenarios, to refining technology in virtual simulation and serious games. These are all important elements as they contribute toward making the narrative more compelling for learners.<sup>[22,23]</sup> The SPs used are like the equivalent of film actors and cast [Figure 3 and Table 2]. They can be trained by actors who can share great tips on voice projection, impactful conversations, the best camera angles, and so on.<sup>[40]</sup>

## TRAINING OF STANDARDIZED PATIENTS

Many programs use either part time actors or general volunteers to help in their SP training for medical simulation. An SP is a person who has been instructed and trained to simulate an actual patient as accurately as possible. This is such that a trained clinician or health-care staff would be unable to

tell that it is a simulation. SPs in their various roles help to enhance teaching and learning in medicine. Experienced SPs also help provide feedback to practitioners and learners during debrief. Their participation can help enhance learners' clinical reasoning, critical thinking, communications skills as well as self-efficacy skills.<sup>[40,41]</sup>

A formal SP training program must be comprehensive, with a suitable curriculum and leveling. Continuous learning is important for SPs in view of the need for them to cover a wide range of scenarios across a wide spectrum of learners.<sup>[34]</sup> They may attend acting skills workshop and speech training to enhance their performance. This is an area where there is much to learn from film-making, where the actors rehearse and role play again and again, shooting scenes repeatedly until the perfect one is found. An illustration would be the use of one of the acting techniques, such as method acting. This refers to the range of training and rehearsals that an actor uses to encourage very open, honest and expressive performances through identification with and deep understanding of a character's inner motivations and emotions. There are also other methods available to help with the embodiment of certain characters, which can be very useful for an SP to go through. For SPs, video playback is also very useful for them to understand the requirement and even the smallest nuanced performance needed with medical scenarios. Training is indeed the mother of consistency! For any given scenario or for high stakes use of SPs, it is very crucial for them to have consistency and standardization to ensure fairness in learner assessment and exposures.<sup>[41-43]</sup>

## The “Culture”

Culture represents the social domain of practice, whether it is in health care or in the film industry. It reflects strongly, our beliefs, customs, and “way of life.” It is crucial to ensure the cultural aspects of things are handled sensitively in movies or in the conduct of medical simulation. Issues often overlooked and thought to be minor can have significant impact if not filmed and portrayed accurately. It may then inadvertently turn out to be offensive to some segments of society. Choice of words, greetings, dressing, comments in specific contexts, nuanced practices, and others are important considerations. Similarly, in medical simulation, Asian learners may tend to be less vocal, tend to open up and share less on their reflections, lack eye contact so as not to show disrespect to faculty and teachers. It is also important to be aware of cultural considerations from planning to delivery of simulation content. Cultural and racial concerns should not be overlooked as they can be distressing to participants.<sup>[44,45]</sup> Just as film crew in many parts of Asia are multi-ethnic, simulation-based faculty and learners both can have different cultural backgrounds and upbringing.<sup>[46]</sup>

## CONCLUSION

Film-making is an art that requires a keen eye and years of practice to master. As an industry it has progressed and effected strong mass appeal from audiences globally. Medical simulation on the other hand, has more limited applications compared to movies and films but the repertoire of impact is expanding and continues to develop. For example, the COVID-19 pandemic has given simulation and technology enhanced education a powerful boost. The rest of the journey will be up to us, the simulation champions. As movies and film-making evolve, medical simulation also needs refreshing. A good movie will leave the audience remembering the characters and powerful storyline. A good medical simulation scenario, on the other hand, must be accompanied by impactful debriefing as well as repetitive practice..... so that we can all get better, the next time.

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