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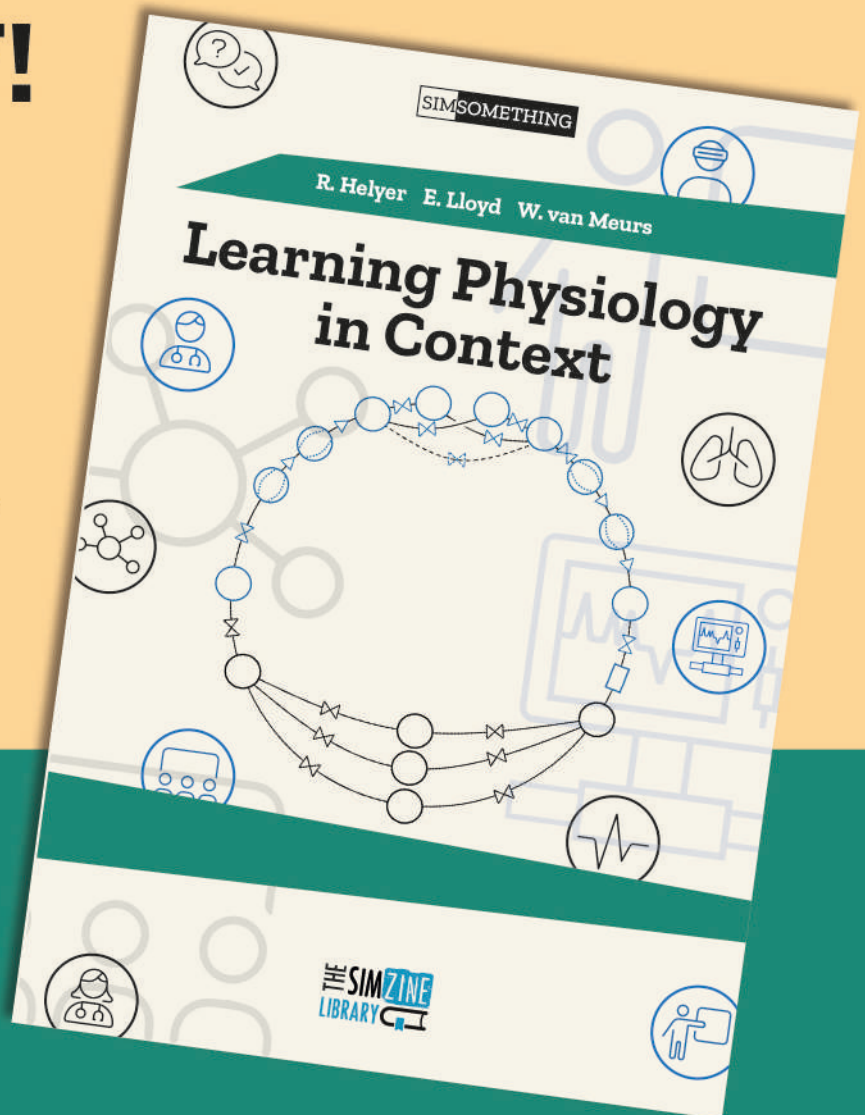
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EDITORIAL

Patient Safety and Simulation: what excuse do we have left for not using it?

On paper, patient safety is a universal value. Since 2019, when all 194 WHO Member States signed Resolution WHA72.6, the world has had a dedicated day, the **World Patient Safety Day (WPSD)**, every 17 September, to remind us that avoidable harm in healthcare is unacceptable.

And yet, six years later, the numbers tell a different story. Every year, millions of people worldwide are harmed by unsafe healthcare practices. Newborns and children remain among the most at-risk patients worldwide. According to the data reported in the WHO web portal, in paediatric intensive care, up to 91.6% of adverse events are preventable; in general paediatric wards, the rate still hovers at a shocking 53.8%; and in neonatal care, almost 97% of reported harms could have been avoided. If we already know this, if the evidence is overwhelming, why do we keep failing? This year's campaign theme, "Safe Care for Every Newborn and Every Child" probably forces us to confront an uncomfortable truth: healthcare systems worldwide are still not designed with child-centred safety in mind. The main facts? Unsafe childbirth, infections, diagnostic delays, medication errors. We know them. We've studied them. And yet they keep happening, across high-resource and low-resource settings alike.

Patient Safety and Simulation: Evidence, Not Aspirations

One promising solution already lies within our reach: simulation. Not the futuristic kind with high-tech gadgets for show, but the structured, evidence-based training that saves lives. A groundbreaking study published in *The New England Journal of Medicine* proves it. Across 125,000 individual training sessions and 1,300 group simulations, involving 280,000 mothers and newborns, researchers found an 18% reduction in perinatal mortality. Read that again: 18% fewer deaths. In low-resource settings. Achieved not by new drugs or expensive technology, but by preparing teams to anticipate, respond, and adapt through simulation. So I keep asking myself why simulation is not already at the heart of every national patient safety strategy?

Beyond Training: Exposing System Failures

Simulation is not just about teaching doctors and nurses how to perform a neonatal resuscitation or how to avoid medication errors. It's about stress-testing the system itself. In *situ* simulation, conducted in real hospital environments, serves to reveal critical vulnerabilities: missing equipment, flawed protocols, communication breakdowns between staff. These are not "bad luck" events; they are design failures, waiting to harm patients. If we do not use simulation to identify and resolve these issues, then we are jointly responsible for allowing them to reach the patient's bedside.

The Global Consensus: Enough Excuses

The Global Consensus Statement On Simulation-Based Practice

In Healthcare couldn't be clearer: simulation is a core methodology, not an optional extra. It should be embedded across health professions education, quality improvement, and system design. Yet too often, simulation is dismissed as "too expensive," "too complex," or "not a priority." Let's be honest: what is more expensive than losing a child to a preventable error? What is more complex than repairing the lifelong consequences of unsafe care? What higher priority can a health system have than keeping its youngest patients alive and unharmed? Simulation will certainly not solve all problems, but it can and will play an important role.

Simulation Works but without Structure, it Remains a Boutique Activity

The problem is not whether simulation works, but whether health systems are willing to fund, regulate, and institutionalize it. A prime example that we reported in SIMZINE is that of Spain. At the 11th congress of the *Sociedad Española de Simulación Clínica y Seguridad del Paciente (SESSEP)*, experts acknowledged what many of us already know: simulation works, but its presence in hospitals is still uneven and fragile. Three pillars were identified as essential for embedding simulation into healthcare systems:

1. Institutional regulations and ministerial support, without political will and policy backing, simulation remains an optional exercise rather than a structural component of patient safety.
2. Functional structures, dedicated units or organizational models that coordinate simulation activities, ensuring they are not isolated initiatives but integrated into daily practice.
3. Adequate resources, not only physical spaces and technology, but also trained specialists, technical staff, managerial oversight, and continuous professional development.

In other words, without structure and resources, simulation risks being reduced to a boutique activity: impressive in some centers, absent in many others, and ultimately incapable of producing the systemic impact that patient safety demands.

From Awareness to Accountability

World Patient Safety Day 2025 should not be another round of hashtags and panel discussions. We need to move beyond rhetoric: simulation must become mandatory, not optional, across clinical pathways and hospitals must use simulation to stress-test workflows and eliminate latent risks. **World Patient Safety Day 2025** is not about awareness. It is about accountability. And simulation is one of the sharpest tools we have to stop repeating the same mistakes.

So the real question is: what excuse do we have left for not using it?



DID YOU KNOW...



Unlocking the power of storytelling in Debriefing

Storytelling has always shaped how humans learn and connect. In simulation-based experiences it plays a crucial role too. By weaving personal, clinical, and educational narratives into structured debriefings, facilitators can engage learners, normalize challenges, and highlight key lessons. Adam Cheng and Vincent Grant explore the art of storytelling within debriefing, illustrating how it can be used in a strategic and thoughtful manner to maximize impact and enhance the overall learning experience.

In today's fast-paced world, where information is abundant and attention is fleeting, storytelling emerges as a timeless method to engage, educate, and inspire learners. The art of storytelling isn't just reserved for authors or filmmakers. It holds valuable lessons for professionals across fields, especially in areas like debriefing, where the power of narrative can transform routine feedback conversations into impactful and unforgettable learning experiences. Storytelling isn't just about recounting events, but rather about weaving emotions and key lessons into a narrative that resonates with your learner group. In this article, we explore the art of storytelling within debriefing, illustrating how it can be used in a strategic and thoughtful manner to maximize impact and enhance the overall learning experience.

Why do Stories Matter?

Stories have been around for centuries because they are one of the most effective ways to communicate knowledge, build culture, and evoke emotion¹. Stories apply structure to our lived experiences, and provide a means for us to make sense of the world around us. They have the unique ability to illustrate the significance of key points by connect-



ing with audiences on an emotional level. Stories consolidate knowledge, create memories and forge connections among individuals and teams, thus helping to maximize the impact of learning conversations¹. Storytelling can elevate conversations, facili-

“ By leveraging personal, clinical, and educational stories, we can create a richer and more engaging learning environment within debriefing conversations. ”

tate learning, and foster community. By leveraging personal, clinical, and educational stories, we can create a richer and more engaging learning environment within debriefing conversations.

What Types of Stories can be used in Debriefing?

While we all carry with us a collection of stories from our prior experiences, there are several specific categories of stories that can be used in an intentional manner to enrich

healthcare simulation debriefings. We encourage educators to reflect on their prior experiences and think about how they can be woven into your debriefings to give them depth and relevance. To effectively integrate storytelling into debriefing, consider these three key categories of stories:

1. Personal Stories

Sharing anecdotes from personal experiences can illuminate important lessons learned from real-life examples. These stories can help to personalize abstract concepts and forge a connection between the facilitator and learners.

2. Clinical Stories

Relating experiences from the front lines of clinical care, involving patients, families, and healthcare teams, can be a powerful way to amplify key take home messages. These stories can bring to life the complexities and challenges of real-world situations, highlighting patient interactions and teamwork in healthcare settings.

3. Educational Stories

Using narratives from teaching interactions, simulation sessions or debriefings can convey lessons learned and stimulate reflection on how we can improve future learning.



The Role of Stories in the Debriefing Framework

Stories have a unique adaptability, fitting seamlessly into various stages of debriefing frameworks, such as the PEARLS (Promoting Excellence and Reflective Learning in Simulation) blended-method debriefing framework². Stories can be strategically used to across all phases of the debriefing process. During the reactions phase, stories can be used to engage participants or address emotional responses. As analysis begins, stories can serve any purpose: to engage learners, normalize behaviors (or outcomes), emphasize key points, or resolve differences. Finally, in the summary phase, stories help tie up loose ends, resolve lingering issues, and reinforce key takeaways.

Here are four primary ways stories can be used to enhance debriefings:

1. **Engage:** use stories to capture attention. Narrate an "experience I'll never forget" or a "moment when everything changed" to draw listeners in, making them eager to learn more. For example, during the analysis phase, a story of how an unforgettable vacation experiencing a new culture can

be used to highlight the importance of inclusivity and acceptance when communication with patients and families from other cultures.

2. **Emphasize:** stories can reinforce key learning points by sharing an "unbelievable win" or similar narrative at crucial moments in the debriefing. For example, a story describing how amazing teamwork resulted in an incredible outcome in a critically ill patient can be used to highlight the importance of teamwork.
3. **Normalize:** facilitators may choose to demonstrate vulnerability by sharing stories of failure or setbacks, which can help to create psychological safety by flattening hierarchy³. This can help participants see that they are not alone, building confidence and making them feel more comfortable to discuss their own challenges. For example, in a debriefing where learners are upset having missed a critical finding, the debriefer may choose to tell a story of a similar oversight or error, thus demonstrating to learners

that they can understand and appreciate how the learners must feel.

4. **Resolve:** stories may be used to bridge differences and address conflict amongst learners. For example, a "lessons learned" story with a similar or related context can guide participants toward mutual understanding and agreement.

Constructing and Delivering a Compelling Story

The purpose of stories in debriefing are to generate interest and curiosity, share information in an accessible...



References

Complete list of references on the web article.



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Simulation Maturity Assessment Tool: una metrica di maturità organizzativa

Il Simulation Maturity Assessment Tool (SMAT) è un modello innovativo per misurare il livello di integrazione della simulazione nei processi clinici, organizzativi e di gestione del rischio. Basato su un questionario strutturato e un'analisi a sei dimensioni, lo SMAT aiuta le organizzazioni sanitarie a comprendere la propria maturità simulativa e a orientare strategie di miglioramento continuo. Strumento di autovalutazione e di crescita, rappresenta una bussola per potenziare sicurezza, cultura della resilienza e apprendimento sistemico in ospedale.

Introduzione

La simulazione in sanità non è più solo un metodo formativo: è diventata una leva strategica per migliorare sicurezza, qualità e resilienza dei sistemi ospedalieri. (Nickson et al, 2021) Ma come capire quanto un'organizzazione è davvero "matura" nell'usare la simulazione come strumento di gestione del rischio e apprendimento continuo?

Per rispondere a questa domanda nasce il Simulation Maturity Assessment Tool (SMAT), un innovativo modello di autovalutazione sviluppato dal Servizio Qualità e Sicurezza dei Pazienti dell'Ospedale Regionale di Bellinzona e Valli

(ORBV) in collaborazione col Centro di Simulazione (CeSi) del Centro professionale sociosanitario medico-tecnico (CPS-MT) di Lugano. Lo SMAT misura il grado di integrazione della simulazione nei processi clinici e organizzativi, offrendo una bussola per orientare il miglioramento sistemico.

Dai maturity models alla simulazione sanitaria

I maturity models sono strumenti di gestione organizzativa che consentono di valutare il livello di sviluppo e integrazione di processi e competenze all'interno di un'organizzazione. Diffusi in molti settori, trovano crescente applicazione anche nella sanità, dove aiutano a comprendere quanto un ospedale sia capace di migliorare in modo sistematico, passando da pratiche frammentate a processi strutturati e sostenibili nel tempo. Come affermano Chassin e Loeb (2013), I maturity models sono strumenti di autovalutazione che

permettono alle organizzazioni di misurare il proprio livello di sviluppo, individuare aree di miglioramento e promuovere un processo di crescita continua.

Una recente review del 2024 (Aiwerioghene et al, 2024) ha identificato ben 19 modelli di maturità utili alla gestione ospedaliera. Questi modelli aiutano le organizzazioni a valutare e migliorare le proprie performance, particolarmente nei contesti complessi come gli ospedali, dove è necessario bilanciare qualità, sicurezza, efficienza e sostenibilità economica.

e rende sistematici i processi di miglioramento.

Dalla simulazione alla maturità organizzativa

Su questa stessa logica nasce il Simulation Maturity Assessment Tool (SMAT), sviluppato dal Servizio Qualità e Sicurezza dei Pazienti dell'Ospedale Regionale di Bellinzona e Valli (ORBV) insieme al Centro di Simulazione (CeSi) del CPS-MT di Lugano. Lo strumento permette di valutare quanto e come la simulazione sia integrata

nei processi clinici, formativi, organizzativi e di gestione del rischio.

Negli ultimi anni, l'ORBV ha integrato la si-

mulazione nelle pratiche di gestione del rischio clinico, trasformandola in un vero e proprio motore di apprendimento sistemico e pilastro della cultura della sicurezza. Un sistema sanitario può infatti dirsi maturo nella gestione del rischio quando utilizza la simulazione non solo per addestrare i singoli professionisti, ma anche per testare i sistemi, identificare vulnerabilità nei processi e prevenire eventi avversi prima che possano verificarsi su pazienti reali. Questo approccio, in linea con la filosofia Safety-II di Holnagel (2014) incentrata sull'adattabilità e la resilienza del sistema, è stato sperimentato all'ORBV attraverso il progetto SIMPAS (Simulation for Patient Safety) con risultati tangibili in termini di miglioramento culturale e sistemico (es. maggiore sicurezza psicologica e intercettazione proattiva dei near miss). (Rabito & Ingrassia, 2025)

A differenza di altri strumenti che misurano la qualità dei centri di simulazione, lo SMAT analizza l'intera

“ Lo strumento permette di valutare quanto e come la simulazione sia integrata nei processi clinici, formativi, organizzativi e di gestione del rischio ”

Da questa review emergono alcuni esempi significativi, come i seguenti:

- **High Reliability Health Care Maturity Model (HRHCM):** valuta la capacità di un ospedale di diventare una high-reliability organization, con leadership orientata alla sicurezza, processi sostenibili e miglioramento continuo.
- **Healthcare Analytics Adoption Model (HAAM):** misura l'uso dei dati e dell'analisi predittiva per ottimizzare le cure e ridurre i costi.
- **Continuity of Care Maturity Model (CCMM):** valuta la capacità di coordinare l'assistenza tra più contesti e professionisti.
- **Business Process Orientation Maturity Model (BPOMM):** aiuta a comprendere quanto i processi clinici e organizzativi siano integrati e orientati al miglioramento.

Tutti questi modelli condividono un principio: un'organizzazione matura è quella che impara da sé stessa

organizzazione sanitaria: la cultura della simulazione, la governance, la pianificazione e l'impatto sistemico delle attività. L'obiettivo è analizzare quanto la simulazione sia parte del DNA operativo e culturale dell'ospedale, ossia comprendere quanto la simulazione contribuisca alla sicurezza, alla resilienza e all'apprendimento organizzativo. La simulazione diventa così non solo una tecnica formativa, ma una leva strategica per comprendere e migliorare il funzionamento del sistema, anticipando criticità e rafforzando la resilienza.

Struttura e Funzionamento dello SMAT

Lo SMAT si basa su un questionario di 24 domande a scala Likert (1-5), articolato in sei dimensioni di analisi:

- 1 Risorse:** infrastrutture, personale, tempo e supporto dedicati alla simulazione.
- 2 Pianificazione e Gestione:** presenza di una strategia strutturata e monitoraggio delle attività.
- 3 Progettazione e Valutazione:** capacità di creare scenari coerenti con i bisogni reali e misurarne l'impatto.
- 4 Cultura e Competenze:** diffusione di una mentalità orientata alla sicurezza e all'apprendimento.
- 5 Strategia e Governance:** allineamento tra simulazione e obiettivi aziendali.
- 6 Comunicazione e Collaborazione:** integrazione tra professionisti, servizi e livelli decisionali.

Per ogni domanda vengono descritti cinque **livelli di maturità** (iniziale, intermedio, avanzato, ottimizzato, eccellente).

La compilazione, effettuata da un gruppo interdisciplinare (risk manager, formatori, clinici e dirigenti), fornisce una rappresentazione visiva a radar chart che mostra i punteggi medi per ciascuna area.

Questa "fotografia" consente di identificare i punti di forza, le aree di miglioramento e di definire una road-

map di sviluppo coerente con la strategia aziendale. In ORBV, ad esempio, l'analisi SMAT ha portato al potenziamento della formazione dei facilitatori, alla creazione del gruppo interdisciplinare SIMPAS e all'integrazione della simulazione negli eventi aziendali dedicati alla sicurezza dei pazienti, come la Settimana d'Azione per la Sicurezza dei Pazienti, promossa ogni anno a settembre nell'ambito della campagna nazionale. Negli anni successivi abbiamo intrapreso ulteriori azioni, tra queste, la definizione di un piano annuale strutturato e, soprattutto, l'elaborazione di criteri chiari per la selezione dei casi, al fine di orientare in modo più coerente e strategico la progettazione dei nostri scenari di simulazione.

Un modello per apprendere e adattarsi

Lo SMAT si ispira ai principi della continuità operativa e in particolare allo standard ISO 22301, che ad esempio richiede...

lo standard ISO 22301 richiede test ed esercitazioni regolari dei piani d'emergenza, comprese simulazioni realistiche. Lo SMAT esplora dimensioni che spaziano dalla cultura organizzativa e dalla formazione, alla gestione dei rischi clinici, fino alla capacità dell'organizzazione di adattarsi e rispondere efficacemente in contesti complessi.

In fase di sviluppo ci siamo ispirati anche ai principi del miglioramento continuo propri dei diversi model-

li qualità come la norma ISO 9001; i criteri EFQM, o i più recenti standard ISO 7101, con l'obiettivo di creare un quadro strutturato per l'autovalutazione e la crescita organizzativa. Seguendo questa logica, lo SMAT è stato progettato come uno strumento di autoconsapevolezza sistemica, basato su una rappresentazione radar che consente di visualizzare in modo immediato i punti di forza e le aree di sviluppo. Questa modalità permette all'organizzazione non solo di misurarsi, ma anche di orientare strategicamente le azioni di miglioramento, in linea con una visione evolutiva e integrata della simulazione. Lo consideriamo una sorta di bussola per orientare le strutture sanitarie nel loro percorso di apprendimento organizzativo tramite la simulazione. Il modello è attualmente in fase di implementazione pilota e contiamo di perfezionarlo con il feedback della comunità dei professionisti...

ORBV SMA - SIMULATION MATURITY ASSESSMENT



Bibliografía

Elenco completo dei riferimenti sull'articolo web.

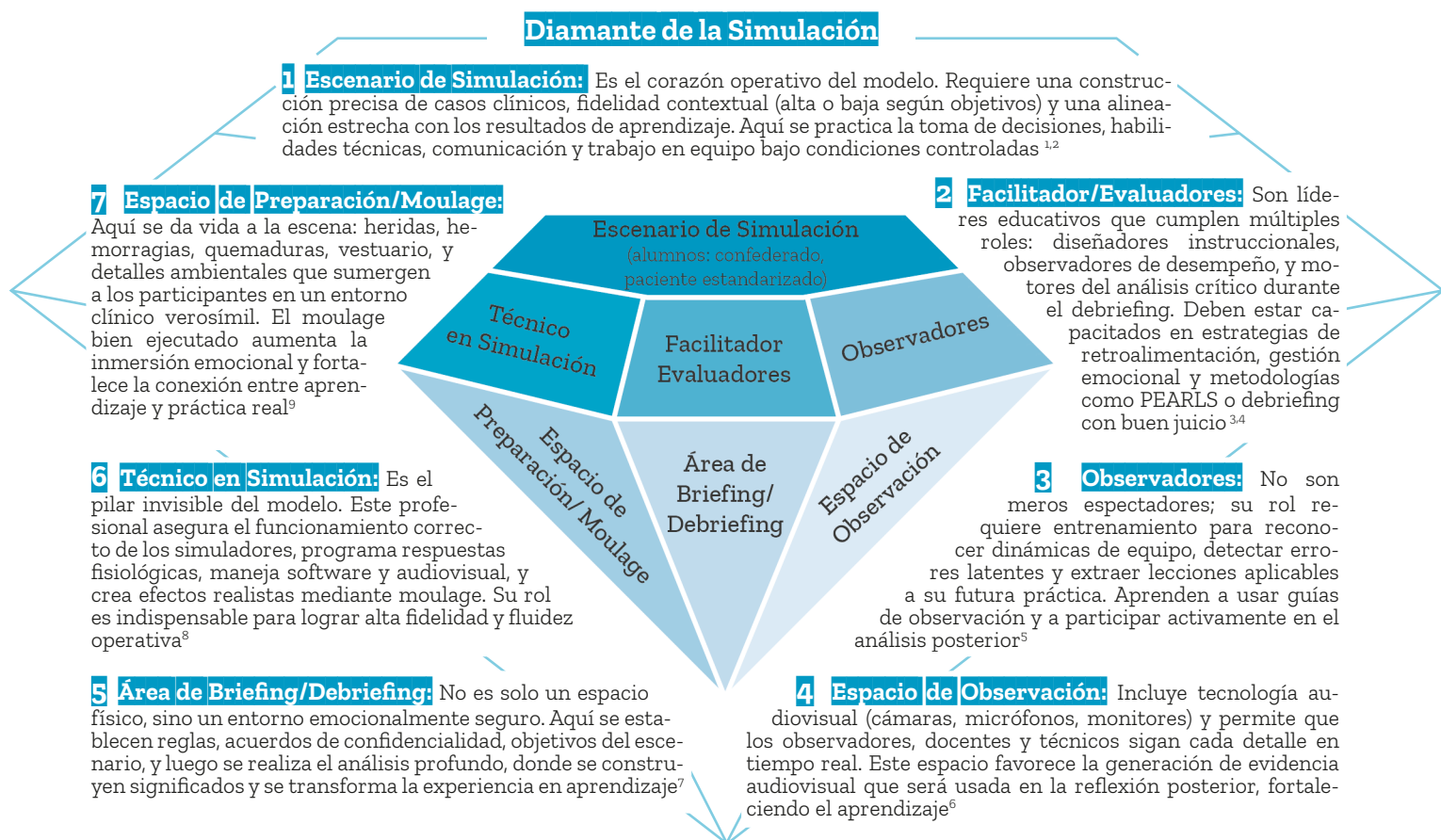


El Diamante de la Simulación: Propuesta de un Modelo Integral

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Julher Rivera Prato propone el "Diamante de la Simulación", un modelo de simulación clínica que articula dimensiones humanas, tecnológicas, metodológicas y espaciales. Esta herramienta ofrece una guía práctica para diseñar escenarios formativos inmersivos, seguros y efectivos, aportando valor a docentes, técnicos y profesionales comprometidos con una educación médica de calidad basada en simulación.

Imagina que estás a punto de comenzar una simulación clínica. La sala está lista, los monitores parpadean, el maniquí respira, y un equipo expectante te observa. Pero algo no encaja: falta coherencia, los roles se solapan, el aprendizaje se diluye. ¿Y si existiera un modelo que organizara todos estos elementos en una estructura clara, armónica y efectiva? El "**Diamante de la Simulación**" nace para responder a esa necesidad, integrando lo humano, lo técnico y lo pedagógico en una sola visión estratégica.



Introducción

La simulación clínica permite recrear situaciones complejas de atención sanitaria en un entorno seguro, favoreciendo el aprendizaje, la adquisición de competencias y la mejora de la seguridad del paciente^{1,2}. Estudios recientes destacan que el aprendizaje mediado por simulación aumenta la

retención de conocimientos y habilidades, mejora el trabajo en equipo, y reduce errores clínicos³⁻⁵. No obstante, la planificación de escenarios sigue careciendo de modelos integrales que contemplen todas las dimensiones del proceso⁶. Este artículo propone el "Diamante de la Simulación" como un marco innova-

dor que sintetiza los elementos clave necesarios para una simulación clínica exitosa.

Fundamentación conceptual

En la simulación clínica, cada componente debe contribuir a una experiencia educativa completa, integrando lo humano (interacciones,

comunicación, empatía), lo tecnológico (simuladores, software, equipos), lo metodológico (diseño instruccional, objetivos, briefing/debriefing) y lo físico (espacios, materialidad, preparación contextual)^{7,8}. La ausencia de cualquiera de estas dimensiones debilita la efectividad del aprendizaje. El Diamante de la Simulación surge como una representación simbólica y práctica de este equilibrio, donde todas las facetas se reflejan mutuamente y trabajan en sinergia para potenciar el aprendizaje significativo.

Materiales y métodos

Se realizó una revisión narrativa de literatura en PubMed, Scopus y CINAHL, utilizando los términos MeSH: "Clinical Simulation", "Medical Education", "Simulation Training", "Simulation Design". Se analizaron guías internacionales (INACSL Standards of Best Practice, SSH Accreditation

Standards) y se entrevistó a expertos internacionales en simulación. A partir de estos insumos, se diseñó el modelo Diamante.

Discusión

El Diamante de la Simulación destaca componentes a menudo subestimados, como el rol del técnico y los espacios físicos, mostrando su relevancia en el éxito del aprendizaje. La falta de integración de estos elementos puede limitar el impacto educativo⁶⁻⁹. Este modelo proporciona un marco práctico adaptable como herramienta de planificación, capacitación y auditoría.

Limitaciones

El modelo requiere recursos materiales avanzados, personal capacitado y una infraestructura tecnológica adecuada, lo que puede restringir su aplicabilidad en entornos con bajos recursos. También demanda una

coordinación interprofesional eficiente y compromiso institucional, y necesita validación empírica mediante estudios multicéntricos¹⁰.

Conclusión

El "Diamante de la Simulación" no es solo un modelo visual: es una herramienta estratégica que permite integrar todas las dimensiones esenciales del aprendizaje basado en simulación. Su valor radica en visibilizar elementos frecuentemente subestimados y ofrecer un marco práctico para la planificación, evaluación y mejora continua de experiencias formativas. En un momento donde la simulación cobra cada vez más protagonismo en la educación sanitaria, este modelo puede convertirse en un referente para quienes buscan excelencia educativa con impacto real en la seguridad del paciente.

FUNCIÓN PRINCIPAL		IMPACTO EDUCATIVO	
Diseñar y reproducir situaciones clínicas realistas, relevantes y adaptadas a objetivos específicos; incluir contextos variados (hospitalario, comunitario, prehospitario) y diversidad cultural.	Componente Escenario de Simulación	Facilita el desarrollo de competencias clínicas (diagnóstico, tratamiento) y no clínicas (toma de decisiones, trabajo en equipo, liderazgo) en un entorno seguro, mejorando la transferencia al entorno real.	
Guiar el aprendizaje mediante briefing y debriefing estructurados, evaluar el desempeño, brindar retroalimentación efectiva, gestionar emociones y promover reflexión crítica.	Facilitador/ Evaluadores	Estimula el análisis crítico, promueve la metacognición y el aprendizaje reflexivo, contribuye al desarrollo de juicio clínico avanzado y fomenta una cultura de mejora	
Analizar las interacciones, errores y aciertos del equipo activo usando guías y rúbricas específicas; participar activamente en el debriefing con aportes constructivos.	Observadores	Potencia el aprendizaje vicario, refuerza el juicio clínico y las habilidades no técnicas, entrena la capacidad de identificar riesgos latentes y fortalece el aprendizaje colaborativo.	
Brindar acceso remoto a través de tecnologías audiovisuales para el seguimiento en tiempo real; permitir registro para revisiones posteriores y discusiones enriquecidas.	Espacio de Observación	Permite la revisión detallada de conductas, fortalece la discusión colectiva y optimiza la calidad del debriefing; facilita la retroalimentación multisensorial y la mejora de desempeño.	
Generar un espacio seguro y estructurado para establecer objetivos, acuerdos y expectativas (briefing) y para analizar, reflexionar y construir aprendizajes colectivos (debriefing).	Área de Briefing/ Debriefing	Consolida el aprendizaje experiencial, promueve la seguridad psicológica, reduce la ansiedad y maximiza la retención de aprendizajes significativos mediante reflexión guiada.	
Garantizar la preparación técnica, la programación de simuladores, la aplicación de moulage, la gestión de software audiovisual y la resolución ágil de incidentes durante la simulación.	Técnico en Simulación	Incrementa la fidelidad técnica, reduce interrupciones operativas, aumenta el realismo, optimiza el uso de recursos y garantiza escenarios inmersivos de alto impacto pedagógico.	
Preparar y aplicar elementos de realismo visual (heridas, fluidos, vestuario, ambientación) utilizando técnicas manuales y tecnología (impresión 3D, materiales biocompatibles).	Espacio de Moulage	Mejora la inmersión emocional, favorece el compromiso de los participantes, refuerza la credibilidad del escenario y aumenta la transferencia emocional y cognitiva al aprendizaje clínico.	

Referencias

Encuentre la lista completa de referencias en el artículo web.



7 Rules for Buying Simulators Smartly

<https://doi.org/10.69079/SIMZINE.R25.N20.00088>

When it comes to buying simulators, many programs lose years chasing perfection. In this expert guide, Ferooz Sekandarpour, leader of BrainNet Consulting Inc., shares practical strategies for simulation center directors: how to make smarter, faster equipment decisions that actually improve learning. From budgeting and vendor strategy to practical metrics and maintenance planning, discover what truly works for programs that deliver results rather than just collecting dust.

The Expensive Mistake I Keep Seeing

I once visited a medical school that had been planning its simulation center for three years. Three years! They were still finalizing their equipment list because they couldn't decide on which robotic surgical trainer to buy, one they might use for a single course per semester. Meanwhile, their residents were getting zero hands-on simulation time.

Unfortunately, this isn't rare. Many programs fall into the same trap: analysis paralysis. They spend years debating, benchmarking, and deming "ideal" technology setups that can handle every imaginable scenario. But here's the truth: the simulation centers that actually make an

impact are the ones that start small, with good enough technology, and improve from there.

Why the 80/20 Rule Changed Everything for Me

Five years ago, I started tracking equipment usage across different simulation programs I work with. The pattern was striking and, honestly, a bit embarrassing for how long it took me to notice it.

What gets used every day:

- Basic adult and pediatric manikins
- Standard monitors and IV pumps
- Video recording systems

- Simple debriefing rooms

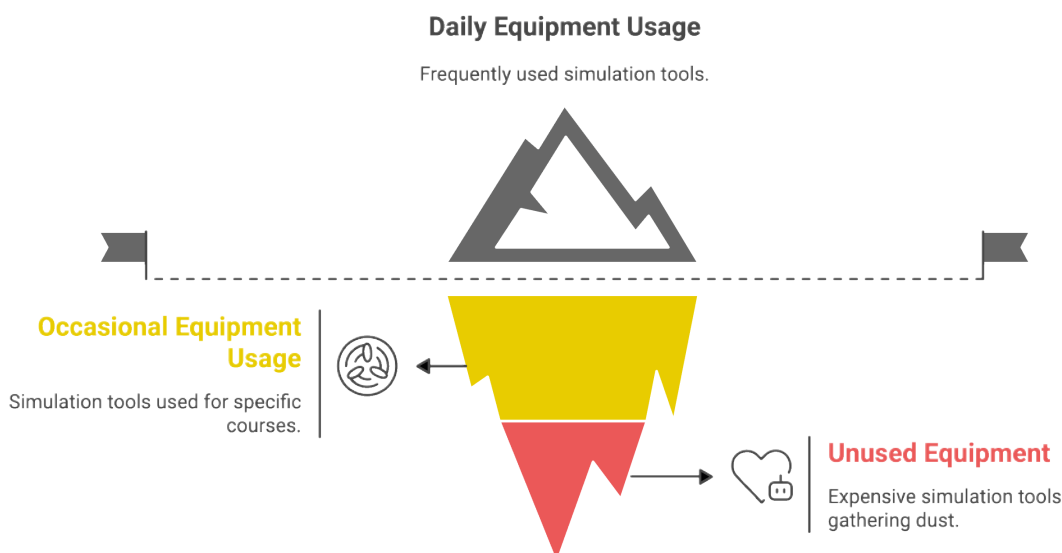
What gets used occasionally:

- High-end procedure trainers
- Specialty equipment for specific courses
- VR headsets (yes, even those expensive ones)

What collects dust:

- That \$200K surgical robot simulator
- Ultra-specialized trainers for rare procedures
- Equipment that requires a PhD to operate

The math is brutal but clear: focus your budget on what you'll actually use daily, not what looks impressive in brochures.



Made with Napkin

Unveiling the true Cost of Simulation Equipment

7 Rules for Smarter Equipment Decisions

After watching too many programs struggle, I developed a straightforward approach. Nothing revolutionary, just practical rules that work.

1

Start with Your Teaching Schedule

Before you even look at equipment catalogs, map out what you're actually teaching. I use a simple spreadsheet:

- Course name
- Number of students per year
- How many times you'll run it
- What skills need practicing

This kills about 60% of unnecessary equipment purchases right there.

2

Test for Integration

Ask early: "Does this play nicely with what we already have?"

Avoid "technology islands": systems that don't talk to each other or require separate support teams. Instructors should be teaching, not troubleshooting.

3

Apply the "Grandmother Test"

If your least tech-savvy faculty member can't use it within 30 minutes, think twice. Complex gear often ends up unused because nobody wants to wrestle with it on busy days.

4

Calculate the Real Cost

That \$50K manikin isn't really \$50K. Add:

- Annual service contracts (usually 10-15%)
- Training costs for faculty
- Software licensing fees
- Replacement parts and consumables
- Once you do the math, your priorities will shift.

5

Track the Metrics That Matter

Forget vanity data. Focus on what tells the real story:

- Equipment downtime: If something's broken more than 10% of the time, you have a problem.
- Instructor confidence: Are faculty comfortable using the equipment independently? If they're calling tech support weekly, that's a red flag.
- Student throughput: How many learners actually get hands-on time? This is where expensive, finicky equipment kills your ROI.
- Utilization rates: Anything below 40% usage needs serious evaluation.

6

Build in Phases, and Stay Flexible

Year 1: Get the Basics Right

Start with reliable, multipurpose equipment that covers your highest-volume training needs. Don't try to do everything.

Year 2: Fill the Gaps

Add specialized equipment based on actual usage data from year one. You'll be amazed how different your wish list looks after running a program for a year.

Year 3 and Beyond: Innovation Time

Now you can experiment with emerging technologies, knowing your core program is solid.

7

Build Strong Vendor Relationships

Here's something nobody talks about enough: your relationship with equipment vendors can make or break your program.

- Local support matters more than you think. That amazing simulator means nothing if the nearest service tech is 500 miles away.
- User communities are gold. The best equipment comes with active user groups where you can share scenarios, troubleshoot problems, and learn from other programs.
- Beware the "total solution" pitch. Vendors love selling comprehensive packages, but you'll often get stuck with components you don't need.

A strong vendor relationship is less about sales, and more about sustainable support.

The Lessons Learned from Programs That Get It Right

The simulation centers I admire most share a few traits. They **standardize ruthlessly**, using the same brand of manikin or platform across labs so parts are interchangeable and faculty training is simplified. They **prioritize reliability over features**, preferring equipment that works every time rather than tools that look impressive but fail at critical moments. And they **plan for the boring stuff**, budgeting 15-20% of equipment costs each year for upkeep. Because while the glamorous tech gets the attention, it's the quiet...



BRAINNET CONSULTING INC.

Written in collaboration with BrainNet Consulting Inc.



DID YOU KNOW...



The SPIRIT Project: Building Europe's Simulation Educators

 <https://doi.org/10.69079/SIMZINE.R25.N21.00094>

The SPIRIT Project is an Erasmus+ funded, pan-European collaboration focused on strengthening faculty development in interprofessional simulation-based education. Led by RCSI with partners from Italy, Austria, and Poland, the initiative aims to create a scalable, evidence-based framework to train educators in designing, delivering, and evaluating high-quality IPE simulation. Through shared expertise, hybrid training models, and open-access resources, SPIRIT seeks to enhance teamwork, communication, and psychological safety in healthcare education, building a sustainable European network of skilled simulation educators.

The SPIRIT project is a pan-European initiative designed to strengthen capacity to deliver high-quality, interprofessional simulation-based education (IPE SIM). Funded through the Erasmus+ Key Action 2 (KA220) Cooperation Partnerships scheme, SPIRIT responds to an urgent need for structured faculty development pathways that equip educators to design and facilitate impactful interprofessional simulation experiences.

Institutional Strengths & Enablers

The SPIRIT consortium brings together four European institutions with complementary strengths in simulation-based education and interprofessional learning. Royal College of Surgeons in Ireland (RCSI, Ireland) serves as project lead, drawing on its extensive simulation infrastructure and established faculty development programmes. RCSI has pioneered IPE SIM across multiple health professions, providing a strong foundation for curriculum design, implementation, and evaluation. Humanitas University (Italy) contributes innovative approaches to health education, with a well-established tradition of integrating clinical practice and academic training to create authentic learning environments. The Medical University of Vienna (Austria) brings

expertise in virtual and augmented reality alongside interprofessional curricula, adding a valuable technological and pedagogical dimension. Wrocław Medical University (Poland) offers a rapidly developing simulation capacity within a distinctive regional healthcare context, providing critical insights into adapting faculty devel-

opment frameworks for emerging simulation centres.

gional diversity. This breadth makes the SPIRIT faculty development model both adaptable and transferable across Europe. By focusing on educator development SPIRIT aims to transform simulation from profession-specific exercises into truly interprofessional, collaborative learning environments, ultimately improving team-working and patient care.



SPIRIT Kick off meeting in Dublin December 2024

Context & Drivers

Healthcare delivery is interprofessional; doctors, nurses, pharmacists, physiotherapists, and other professionals must coordinate seamlessly to deliver safe, effective care. Yet, educational programmes remain largely siloed, training professions separately and missing opportunities to develop collaborative skills early.

Simulation offers a powerful means to bring learners together in realistic scenarios, where teamwork, communication, and shared decision-making can be practiced and debriefed in a safe environment.

However, effective IPE Sim relies on skilled educators. Designing, facilitating, and assessing IPE scenarios demands pedagogical expertise, sensitivity to language and hierarchy, and the ability to build psychological safety. Many universities have robust simulation centres but lack struc-

ture.

tured, scalable faculty development programmes that address these additional interprofessional education needs.

SPIRIT sits within the ecosystem of the European University Alliance for Global Health (EUGLOH), aligning with partner universities' ambitions to collaborate for a healthier, more resilient world. All four partner institutions are EUGLOH aspirants and share a strategic imperative to advance IPE education through simulation.

The SPIRIT Approach

The SPIRIT initiative represents a significant step towards building a European standardised faculty training pathway for health professional educators in simulation, with a strong emphasis on interprofessional collaboration. Its overarching goal is to develop a scalable, evidence-informed framework that equips simulation educators to facilitate psychologically safe, inclusive, and authentic interprofessional learning experiences across diverse contexts.

The project is structured around five collaborative work packages covering management, needs analysis, curriculum design, piloting, and dissemination. Each partner leads one work package, ensuring shared ownership and drawing on their institutional strengths. Work package 1 is the administration and manage-



ment of the collaboration headed by RCSI which aims to ensure that the project is carried out according to the planned time schedule and that the objectives are efficiently achieved. The project is coordinated through monthly steering meetings, ensuring partners stay aligned, share progress, and solve problems collaboratively.

What We Are Learning

Work package 2 is a detailed Europe-wide needs analysis, led by the Italian partners. The aim is to identify the enablers, barriers and challenges to the implementation of IPE SIM in European health professions education. The team designed and piloted

a 20-item survey with Likert scale descriptors and free text options to allow educators self-assess confidence in their own skills to support and develop IPE SIM. This survey yielded 80 complete responses from simulation centres across Europe, reflecting a diverse mix of...



SIMULATION FOR IMPACT:
culture, co-production
and creativity



DID YOU KNOW...



Simulación de accidentes de tránsito en Chile: una experiencia innovadora

 <https://doi.org/10.69079/SIMZINE.R25.N20.00083>

La Universidad Santo Tomás lidera una innovadora simulación de accidentes de tránsito en Chile, combinando realismo extremo y colaboración interinstitucional. Más de 600 participantes vivieron experiencias inmersivas en emergencias, fortaleciendo habilidades clínicas y fomentando la conciencia sobre seguridad vial. La actividad se consolidó como una estrategia pedagógica de alto impacto con alcance nacional.

Nel 1969, Neil Armstrong, posando ¿Qué sucede cuando la educación en salud sale del aula y se enfrenta a la crudeza del asfalto?

En Chile, una iniciativa académica sin precedentes ha puesto a prueba los límites de la simulación clínica, llevando a estudiantes y profesionales al centro de escenas de emergencia inspiradas en hechos reales. Más que un ejercicio académico, se trató de un laboratorio viviente de aprendizaje, prevención y transformación social.

Introducción

Movilizados por la trágica cifra de 1.635 vidas perdidas en accidentes de tránsito en Chile durante 2023, un grupo de coordinadores de simulación de la Universidad Santo Tomás (UST) buscó una forma más efectiva de preparar a los futuros profesionales de la salud. Así, decidieron llevar la formación académica a las calles, simulando accidentes de tránsito a es-

cala real. Este ambicioso proyecto no solo buscó poner en práctica las habilidades de los estudiantes en situaciones de emergencia, sino que también se alinea con el plan estratégico institucional, fomentando la vinculación con la comunidad y brindando una experiencia transformadora para los estudiantes.

La idea nace como plan piloto y se gesta inicialmente en la ciudad de La Serena, Chile. El proyecto consistió en un taller interprofesional simulado de alta fidelidad en entorno extrahospitalario, donde estudiantes, profesionales y colaboradores participaron activamente en un escenario de accidente vial. Esta estrategia permitió fortalecer las habilidades técnicas y no técnicas de los participantes en un contexto de rescate de víctimas de una colisión vehicular. Durante el desarrollo de la actividad, los participantes se sumergieron en un entrenamiento intensivo preparándolos

para actuar en gestión de recursos en crisis.

Detrás del simulacro: ingeniería del realismo y coordinación extrema

Recrear un accidente de tránsito con precisión quirúrgica no es tarea menor. La organización de estos simulacros exigió una logística de alto calibre, en la que nada se dejó al azar. Desde autos siniestrados y postes eléctricos caídos, hasta víctimas con heridas realistas diseñadas con técnicas avanzadas de moulage, todo fue concebido para provocar una inmersión total. A esto se sumó la coordinación meticulosa con cuerpos de emergencia reales: bomberos, carabineros, ambulancias, el Servicio Médico Legal, la SIAT y otras entidades estatales colaboraron para dar vida a un escenario que, por momentos, parecía más un hecho noticioso que una simulación.





de los escenarios y utilidad de los conocimientos adquiridos", el 81% de los participantes elogió el gran montaje y puesta en escena que incluyó técnicas avanzadas de montaje para heridas, autos siniestrados, caída de tendido eléctrico, entre otros. Un abrumador 95% coincidió en que estas actividades son esenciales para fomentar una cultura de seguridad...



El impacto fue tal que los organizadores no tardaron en dar un paso más. Decidieron escalar el proyecto y, aprovechando la Semana Internacional de la Simulación Clínica 2024, coordinaron 13 simulacros simultáneos en distintas ciudades del país. El objetivo: amplificar el alcance formativo y comunitario de la experiencia.

En esta segunda versión, la creatividad y el compromiso fueron aún más lejos. Se incorporaron nuevas variables como maniobras de reanimación cardiopulmonar en caninos, abriendo paso a la simulación veterinaria, y escenarios con múltiples víctimas, volcamientos vehiculares y riesgos eléctricos. El resultado: 609 participantes a nivel nacional, entre estudiantes, profesionales, servicios

de emergencia y miembros de la comunidad, todos unidos por una causa común: aprender a salvar vidas en situaciones límite.

Medición del impacto: más allá de la satisfacción estudiantil

Los involucrados manifestaron estar "muy de acuerdo" o "de acuerdo" con la actividad, alcanzando un 87% de satisfacción general. De igual manera, el 81% de los estudiantes afirmó que el simulacro contribuyó significativamente a sus competencias interprofesionales, destacando la importancia del debriefing posterior al simulacro como una valiosa herramienta reflexiva para el aprendizaje. En el ítem "realismo

Referencias

Encuentre la lista completa de referencias en el artículo web.



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Bridging Worlds Through Simulation: A Conversation with Dr. Jabeen Fayyaz, President-Elect of IPSS

 <https://doi.org/10.69079/SIMZINE.R25.N21.00096>



In this exclusive interview, Dr. Jabeen Fayyaz, President-Elect of the International Pediatric Simulation Society (IPSS), reflects on her journey from Pakistan to Canada and her pioneering contributions to pediatric simulation. She

discusses challenges, innovations, and the future of healthcare simulation, from system testing to interprofessional training. Highlighting equity, inclusivity, and global collaboration, Dr. Fayyaz shares her vision of how pediatric

simulation can improve outcomes for children worldwide.

Read our interview with him to find out more on simzine.news



DID YOU KNOW...

Visual Enhanced Mental Simulation: basso costo, alta efficacia

 <https://doi.org/10.69079/SIMZINE.R25.N21.00089>



La Visual Enhanced Mental Simulation (VEMS) è una forma di simulazione mentale innovativa e a basso costo che combina pensiero ad alta voce e supporti visivi per allenare le abilità cognitive, sociali e relazionali. Facile da implementare, adattabile anche online, permette di migliorare decision making, comunicazione e coordinamento del team. La letteratura recente dimostra che, pur con materiali semplici, può offrire esperienze di apprendimento profonde e trasformative.

Le tecnologie in simulazione sanitaria sono sempre più sofisticate: manichini iperrealistici, ambienti immersivi e realtà virtuale permettono di addestrarsi a scenari complessi con un livello di coinvolgimento altissimo. Ma i costi di queste soluzioni non sempre sono sostenibili per tutte le realtà, dove i fondi restano un punto dolente.

Eppure esistono metodologie semplici, low cost e facilmente riproducibili che possono diffondere la cultura della simulazione e della riflessione, senza gravare sui bilanci. Una di queste è la Visual Enhanced Mental Simulation, (VEMS per gli amici).

Cos'è la VEMS e come funziona

La VEMS è una combinazione di simulazione mentale e pensiero ad alta voce, arricchita dall'uso di supporti visivi. È stata descritta inizialmente da Alinier e collaboratori e si propone come strumento per allenare le *Non Technical Skills (NTS)* in scenari a bassa fedeltà.

La base educativa di questo approccio risiede nei benefici ben documentati del *mental rehearsal* e del *think-aloud*, due strategie che favoriscono l'esplorazione dei processi cognitivi e la consapevolezza delle proprie decisioni. Come spiegano Dogan e colleghi sull'*International Journal of Healthcare Simulation*:

"Si differenzia dalla semplice simulazione mentale che avviene esclusivamente nella mente dei partecipanti, perché qui essi sono chiamati a verbalizzare collettivamente pensieri e azioni, inclusa la regolazione delle attrezzature e la comunicazione con il paziente."

Il razionale è quello, quindi, di favorire il ragionamento clinico d'équipe



grazie all'esplicitazione del processo mentale dei partecipanti, permettendo di allenare, soprattutto, capacità di *decision making* e comunicazione efficace. La componente visiva, inoltre, aiuta l'immaginazione e permette di avere un colpo d'occhio sulla scena.

Dal punto di vista pratico, per organizzare uno scenario bastano pochi ingredienti: un tavolo, una lavagna, immagini plastificate del paziente e delle attrezzature, un paio di facilitatori esperti e un team disponibile a mettersi in gioco. Lo svolgimento ricorda un gioco da tavolo: i partecipanti discutono, ragionano ad alta voce, collocano i supporti visivi sul paziente cartaceo, mentre i facilitatori aggiornano i parametri vitali e aggiungono le informazioni non rappresentabili graficamente, interpretando anche la voce del paziente o impersonando consulenti esterni, se previsto.

Una tradizione che si rinnova

La VEMS si inserisce in una tradi-

zione consolidata: quella delle simulazioni *tabletop*, utilizzate da decenni soprattutto nelle esercitazioni di disastro e gestione delle emergenze (ad esempio con il sistema *EmergoTrain*). Ciò che la distingue è la sua focalizzazione chiara sull'esplicitazione dei processi cognitivi e sull'uso di materiali visivi semplici ma potenti per stimolare l'immaginazione.

Evidenze dalla letteratura

Negli ultimi anni la VEMS ha iniziato a comparire sempre più spesso nella letteratura scientifica, con risultati che ne confermano la validità come strumento educativo.

Ho trovato lo studio di Brazil e colleghi (2025) particolarmente interessante. Nel Gold Coast Hospital in Australia, la VEMS è stata introdotta in un'ampia varietà di contesti clinici, dal pronto soccorso alla geriatria, fino all'assistenza domiciliare, e successivamente oggetto di un'indagine qualitativa su partecipanti e facilitatori.

Dalle interviste sono emersi cinque temi chiave:

la flessibilità della metodologia, che permette di adattare lo scenario a diverse esigenze formative;

la capacità di risultare inaspettatamente coinvolgente, nonostante l'assenza di manichini o attrezzature sofisticate;

il focus sul lavoro di squadra, reso più nitido dall'assenza di distrazioni tecniche;

l'impatto sui programmi formativi, che hanno iniziato a integrare VEMS anche accanto a simulazioni più complesse; e infine

l'essenzialità, una constatazione curiosa, ossia che per molti discenti i manichini risultano talvolta più "confusivi" della semplicità di un cartonato.

In altre parole, la chiarezza delle consegne e la necessità di verbalizzare i processi decisionali hanno reso la VEMS non solo più accessibile, ma anche più efficace del previsto.

La VEMS anche a distanza.

Interessante anche l'esperienza condotta da Demir et al. (2023) in Turchia. Qui la VEMS è, invece, testata in versione online, con studenti di un corso per paramedici impegnati in scenari di maxi-emergenza. Utilizzando un disegno quasi-sperimentale con pre e post-test, gli autori hanno osservato un incremento significativo nelle competenze di triage e gestione delle vittime multiple. Gli studenti, che hanno partecipato a scenari simulati tramite lavagna virtuale e materiali visivi condivisi, hanno riferito un'esperienza percepita come realistica e sicura, utile per ridurre l'ansia e rafforzare la fiducia nelle decisioni cliniche. Il feedback è stato per lo più entusiasta: molti hanno sottolineato la possibilità di "vedere i propri errori" in un contesto protetto e di acquisire conoscenze che sentivano più stabili e trasferibili alla pratica.

Considerazioni sulla VEMS

La VEMS si presenta, quindi, come una metodologia particolarmente interessante per chi si occupa di formazione sanitaria, e alcune riflessioni meritano di essere approfondite:

Low cost e flessibilità: il suo più grande punto di forza è senza dubbio l'economicità. Bastano pochi materiali facilmente reperibili (una lavagna, immagini plastificate e qualche pennarello) per dare vita a uno scenario formativo. Questo consente non solo di abbattere drasticamente i costi rispetto alle simulazioni ad alto contenuto tecnologico e ad alta fedeltà, ma anche di ridurre i tempi di preparazione. La VEMS può quindi essere integrata nella routine lavorativa quotidiana, magari organizzando un esercizio all'ultimo momento durante un turno a basso carico assistenziale, con il personale effettivamente presente in reparto. La rapidità di allestimento la rende un'opzione agile e facilmente replicabile, anche in contesti con risorse limitate.

Familiarizzazione pre-scenario: la semplicità della VEMS non deve trarre in inganno. Per garantire un buon livello di coinvolgimento, è fondamentale una fase di pre-briefing accurata. I partecipanti devono comprendere il funzionamento della metodologia, conoscere i materiali che verranno utilizzati e sentirsi a proprio agio con il fatto che si tratta di una simulazione "a bassissima fedeltà". Chiarire come verranno fornite le informazioni cliniche e come i facilitatori interverranno durante lo scenario è indispensabile per creare immersione psicologica ed evitare confusione.

Competenza dei facilitatori: il ruolo dei facilitatori è cruciale. Non basta conoscere la tecnica VEMS: è necessario saper guidare il pensiero critico dei partecipanti, stimolarne la riflessione e soprattutto condurre un debriefing efficace. Proprio nel debriefing, infatti, si gioca gran parte del valore educativo della VEMS. Per questo, i facilitatori devono avere padronanza non solo della metodologia, ma anche delle tecniche conversazionali e di riflessione critica, così da trasformare l'esperienza in un vero momento di apprendimento trasformativo e di cambiamento comportamentale.

Focus sulle NTS: la VEMS non permette di addestrare abilità strettamente tecniche, come la manualità nell'eseguire procedure invasive. Ma questa limitazione può diventare un punto di forza. Liberati dal carico operativo, i partecipanti si concentrano maggiormente sugli aspetti relazionali, comunicativi e decisionali. È vero che questa condizione può portare a una leggera sottovalutazione del "rumore" presente negli scenari reali (dove l'esecuzione pratica e le distrazioni incidono sul lavoro di squadra), ma resta un contesto ideale per sviluppare competenze trasversali come leadership, gestione delle priorità e coordinamento.

VEMS online: un ulteriore vantaggio è la possibilità di condurre la VEMS anche da remoto. Basta condividere lo schermo con i materiali visivi (poster di pazienti, schede delle attrezzature, ecc.) e utilizzare una piattaforma di videoconferenza per far collaborare team e facilitatori a distanza. Questa modalità, sperimentata con successo anche durante la pandemia, amplia le opportunità formative, permettendo di raggiungere professionisti in sedi diverse e mantenendo elevata l'interazione de

Conclusioni

Nel complesso, queste esperienze suggeriscono che la VEMS non sia semplicemente una soluzione economica da adottare in mancanza di alternative, ma una modalità con un valore formativo intrinseco. È versatile, facilmente scalabile, applicabile sia in presenza che a distanza, e soprattutto si rivela potente nell'allenare le Non Technical Skills: decision making, comunicazione e coordinamento del team. In altre parole, ciò che all'inizio può sembrare un esercizio "povero" di materiali, si rivela spesso ricco in termini di apprendimento.

La letteratura in merito alla VEMS è ancora in evoluzione ma, nel frattempo, darle una chance richiede poco e potrebbe rivelarsi un'efficace opzione complementare per integrare la simulazione nella nostra routine lavorativa.

Bibliografia

Elenco completo dei riferimenti sull'articolo web.



SIM CORNER

ADVERTORIAL

Immersive Simulation to Enhance Learning and Refine Medical Practice

Mastering procedures like lumbar puncture remains one of the greatest challenges for medical students — a delicate balance between technical precision, patient safety, and emotional confidence. InSimo's Sim&Care | Spine simulator bridges this gap by combining augmented reality, haptic feedback, and anatomical accuracy to deliver a fully immersive learning experience. Backed by clinical research from Strasbourg University Hospital, this innovative training tool has proven to enhance skill acquisition, reduce stress, and improve patient outcomes. By merging technology and pedagogy, InSimo is redefining how invasive procedures are learned — safely, effectively, and without risk to patients.

"Simulation-based education has demonstrated statistical benefits in learning, skill acquisition, feedback, and stress reduction."

Lumbar puncture - a stressful medical procedure that is difficult to master

Lumbar puncture is a common medical procedure that can be stressful for both patients and medical students. This potentially painful procedure, which carries a risk of complications, is still often learned by students through direct practice on patients. In France, 1 in 2 students fails their first lumbar puncture. As with any medical procedure, proper training and a solid understanding of anatomy, indications and contraindications, as well as the technical steps of the procedure, are essential to ensure both the success of the procedure and patient safety.

Enhancing healthcare professionals' training experience through medical simulation

In September, a new study conducted by the rheumatology department at Strasbourg University Hospital was published in the scientific journal BMC Medical Education. This research demonstrates the effectiveness of training on Sim&Care | Spine: a simulator developed by InSimo that allows users to master the lumbar puncture procedure to perfection thanks to augmented reality and force feedback. These results demonstrate the impact of simulation-based training:

- Patients reported greater ease and higher satisfaction with simulator-trained students.
- Students trained with the simulator expressed greater ease and comfort while performing lumbar

punctures.

- Simulator-based training has helped reduce the duration of the procedure, making the intervention more efficient.

Sim&Care | Spine: real sensations on virtual patients

Sim&Care | Spine is an educational tool that immerses the user in a highly realistic environment: anatomical resistance and needle interaction with the patient's anatomy, augmented reality and transparent visualization of key anatomical structures, immersive sound environment and simulation of patient emotions, and physical palpation on a lumbar...



References

Find the full list of references in the web article.

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SIMZINE



SIM LOVE



What Feedback Do You Have for Me?

<https://doi.org/10.69079/SIMZINE.R25.N20.00086>

Feedback is something we give every day in simulation, yet asking for it ourselves takes courage. Asking for it shows humility, receiving it builds trust, and documenting it fuels growth. Angela DeWeese shares how seeking feedback in simulation, though sometimes uncomfortable, can be a powerful tool for growth. She's found that when she stop fearing feedback and start embracing it, she discovered new ways to lead, teach, and connect. Feedback isn't a threat, it's a gift waiting to be opened

As simulation professionals, we give feedback on a regular basis. We give it to learners during debriefs. We give it as we coach simulation facilitators. We even give it to our institutions as we identify opportunities for process improvement. We are good at giving feedback. We know it is essential for growth and development.

But here is the real question: *Do you regularly ask for feedback from those you serve?*

Feedback as a Tool for Personal Growth

It's never pleasant to listen to, or to dole out, constructive criticism. And yet, feedback is at the core of growth. I was recently struck by an article in Science that argued academics need feedback on interpersonal skills as much as on research output. The author reflected: "As I took charge of my personal growth, I stopped fearing feedback and started to seek it out. I also began to document comments, negative and positive, which kept me honest about what was said and helped me decide how I wanted to grow". (Ghai, 2021)

That idea resonated with me. What if we, as simulation professionals, made a habit of not only asking for feedback but also documenting it, capturing the words, the tone, and the moments that helped us reflect? Taking notes on feedback could be a powerful way to track progress, identify patterns, and remind ourselves that growth is incremental.

Science itself is built on feedback. Every peer review, every discussion, every revision cycle is a step toward



improvement. Shouldn't we, as simulation professionals, embrace the same mindset?

Asking for Feedback in Practice

With learners, we might ask for feedback on scenario design, on our ability to listen, or on whether they felt psychologically safe.

When working with subject matter experts, we can ask if we clearly communicated the design process, if we truly understood the problem they wanted to solve, if our responses were timely, and if the final simulation met their goals.

When coaching simulation facilitators, we can check if we are preparing them adequately with best practices, and whether we are providing the right balance of modeling versus opportunities to practice.

The Importance of Being Specific

It is helpful if our request for feedback is concrete. I have found that when I simply ask, "What feedback do

you have for me?" the answers are often vague. But when I ask more specific questions, such as, "What question could I have asked in the debrief but didn't?" or "How can I become a better simulation coach for you?", the responses become far more meaningful.

Research also shows that specific and goal-oriented feedback is the most effective in improving learning among those receiving it (Panadero & Lipnevich, 2022).

Safety and Trust: The Foundation of Feedback

Even the best feedback falls flat without psychological safety. When people feel safe to ask for and receive feedback without fear of judgment, they open the door to growth, connection, and innovation. They bring their full selves to the table—ready to collaborate, take risks, and rise to challenges. Psychological safety isn't just a backdrop—it's the foundation that transforms feedback into fuel for transformation.



References

Find the full list of references in the web article.



DID YOU KNOW...

Aprendizaje Híbrido En Simulación

<https://doi.org/10.69079/SIMZINE.R25.N21.00092>



El aprendizaje híbrido se ha convertido en una metodología clave para la educación en salud, combinando experiencias presenciales y virtuales que potencian la reflexión, la colaboración y la seguridad del paciente. La Universidad Católica de Santiago de Guayaquil (UCSG) demuestra cómo esta integración tecnológica y pedagógica transforma la simulación clínica, promoviendo una enseñanza más flexible, inmersiva y adaptada a los desafíos actuales de la formación sanitaria.

El facilitador, acorde a los Estándares de Mejores Prácticas de Simulación en Salud (HSSOBP) de la INACSL, es quien asume la responsabilidad y la supervisión de la gestión de la experiencia basada en simulación. Sin embargo, aunque la simulación es una metodología en la que están implícitas otras metodologías, tales como el proceso de debriefing, existen diferentes métodos para facilitar el aprendizaje; y, la elección de un método en particular depende de lo que el estudiante necesita aprender y de los objetivos que se desea alcanzar.

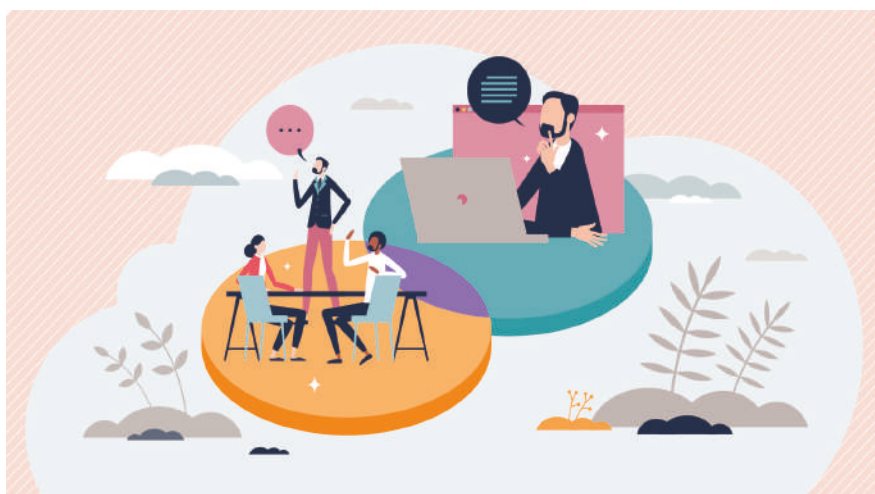
En otras palabras, se debe seleccionar el método más adecuado según la situación, el estudiante y lo que se espera lograr con el proceso de enseñanza. Las Tecnologías de la Información y la Comunicación (TIC) desempeñan un papel crucial al ofrecer herramientas que enriquecen estas experiencias, siempre y cuando se centren en la metodología educativa de su uso en lugar de la tecnología en sí misma. El constante avance tecnológico y las cambiantes demandas del ámbito educativo han generado la necesidad de explorar nuevas metodologías que potencien el proceso de enseñanza-aprendizaje.

Aprendizaje híbrido ¡Una alternativa de la educación remota!

En la pandemia por COVID 19 surge como respuesta una educación remota con tecnologías emergentes que discrepan de la educación tradicional; en la que se esperaba una respuesta de partes de las Instituciones educativas no solo tener infraestructura tecnológica, sino un personal que pueda adaptarse al cambio y conozcan como

de metodologías ya existentes, innovando mediante la incorporación de elementos nuevos y efectivos.

El modelo de aprendizaje híbrido emerge como una propuesta innovadora que combina elementos tanto presenciales como virtuales, ofreciendo una experiencia educativa inmersiva y efectiva.



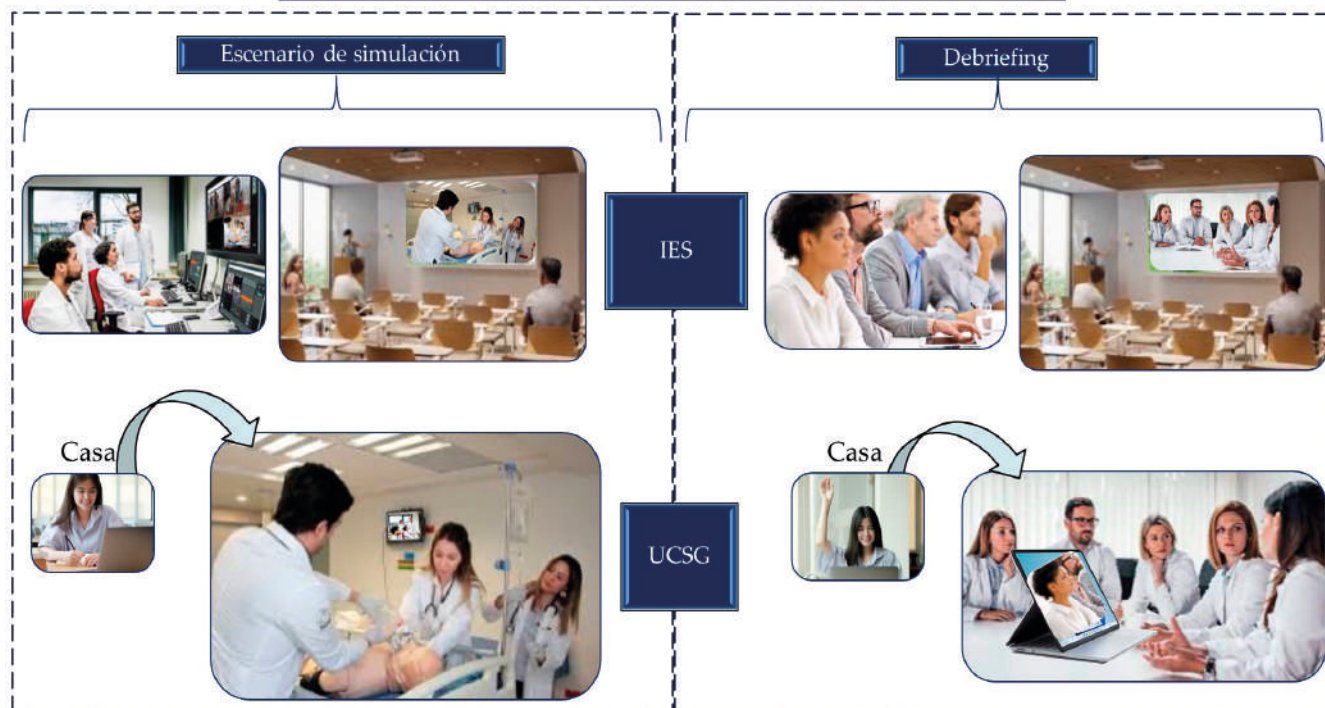
En el Ecuador (2020) el aprendizaje se restringió a una educación remota con modalidad online. Sin embargo, en 2021, algunas universidades comenzaron a adoptar un enfoque híbrido. Este cambio estuvo condicionado por la limitación en el acceso a espacios físicos cerrados, debido a la imple-

mentación de estrictos protocolos de protección y a la necesidad de contar con una infraestructura tecnológica adecuada para soportar un sistema híbrido. En este contexto, se optó por implementar el aprendizaje híbrido como una estrategia educativa en la facilitación de simulación. El aprendizaje híbrido se define como un enfoque pedagógico que combina de manera sinérgica las modalidades de aprendizaje presencial y virtual, pero sincrónicas, que crean un ambiente de aprendizaje que optimi-

mentación de estrictos protocolos de protección y a la necesidad de contar con una infraestructura tecnológica adecuada para soportar un sistema híbrido. En este contexto, se optó por implementar el aprendizaje híbrido como una estrategia educativa en la facilitación de simulación.

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APRENDIZAJE HÍBRIDO EN EL CENTRO DE SIMULACIÓN



za las oportunidades de interacción, reflexión y construcción de conocimientos. Este enfoque aprovecha las tecnologías emergentes como herramientas mediadoras, enriqueciendo el proceso de enseñanza-aprendizaje y fomentando la flexibilidad, la accesibilidad y el desarrollo integral de

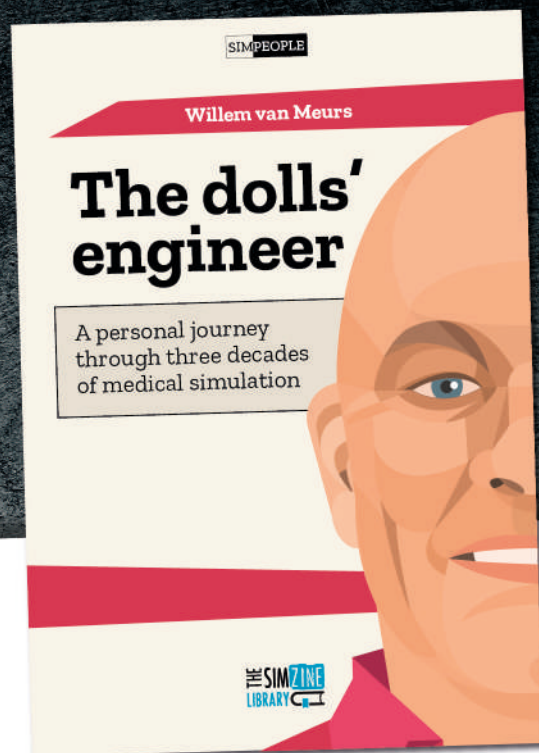
los estudiantes. Además de articular de forma dialéctica lo presencial y lo virtual, integra la participación de co-debriefers con participantes de otras universidades que promueven una comunidad de colaboración y aprendizaje, con el fin de mejorar la calidad académica...



Willem van Meurs

The dolls' engineer

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ADVERTORIAL

An Innovative Approach to Nursing Education: The Power of Peer-Led Simulation

In an era where virtual reality is transforming healthcare education, Peer-Led Simulation (PLS) is redefining how nursing students learn — and teach. This innovative model, implemented at Cal State Los Angeles with support from SimX, empowers advanced students to guide their peers through immersive VR scenarios. By shifting part of the facilitation role to learners, institutions can scale simulation programs, overcome faculty limitations, and foster leadership among future nurses. In this article, discover how PLS bridges technology, pedagogy, and collaboration to create a more dynamic, accessible, and impactful approach to nursing education.

While virtual reality (VR) simulations are gaining traction in nursing education, they still require dedicated resources and faculty to facilitate them. For some institutions, that's where Peer-Led Simulation (PLS) comes in.

PLS has emerged as an innovative

receptor at Cal State Los Angeles, at IN-ACSL 2025 to discuss a new training course that focuses on peer-to-peer education in nursing simulation.

As more institutions seek flexible clinical learning methods, immersive, in-headset virtual reality (VR) has emerged as a proven and effective

game-changing technology.

What is Peer-Led Simulation (PLS)?

PLS is a learning model in which upper-level nursing students are trained in VR simulation pedagogy, allowing them to facilitate learning experienc-



and scalable solution that maximizes existing resources, enhances learning outcomes, and develops leadership skills in nursing students at any level. This approach offers an accessible and effective alternative to traditional simulation methods.

The Beginning of a PLS Program

Kendal Bailey, Director of Educational Services at SimX, recently joined Joseph Kastely, Simulation Di-

rector at Cal State Los Angeles, at IN-ACSL 2025 to discuss a new training course that focuses on peer-to-peer education in nursing simulation.

At Cal State LA, Joseph Kastely found a creative solution to these challenges: using students as moderators. This approach leverages students' enthusiasm and engagement to facilitate VR sessions, enabling a seamless integration of this

tool. However, integrating this technology often faces faculty barriers, including a lack of time, inadequate training, and a lack of comfort with new technology.

es for their undergraduate peers. Peer facilitators work under the supervision of a faculty content expert who provides a didactic training course that includes exploring different modalities (VR and manikin-based simulation), pre-briefing, moderation, and debriefing techniques.

At Cal State Los Angeles, students work in teams to develop and facilitate one scenario they own through-

out the training course. They implemented a “see one, do one, teach one” approach to simulation training, pairing students with experienced fellows before they led sessions independently. This training course provides support for autonomy and guidance to student facilitators as they learn from faculty and align with best practices in simulation.

confidence in skills and critical thinking, as learners can access peer support that helps learning tools become more accessible.

- **Benefits for Facilitators:** More advanced nursing students who become trained facilitators benefit from a deeper understanding of nursing content and clinical judgment. They also have the unique opportunity to practice leadership

need training and mentorship from faculty members. Peer-to-peer learning isn't about eliminating or replacing faculty; it's about providing students with an effective opportunity to build various vital skills and competencies alongside their peers.

How can a student effectively run a simulation?

To be effective, student facilitators are often given low-complexity scenarios



Want to learn more? Explore the resources and references shared at the end of this article and connect with the SimX educational services team today!

Why Peer-Led Simulation is a Game-Changer

- **Scalability and Resource Efficiency:** The PLS model addresses the limitations of faculty time and technology comfort. It offers a flexible and scalable solution to meet the growing demand for simulated clinical experiences.
- **Benefits for Learners:** Through PLS, learners have increased access to VR simulation in a lower-stress learning environment. This builds

and mentorship in a positive and valuable learning experience that enhances their own knowledge of the material.

Frequently Asked Questions

Are you thinking about incorporating peer-led simulation into your curriculum? This section answers some of the most common questions about implementing this innovative teaching method.

With peer-to-peer facilitation, do we still need faculty to help run VR Simulation?

Yes, faculty are still essential. Under this learning model, students on both sides of the facilitation process still

to build their moderation skills in one straightforward case that they essentially “own.” Student facilitators are never asked to engage with scenarios that exceed their skill level or are far outside their specialty. Owning a low-complexity case gives learners on both sides an excellent opportunity to repeat and reiterate the simulation until it's thoroughly mastered...





DID YOU KNOW...

Simulazione e Vaccinazione: Un Binomio per la Salute Pubblica

<https://doi.org/10.69079/SIMZINE.R25.N21.00093>

Simulazione e vaccinazione: un connubio innovativo nella formazione dei medici in Igiene e Medicina Preventiva. Presso l'Università Cattolica del Sacro Cuore e il Gemelli Training Center, tre moduli formativi hanno permesso agli specializzandi di sperimentare la pratica vaccinale, la comunicazione con pazienti esitanti e la gestione delle emergenze post-vaccinali. Un approccio immersivo che rafforza competenze tecniche e comunicative, migliorando sicurezza e consapevolezza nella pratica clinica quotidiana.

Sei un medico in formazione specialistica in Igiene e Medicina Preventiva, sei di turno per la prima volta al centro vaccinale del tuo ospedale, di fronte a te c'è un paziente esitante, diffidente verso i vaccini. Ogni argomentazione scientifica sembra scivolare via, mentre l'incertezza traspare dai suoi occhi. Poco dopo, un paziente che avevi appena vaccinato, inizia a mostrare segni di reazione allergica: il battito accelera, il respiro si fa affannoso. Sei pronto/a ad intervenire?

La vaccinazione non è solo una questione di tecnica, ma anche di comunicazione e fortunatamente, solo in rari casi, di gestione dell'emergenza.

Introduzione

La vaccinazione è stata riconosciuta come una delle più grandi scoperte mediche della storia. Questa misura preventiva ha infatti contribuito in modo significativo alla riduzione delle malattie infettive, delle loro complicanze e della mortalità associata. [1]

Tuttavia, negli ultimi anni, una parte crescente della popolazione percepisce la vaccinazione come non sicura e non necessaria. Questo atteggiamento di sfiducia verso le vaccinazioni, noto come "esitazione vaccinale", rappresenta una minaccia per la salute pubblica.

In questo contesto, è fondamentale che gli operatori sanitari siano adeguatamente formati per migliorare la consapevolezza della popolazione sulla sicurezza e l'efficacia dei vaccini. [2]

Ad oggi, numerosi studi hanno indagato il livello di conoscenza e l'attitudine nell'ambito della vaccinazione degli studenti così come l'efficacia di specifici interventi formativi [3,4]. In Italia, negli ultimi anni, sono stati

ottenuti risultati significativi, conducendo diversi programmi formativi per migliorare la preparazione nell'ambito della vaccinazione sia per studenti del settore sanitario sia per specializzandi di Igiene e Medicina Preventiva. [5,6]

In queste attività formative, però, è stato utilizzato prevalentemente un approccio basato su lezioni frontali, mentre la simulazione, come metodologia didattica, è stata utilizzata in forma minore. Inoltre, gli approcci pedagogici utilizzati fino ad ora si sono prevalentemente concentrati sull'esitazione vaccinale, meno sulla tecnica vaccinale e la gestione delle emergenze. [7]

Per questo motivo, la Scuola di Specializzazione di Igiene e Medicina Preventiva dell'Università Cattolica del Sacro Cuore in collaborazione al Centro di simulazione Gemelli Training Center (GTC) della Fondazione Policlinico Gemelli (FPG) di Roma, ha sviluppato un programma di simulazione vaccinale destinato a ventisei specializzandi del I e II anno, costituito di tre moduli che trattano:

- la tecnica della vaccinazione,
- l'esitazione vaccinale e
- la gestione di uno shock anafilattico post vaccinazione.

Inoltre, l'esperienza formativa prevedeva la compilazione, prima e dopo ogni modulo, di questionari di autovalutazione sull'apprendimento, e al termine di ogni sessione una valutazione dell'efficacia della simulazione come metodologia [8].

L'esperienza al centro

Attraverso un percorso strutturato in tre moduli integrati, gli specializ-

zandi hanno potuto vivere esperienze immersive e interattive che riproducono le sfide quotidiane dei centri vaccinali. Dalla tecnica della somministrazione alla gestione dell'esitazione vaccinale, fino alla simulazione di uno shock anafilattico, ogni fase ha offerto un'occasione per apprendere "facendo", in un ambiente sicuro, realistico e supervisionato.

Modulo 1: Introduzione alla Tecnica Vaccinale

Il primo passo è stato comprendere le indicazioni, i meccanismi d'azione e gli effetti collaterali di ciascun vaccino e la loro tecnica di somministrazione. Quindi, dopo una breve lezione teorica, che includeva anche una spiegazione: sulla modulistica, la procedura di smaltimento, l'utilizzo dei dispositivi medici, la dimostrazione pratica di una vaccinazione con preparazione del vaccino ed i suoi rischi; i partecipanti hanno potuto mettere subito in pratica le nozioni apprese. Guidati dalla faculty, hanno sperimentato l'iniezione intramuscolare su simulatori indossabili (pad), affinando così tecnica e manualità.

[Foto1: Tecnica dell'iniezione intramuscolo su pad indossabili]

Inoltre, si sono potuti esercitare nel dosaggio e nella preparazione di alcuni vaccini utilizzati all'interno della FPG.

[Foto 2: Stazione per la preparazione e dosaggio di vaccini.]

Il risultato? Maggiore sicurezza nella tecnica di vaccinazione, nella preparazione delle dosi vaccinali e nell'affrontare eventuali rischi.



Modulo 2: Gestione dell'esitazione vaccinale

Non basta saper vaccinare, bisogna anche saper comunicare efficacemente. Questo modulo ha offerto agli colleghi in formazione l'opportunità di mettersi nei panni di un medico alle prese con un paziente esitante. Inizialmente sono state fatte due brevi lezioni frontali: una [Foto 3: lezione esitazione vaccinale] sul tema dell'esitazione vaccinale, un'altra [Foto 4: Lezione su feedback, ascolto attivo e

comunicazione empatica], con un coach professionista, su feedback, ascolto attivo e comunicazione empatica. Successivamente, è stata progettata una simulazione con l'utilizzo del role-playing [Foto 5: Simulazione con role playing di dialogo tra medico e paziente con esitazione vaccinale] con scenari realistici medico-paziente, dove i partecipanti hanno esplorato strategie di comunicazione efficace...

Riferimenti

Trovi la lista completa dei riferimenti nell'articolo web.





Data Driven Metrics for Simulation Programs

<https://doi.org/10.69079/SIMZINE.R25.N20.00087>

Simulation centers routinely collect vast amounts of data through scheduling platforms but much of it goes often underutilized. Hidden within this raw data are powerful insights about learner volume, room utilization, staffing needs, and equipment wear. This article explores how a structured approach to data and visualization with proper tools, even free, can transform passive data into actionable intelligence. By making trends intuitively visible, simulation programs can improve efficiency, inform staffing, support budgeting decisions, and plan future growth. Learn how to bridge the gap between data collection and meaningful decision-making through clear, compelling dashboards.

Every day, simulation centers around the world collect thousands of data points, such as who came, what room they used, how long they stayed, and what they practiced. Yet, despite the abundance of this information, much of it remains dormant, stored in scheduling software and forgotten spreadsheets. The real problem isn't a lack of data; it's a lack of insight. Most simulation teams don't have the time, training, or tools to make sense of the numbers. But what if all that information could be transformed into visuals that instantly reveal trends in usage, staffing, and resource needs?

That's exactly what this article explores: how simulation centers can extract meaningful metrics from

their existing data, without expensive new systems or advanced analytics training.

From Data Piles to Smart Decisions

The starting point is recognizing that tools many centers already use, like scheduling software and basic spreadsheet programs, can be powerful if paired with simple data strategies. With a clear workflow and naming conventions, even free versions of data visualization tools can produce interactive dashboards that inform planning, budgeting, and staff allocation. Though there are many solutions to both software for simulation scheduling, audio visual, and data

visualization, this article will be centered around how we imported data from Laerdal Medical's SimCapture Pro to Microsoft Power BI to create informative data visuals

Then, centers must understand what they're collecting. Is the session title consistent? Does it reflect the program, learner level, or location? How clean is the dataset?

As the article highlights, before visuals come structure. cleaning and standardizing the raw data, often called *data scrubbing*, is essential to ensure reliability.

The Power of a Good Name

A central takeaway from our case study: everything starts with how

AL	Session Title																
Name Box	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Session Title	Semester	Campus	Learner Tgt	Level	Year	Month	Day of Week	Time of Day	Start Date	Start Time	End Date	End Time	Duration in Minutes	Duration in H:MM	Number of Participants	Learner Contact	
ADN2-Fall2024	Fall	Levelland	ADN	2	2024	October	Wednesday	Afternoon	2024-10-23	12:58 PM	2024-10-23	1:02 PM	4	0:04	1	0.06	
ADN2-Mental-Spring2024	Spring	Levelland	ADN	3	2024	February	Monday	Afternoon	2024-02-26	12:36 PM	2024-02-26	1:04 PM	28	0:28	2	0.94	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Tuesday	Afternoon	2024-04-16	12:48 PM	2024-04-16	1:05 PM	17	0:17	1	0.28	
ADN2-Fall2024	Fall	Levelland	ADN	2	2024	October	Wednesday	Afternoon	2024-10-23	1:06 PM	2024-10-23	1:10 PM	4	0:04	1	0.07	
RES3-Fall2024	Fall	Reese	Respiratory	1	2024	September	Tuesday	Afternoon	2024-09-24	1:06 PM	2024-09-24	1:13 PM	7	0:07	3	0.36	
RCVN Level 2	Spring	Reese	VN	1	2024	February	Tuesday	Afternoon	2024-02-13	1:09 PM	2024-02-13	1:13 PM	4	0:04	1	0.07	
ADN2-Trans-Spring2024	Spring	Levelland	ADN	3	2024	February	Friday	Afternoon	2024-02-09	12:47 PM	2024-02-09	1:13 PM	26	0:26	1	0.44	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Tuesday	Afternoon	2024-04-16	12:49 PM	2024-04-16	1:13 PM	24	0:24	1	0.41	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	June	Tuesday	Afternoon	2024-06-18	12:56 PM	2024-06-18	1:16 PM	20	0:20	3	0.01	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Wednesday	Afternoon	2024-04-24	1:08 PM	2024-04-24	1:22 PM	14	0:14	1	0.23	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Tuesday	Afternoon	2024-04-16	12:48 PM	2024-04-16	1:22 PM	34	0:34	1	0.55	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	May	Monday	Afternoon	2024-05-20	1:08 PM	2024-05-20	1:23 PM	15	0:15	1	0.24	
RCVN98-Summer2024	Summer	Reese	VN	2	2024	June	Tuesday	Afternoon	2024-06-11	1:04 PM	2024-06-11	1:25 PM	21	0:21	1	0.36	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	July	Monday	Afternoon	2024-07-08	1:06 PM	2024-07-08	1:26 PM	20	0:20	1	0.34	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	February	Tuesday	Afternoon	2024-02-13	1:11 PM	2024-02-13	1:27 PM	16	0:16	1	0.27	
RCVN Wound checkoff	Spring	Reese	VN	1	2024	February	Wednesday	Afternoon	2024-02-21	1:09 PM	2024-02-21	1:28 PM	19	0:19	1	0.32	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Wednesday	Afternoon	2024-04-24	1:08 PM	2024-04-24	1:30 PM	22	0:22	1	0.37	
ADN2-Trans-Fall2024	Fall	Levelland	ADN	3	2024	November	Friday	Afternoon	2024-11-01	12:49 PM	2024-11-01	1:30 PM	41	0:41	1	0.68	
ADN2-Mental-Spring2024	Spring	Levelland	ADN	3	2024	February	Monday	Afternoon	2024-02-12	1:03 PM	2024-02-12	1:31 PM	28	0:28	3	0.41	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	February	Wednesday	Afternoon	2024-02-21	1:06 PM	2024-02-21	1:31 PM	25	0:25	1	0.41	
PVYN-Spring2024	Spring	Plainview	VN	2	2024	April	Wednesday	Afternoon	2024-04-24	1:02 PM	2024-04-24	1:32 PM	30	0:30	1	0.50	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Tuesday	Afternoon	2024-04-16	1:12 PM	2024-04-16	1:33 PM	21	0:21	1	0.35	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Tuesday	Afternoon	2024-04-16	1:18 PM	2024-04-16	1:33 PM	15	0:15	1	0.24	
ADN4-Fall2024	Fall	Levelland	ADN	4	2024	August	Friday	Afternoon	2024-08-30	1:24 PM	2024-08-30	1:33 PM	9	0:09	2	0.30	
ADN2-Fall2024	Fall	Levelland	ADN	2	2024	October	Wednesday	Afternoon	2024-10-23	12:57 PM	2024-10-23	1:34 PM	37	0:37	1	0.62	
RCVN98-Summer2024	Summer	Reese	VN	2	2024	June	Tuesday	Afternoon	2024-06-11	1:04 PM	2024-06-11	1:35 PM	31	0:31	1	0.51	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	June	Monday	Afternoon	2024-06-17	1:10 PM	2024-06-17	1:36 PM	26	0:26	2	0.85	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	April	Wednesday	Afternoon	2024-04-24	1:17 PM	2024-04-24	1:36 PM	19	0:19	1	0.32	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	July	Tuesday	Afternoon	2024-07-09	1:09 PM	2024-07-09	1:37 PM	28	0:28	1	0.48	
ADN2-Fall2024	Fall	Levelland	ADN	2	2024	October	Wednesday	Afternoon	2024-10-23	12:59 PM	2024-10-23	1:37 PM	38	0:38	1	0.65	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	June	Monday	Afternoon	2024-06-17	1:14 PM	2024-06-17	1:39 PM	25	0:25	2	0.84	
ADN1-Spring2024	Spring	Levelland	ADN	1	2024	April	Tuesday	Afternoon	2024-04-23	1:24 PM	2024-04-23	1:40 PM	16	0:16	1	0.27	
RCVN97-Summer2024	Summer	Reese	VN	3	2024	June	Tuesday	Afternoon	2024-06-18	1:17 PM	2024-06-18	1:41 PM	24	0:24	3	0.22	
RCVN99-Fall2024	Fall	Reese	VN	1	2024	December	Monday	Afternoon	2024-12-02	1:19 PM	2024-12-02	1:41 PM	22	0:22	1	0.37	
RCVN98-Spring2024	Spring	Reese	VN	1	2024	April	Tuesday	Afternoon	2024-04-23	1:25 PM	2024-04-23	1:41 PM	16	0:16	1	0.26	
PVYN-Spring2024	Spring	Plainview	VN	2	2024	February	Thursday	Afternoon	2024-02-29	12:45 PM	2024-02-29	1:41 PM	56	0:56	1	0.93	
RCVN97-Spring2024	Spring	Reese	VN	2	2024	February	Wednesday	Afternoon	2024-02-21	1:20 PM	2024-02-21	1:42 PM	22	0:22	1	0.36	

(Img. 1) The level column is indicative of first semester, second semester, etc. For our dataset this information was derived from knowledge of when each program admits students. Academic institutions with multiple admit dates can determine level or semester by entering the course number in the session title

sessions are named. With a uniform convention (e.g., Campus_Course-Number_Room), we embedded key variables directly into the session titles. These could then be decoded by Excel and visualized in a dashboard. (Img. 1)

Even a modest change, like including the learner level in every title, made a big difference in tracking usage patterns over time and across programs.

Visual Clarity, Real Insights

Once the data was organized, we imported it into a free data visualization tool. The result? Interactive dashboards that instantly showed which programs used which rooms, which days had the highest learner volume, and how time was distributed throughout the week.

We could see, for example, that Fridays were particularly high-traffic days, and that some rooms were underused compared to others. We also

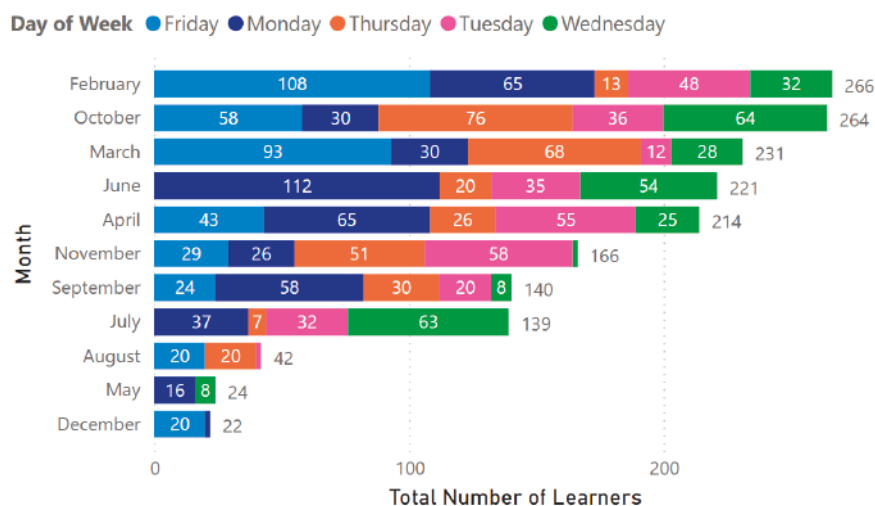
spotted seasonal peaks that aligned with curriculum schedules.

More Than Dashboards: A Cultural Change

Turning data into visuals is just one step. More importantly, this approach helped foster a *data-aware culture* within our simulation team. We began asking better questions: are certain learner types overusing a resource? Is one program creating bottlenecks? Are our staffing patterns aligned with peak usage?

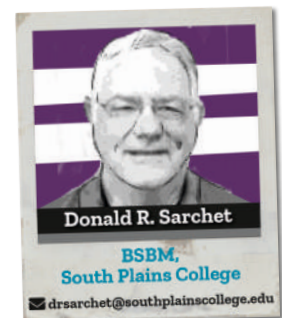
By making the data visible, we created space for dialogue, decisions, and continuous improvement.

Total Number of Learners by Month and Day of Week



This visual shows the busiest days and months of the year in terms of learner volume

In our full digital article, we break down the process step-by-step: from naming conventions and Excel tricks, to dashboard design and staffing insights. If you're ready to move from guessing to knowing, this guide will help you unlock the hidden power of your existing data.



Healthcare
simulation
know-how
in just 20
minutes

By SIMZINE



DID YOU KNOW...

Simulation in Pakistan: Turning Healthcare Educators into Simulation Champions

 <https://doi.org/10.69079/SIMZINE.R25.N20.00084>

Simulation-based education is transforming healthcare training worldwide, offering safe, immersive, and high-impact learning opportunities. At Aga Khan University's Centre for Innovation in Medical Education, the Clinical Simulation Educators Programme equips professionals from diverse regions and disciplines with the skills and confidence to teach through simulation. By empowering educators in low- and middle-income countries, this initiative strengthens patient safety, builds regional capacity, and creates a ripple effect of change in global healthcare education.

How many healthcare professionals around you are truly tapping into the power of simulation to level up their teaching? If you answered, "not many," you're not alone.

Why Healthcare Needs Simulation-Based Education

Traditional teaching methods have their place, but in today's high-stakes clinical environment, realism, repetition, and risk-free practice aren't just nice-to-haves. They're essential. That's where simulation-based education comes in: immersive, interactive, and proven to improve patient safety, skill retention, and learner confidence.

And yet, despite its benefits, building capacity in simulation remains a critical challenge, particularly in low- and middle-income countries (LMICs). These regions often grapple with limited clinical exposure, under-resourced training environments, overburdened healthcare systems, and a shortage of experienced educators. Simulation has the power to bridge these gaps. It allows learners to practice safely, make mistakes without consequences, and develop both technical and non-technical skills before entering real-world scenarios.

That's why it's not just important - it's urgent! - to invest in structured, accessible simulation trainings like the Clinical Simulation Educators Programme (CSEP).

While younger professionals jump into simulation with excitement, many senior clinicians are more hesitant, sticking to what they know and staying firmly in their comfort zones. Technophobia being a contributing factor for many.

So, how do you turn seasoned educators into simulation champions? You put them in a room full of diverse healthcare professionals of all ages and professional levels, and take a deep dive into all things simulation.

Training Educators at AKU-CIME

At the Aga Khan University Centre for Innovation in Medical Education (AKU-CIME), we recently wrapped up the 20th cohort of our Clinical Simulation Educators Programme,

a 4-day immersive course covering everything from pre-briefing to debriefing, simulation scenario design, and tech confidence.

The course was designed to be both impactful and memorable. What made it all the more special was the exceptional diversity of participants, from varied geographies, age groups, and healthcare roles. We welcomed attendees from countries such as Afghanistan, UK, and across Pakistan, representing junior fellows, senior consultants, university leaders, nurs-





es, allied health professionals, and even healthcare marketing specialists.

Why does this kind of diversity matter?

Because healthcare is not one-size-fits-all. By including emerging leaders, professionals of different ages, disciplines, ethnicities, and socio-economic backgrounds and voices from underrepresented regions like Afghanistan, we foster inclusive dialogue, build regional capacity, and create a ripple effect of change in communities that need it most. Diverse cohorts encourage cross-cultural learning and empower professionals from LMICs to return home with tools, confidence, and networks that support locally relevant simulation-based education.

At AKU-CIME, we believe that training educators should go beyond instruction: it should be an experience they carry with them. So, the Centre prioritized hospitality, creating a conducive learning environment where thoughtful details, from delicious meals to personalized mentorship and engaging discussions, left a lasting impression, especially for those who had traveled long distances.

Key Lessons Learned from Running CSEP

Simulation isn't just about cool gadgets: it's about pedagogy. Here's the programme design that worked for us:

PRE-BRIEFING SKILLS

Before the action began, educators learned how to set the stage. Structured pre-briefing improved learner engagement and explored psychological safety, aligning expectations and setting the right mindset.

SCENARIO DESIGN

Designing a scenario is both an art and a science. Participants were trained to align simulations with learning objectives for maximum impact, creating scenarios that felt as real as possible. We even incorporated actors playing anxious patient attendants intruding between procedures!

TECH CONFIDENCE

Whether it was high-fidelity manikins or task trainers, educators were supported in building comfort with the tools. CIME's advanced simulation wards were used to design and execute dry runs in carefully curated multidisciplinary teams.

DEBRIEFING MASTERY

Educators were equipped to lead reflective, high-impact conversations that unpack the simulation experience. Unsurprisingly, this module turned out to be one of the most-loved parts of the 4-day experience.

To ensure lasting impact, the CIME team provided digital resources, summary notes, and a growing online network that participants could plug into immediately. Most importantly, we listened. Post-course evaluations were central to our continuous improvement and helped us raise the bar for the next iteration.

Building Champions for the Future of Medical Education

Simulation as we know it is no longer the future of healthcare education: it's the now. For LMICs, simulation can be a game changer, enabling quality training in contexts where patient safety, resource limitations, and faculty shortages are pressing concerns. Simulation centers have a golden opportunity to shape tomorrow's clinical educators and raise the bar for medical teaching across the board. By investing in structured programmes, inviting collaboration, and embracing lifelong learning, sim centres can become the beating heart of transformative healthcare education.

The time to lead, inspire, and elevate is now and simulation is the tool that can make it happen.





DID YOU KNOW...

A New Pulse for Evaluating Simulation in Nursing Education

 <https://doi.org/10.69079/SIMZINE.R25.N21.00095>

CHEST (Comprehensive Healthcare Education Simulation Tool) is a new instrument for educators to assess Simulation in Nursing Education. Born in Qatar, CHEST captures the full spectrum of simulation learning, from engagement and motivation to cultural relevance and faculty support. It bridges gaps traditional tools overlook, turning feedback into actionable insights that enhance both teaching and student experience. CHEST reminds us that true simulation learning is as human as the care it prepares us to deliver.

When we launched the CHEST project, we had a simple but powerful realization: our simulation feedback tools weren't telling the whole story. Simulation environments are rich, dynamic, and emotionally charged spaces, yet many evaluation tools offered only a narrow snapshot, mostly focused on confidence or basic satisfaction. We needed something more holistic, something that truly captured the multidimensional nature of learning in simulation.

Simulation-based learning (SBL) has become essential in nursing education. It bridges the critical gap between theory and clinical reality. Students practice, fail safely, reflect, and grow. Yet, most existing evaluation instruments focus on technical proficiency or general satisfaction levels. They rarely ask the deeper questions: Do students feel culturally seen in the scenarios? Are they genuinely engaged? Is faculty support equitable and impactful? These were the questions CHEST was born to answer.

CHEST stands for Comprehensive Healthcare Education Simulation Tool. Designed and validated in Qatar with over 200 nursing students across multiple academic levels, CHEST evaluates simulation through six critical lenses:

1. the physical environment and resources,
2. the role and effectiveness of faculty support,
3. cultural and contextual relevance of scenarios,
4. development of clinical skills and confidence,
5. student engagement in the learning process, and

6. the motivational impact of the simulation.

When we launched the CHEST project, we had a simple but powerful realization: our simulation feedback tools weren't telling the whole story. Simulation environments are rich, dynamic, and emotionally charged spaces, yet many evaluation tools offered only a narrow snapshot, mostly

patient norms.

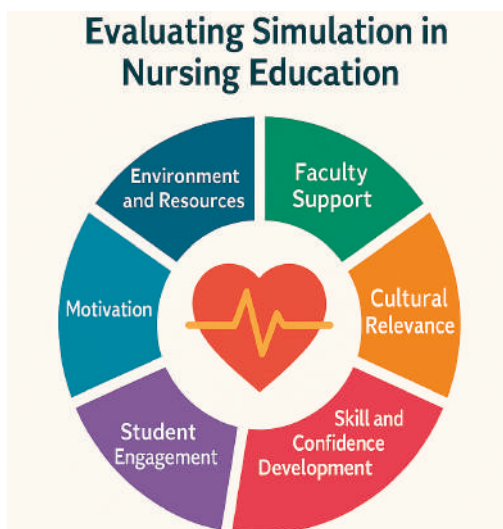
CHEST evaluates whether simulation scenarios reflect the realities that students are likely to encounter in local practice. It considers cultural nuances, communication styles, and patient expectations, key to preparing nurses for practice in diverse settings.

Second, CHEST dives into motivation and engagement.

Beyond surface satisfaction, it explores whether simulation instills a lasting sense of purpose in students. Are they learning because they must, or because they feel inspired? Are they cognitively and emotionally engaged in the scenarios, or simply going through the motions? CHEST helps educators detect dips in engagement and identify what drives or hinders students' motivation over time.

Third, CHEST delivers actionable, granular feedback.

Many evaluation tools offer a simple Likert-scale score and stop there. CHEST is different. It dissects the simulation experience and gives detailed insights into how each dimension...



focused on confidence or basic satisfaction. We needed something more holistic, something that truly captured the multidimensional nature of learning in simulation.

What makes CHEST truly different?

First, cultural alignment.

Qatar's healthcare education landscape is uniquely multicultural, with students and faculty representing dozens of nationalities. Yet many of the scenarios used in SBL come from curricula developed in other regions, with different values, languages, and



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DID YOU KNOW...



Swiss Emergency Championship: l'edutainment in emergenza

 <https://doi.org/10.69079/SIMZINE.R25.N21.00091>

La Swiss Emergency Championship è di più di una semplice competizione: è un'esperienza di apprendimento che unisce professionisti dell'emergenza e dell'area critica. Nata come evoluzione della Swiss Prehospital Championship, oggi mette insieme team ospedalieri e preospedalieri in un percorso formativo unico che integra simulazioni, scenari complessi e collaborazione interprofessionale fondandosi sul principio dell'edutainment.

Negli ultimi anni, le Sim Wars si sono affermate come una forma innovativa di formazione esperienziale in ambito sanitario: eventi che, dietro l'apparenza di una competizione, celano un potente strumento di apprendimento.

Attraverso simulazioni, esperienze immersive e sfide tra team, queste competizioni offrono un contesto dinamico in cui i professionisti possono confrontarsi, riflettere e crescere insieme.

Da questa visione nasce la Swiss Emergency Championship (SEC): un progetto che trasforma la sfida in apprendimento e l'esperienza in crescita condivisa.

In queste pagine vi raccontiamo la sua storia attraverso le voci di chi l'ha vissuta da protagonista.

Dalla Beta Edition a oggi

L'idea della SEC nasce prima della pandemia, come evento dedicato alla medicina preospedaliera.

La crisi sanitaria ne ha rallentato la realizzazione, ma ha reso ancora più evidente il valore di spazi di confronto e collaborazione tra professionisti.

Nel 2023 ha preso forma la Beta Edition, una sorta di prova generale del format.

Sette team preospedalieri del Canton Ticino hanno preso parte a una giornata di competizione e apprendimento, affrontando due simulazioni cliniche e un workshop competitivo.

I tre migliori team hanno poi avuto accesso alle finali pomeridiane, cimentandosi in uno scenario multipaziente ad alta intensità.

Dopo la Beta Edition del 2023, la prima edizione ufficiale si è svolta quest'anno, segnando un passaggio importante: da Swiss Prehospital Championship a Swiss Emergency Championship.

Il nuovo nome racconta meglio la visione: non solo preospedaliero, ma tutta l'emergenza, integrando anche team ospedalieri che lavorano in pronto soccorso.

Come fondatori della SEC, abbiamo visto confermata l'idea da cui tutto è partito: i team si preparano per settimane con simulazioni e allenamenti, raggiungendo gran parte dell'obiettivo formativo già prima della gara.

La competizione diventa poi l'occasione per mettere in pratica quanto allenato, in un contesto stimolante e aperto anche al pubblico.



Il team del CPS-I impegnato nel round finale delle fasi preliminari.



Un momento della simulazione in fase preospedaliera.

Non si tratta solo di vincere, ma soprattutto di confrontarsi, crescere e riflettere insieme.

La prima fase ha visto i team ticinesi impegnati in scenari di simulazione e workshop dedicati allo sviluppo di technical e non-technical skills, alternando esercitazioni su casi complessi e momenti di confronto aperto.

Alla fase conclusiva, ospitata nel contesto del Simposio di Area Critica della Svizzera Italiana (SACSI), si sono poi aggiunte squadre preospedaliere

spedaliere consegnava il paziente al team ospedaliero, mettendo in scena l'intera catena del soccorso in emergenza.

Costruire una cultura comune dell'emergenza

Per Carlo Realini, Direttore del Servizio Autoambulanza Mendrisiotto e membro del Comitato Strategico, la SEC rappresenta «un passo concreto

e ospedaliero provenienti anche dal Canton Vallese.

Nel complesso, l'edizione 2025 ha coinvolto circa sessanta partecipanti suddivisi nei team in gara, dieci membri di giuria e circa 20 altri professionisti, tra organizzatori e volontari.

Durante le fasi preliminari sono stati decretati i campioni ticinesi, mentre le finali hanno incoronato i campioni svizzeri.

Il format ha proposto scenari clinici diversificati di medicina d'urgenza, trauma e pediatria, culminando in uno scenario conclusivo di un Mass Casualty Event.

In quest'ultimo, la dinamica ha previsto una simulazione integrata 1:1, in cui il team preo-

verso una cultura comune dell'emergenza-urgenza in Svizzera.

Unisce professionisti di lingue e regioni diverse, creando una rete che valorizza le differenze e promuove standard condivisi».

La Championship, contribuisce a consolidare il legame tra territorio e ospedale, favorendo la creazione di un linguaggio comune e una più efficace collaborazione interprofessionale.

«I presupposti ci sono – conclude Realini – la SEC ha già dimostrato di saper generare entusiasmo e senso di appartenenza».

Un ponte tra scuola e professione

Tra i protagonisti della prima edizione ufficiale della SEC c'è anche il Centro Professionale Sociosanitario Infermieristico (CPS-I) di Manno, che oltre ad accogliere nei propri spazi le fasi preliminari ha partecipato con un proprio team di studenti.

Come spiega il Direttore Paolo Barro, membro del Comitato Strategico, la scelta di fare partecipare un team di futuri soccorritori e offrire loro un'occasione per sperimentare la SEC rappresenta così un ponte concreto tra formazione e mondo del lavoro, dove gli studenti possono confrontarsi con professionisti attivi...



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3 Smart Strategies to Boost Healthcare Simulation Equity Worldwide

Intimidation in research threatens academic integrity and innovation. Fostering psychological safety, mentorship, and constructive feedback can enhance collaboration, ensuring a more inclusive and progressive scientific landscape.

Healthcare Simulation Equity

High costs associated with simulation equipment and resources remain one of the biggest barriers to equitable access in healthcare simulation. When only well-funded institutions can afford realistic learning tools, inequity widens. The Global Consensus Statement on Simulation-based Practice noted, "equitable access to high-quality, contextually relevant simulation-based learning opportunities as a global priority" (Diaz-Navarro, et. al, 2024). Creating affordable yet realistic simulation materials is a key solution to this global challenge. By thinking creatively and using available resources, simulationists can design impactful learning experiences without high financial investment.

This article highlights **three smart strategies to boost healthcare simulation equity worldwide.**

1. Upcycling and Innovation

Reusing and repurposing materials is one of the most effective ways to lower simulation costs. Supplies such as intravenous (IV) tubing, simulated medications, syringes, and oxygen delivery devices, which are typically single-use in clinical practice, can be safely reused in simulation settings. Repackaging materials can also be creatively adapted to mimic new products at a fraction of the cost.

Equipment can often serve multiple roles. A stretcher, for example, can double as an exam table for outpatient scenarios. Similarly, maximizing the use of current accessible technology is paramount. For example, using phones speakers may be used for communication with the learners in the simulation, or using cell phones as patient monitors (ResusMonitor, 2025). Students can also record and

review their own performance using their mobile devices, turning everyday technology into powerful reflective learning tools.

Purchasing from nontraditional sources further stretches limited budgets. An infant scale for simulation equipment vendor may cost significantly more than an equivalent model from an online retailer. Creative simulationists often substitute food items, such as red dye and



gelatin, to simulate blood or bodily fluids, although these materials require careful consideration regarding storage, hygiene, and disposal. In resource-limited settings, using food as simulation material may raise ethical or practical challenges when food scarcity is an issue (Bulamba et al., 2019).

2. Maximizing Donations

Donations can dramatically increase access to simulation materials. Local hospitals, clinics, and health agencies often dispose of **expired clinical supplies** that, while no longer safe for patient use, are still perfectly suitable for simulation.

When manikin technology reaches the end of its end of life, it can be **repurposed as a task trainer** by removing or adapting its internal components. However, it's important to consider the practical limitations of donated materials, especially in underserved areas, where replacement parts, batteries, or repair expertise may be difficult to obtain or prohibitively expensive. For example, finding and purchasing batteries to run the donated equipment takes great deal of time/gas, is expensive (>\$50), and therefore not sustainable.

Even **broken equipment** can enhance environmental fidelity (INACSL Standards Committee, 2021). A non-functional suction machine, for example, can still be useful in simulation spaces in meeting learning objectives. Students can assemble, connect tubing, and visually assess suction container contents.

Running a simulation program on unplanned donations is...



References

Find the full list of references in the web article.



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- ✓ Review performance
- ✓ Record and playback
- ✓ Pre and post briefing

IMMERSIVE

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- ✓ No dropdown menus
- ✓ Realistic Enviroments

FLEXIBLE

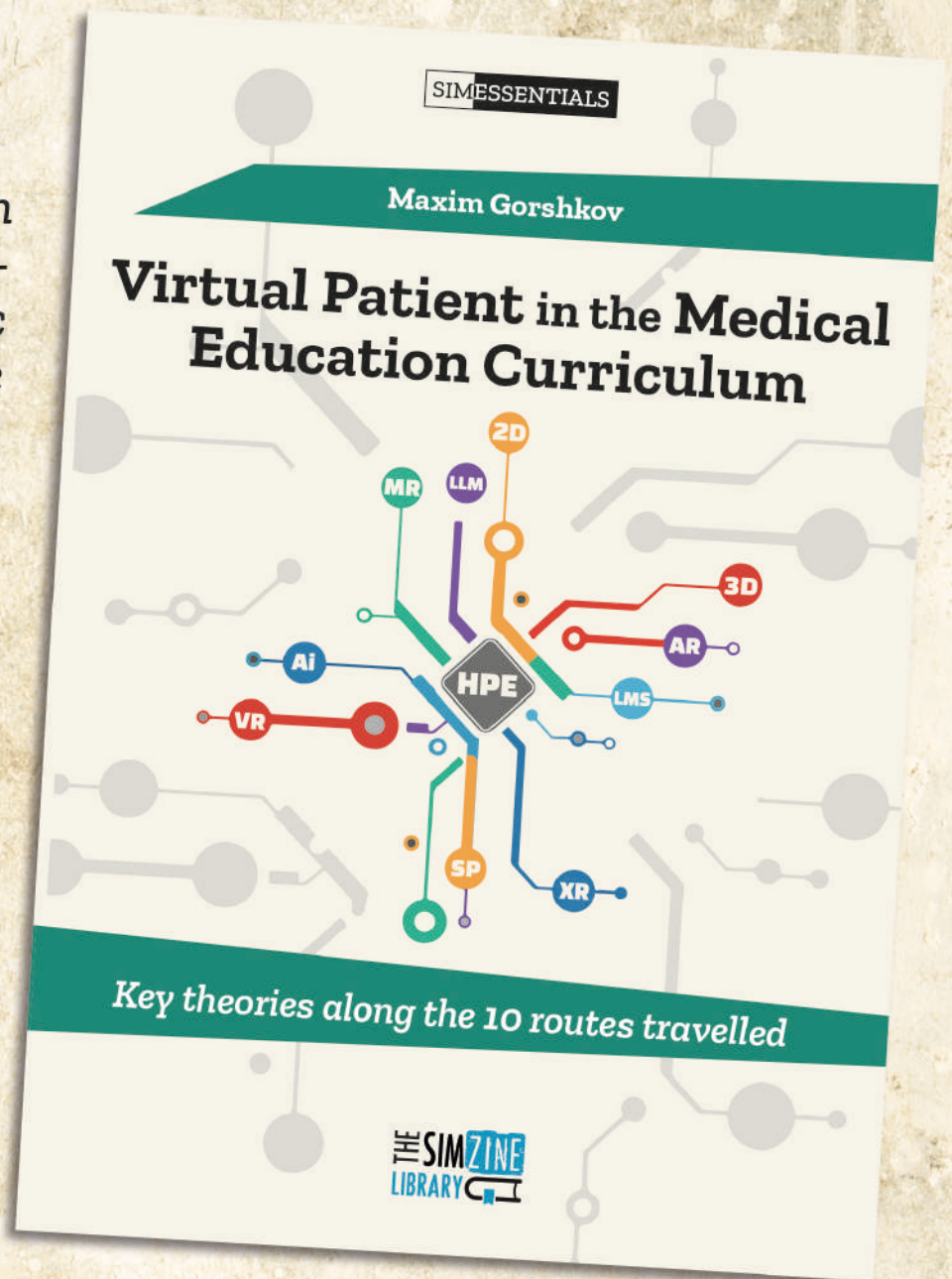
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Consider it your compass in the immersive world of healthcare education, or perhaps your ticket through the VR-glass.



Virtual Patient in the Medical Education Curriculum

Key theories along the 10 routes travelled

Maxim Gorshkov

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