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SUMMARY

p.5	EDITORIAL	The Simulation to Be Told	P.L. Ingrassia
p.6	SIMvoices	Using VR in the health sciences classroom or lab with a large number of students	G. D. Ellern
p.8	SIMnurse	Simulation in a competency-based era	M. Holman - L. Saenz
p.10	DID you know...	Simulation and peer education: self-learning without a teacher	B. Berrak
p.12	SIMcorner	Simulab Corporation: leading the way in soft-tissue simulation for 30 years	Redazione
p.14	DID you know...	The importance of diversity, equity, and inclusion in medical education	S. Saxena
p.16	SIMvoices	Menos es más: ¡Enjoy simulation please!	G. Fenzi - V.Martinez Ruiz
p.17	SIMvoices	Nice to meet you! A Sim Inventor meets a biomedical engineering student	I. Garcia - W. van Meurs
p.18	SIMmanager	6 Tips for being a successful Sim Center director	L. Chavarria
p.19	SIMface	Carlos Rivera Prat: entre medicina militar, docencia y simulación clínica	Redazione
p.20	SIM talks	Entrevista con el nuevo Presidente de FLASIC, Federico Ferrero	Redazione
p.22	SIMsurgery	OR or not OR? Defines assessment...	M. Gorshkov
p.24	SIMcorner	Simulatori per accessi vascolari ecoguidati	G. Lau - P. Ledda - A. Nasone
p.26	SIMvoices	Fidelity in simulation: a neurodivergent perspective	A. Ryals
p.28	SIMstrip	Il Briefing: i 10 passi fondamentali per condurre il briefing con paziente	G. Bargagna
p.29	SIMcorner	When Simulation Clicks: Improving Learning through UI/UX Design	Redazione
p.30	SIMvoices	Realismo vs. Eficacia: la problemática de la compensación	L. D. Estrada - E. Herrera-Aliaga
p.32	DID you know...	Virtual Reality revolutionizing healthcare education: project ViCoSim	D. Vyt
p.34	SIMgeek	Una web app per migliorare l'audio in simulazione	F. Palmisano
p.36	DID you know...	Psychological safety in simulation: creating a secure learning environment	M. Al-Hassan - R. Dorri
p.38	SIMnurse	Simulation purchasing power	A.Davis - V. MacKenna

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Learning Physiology in Context

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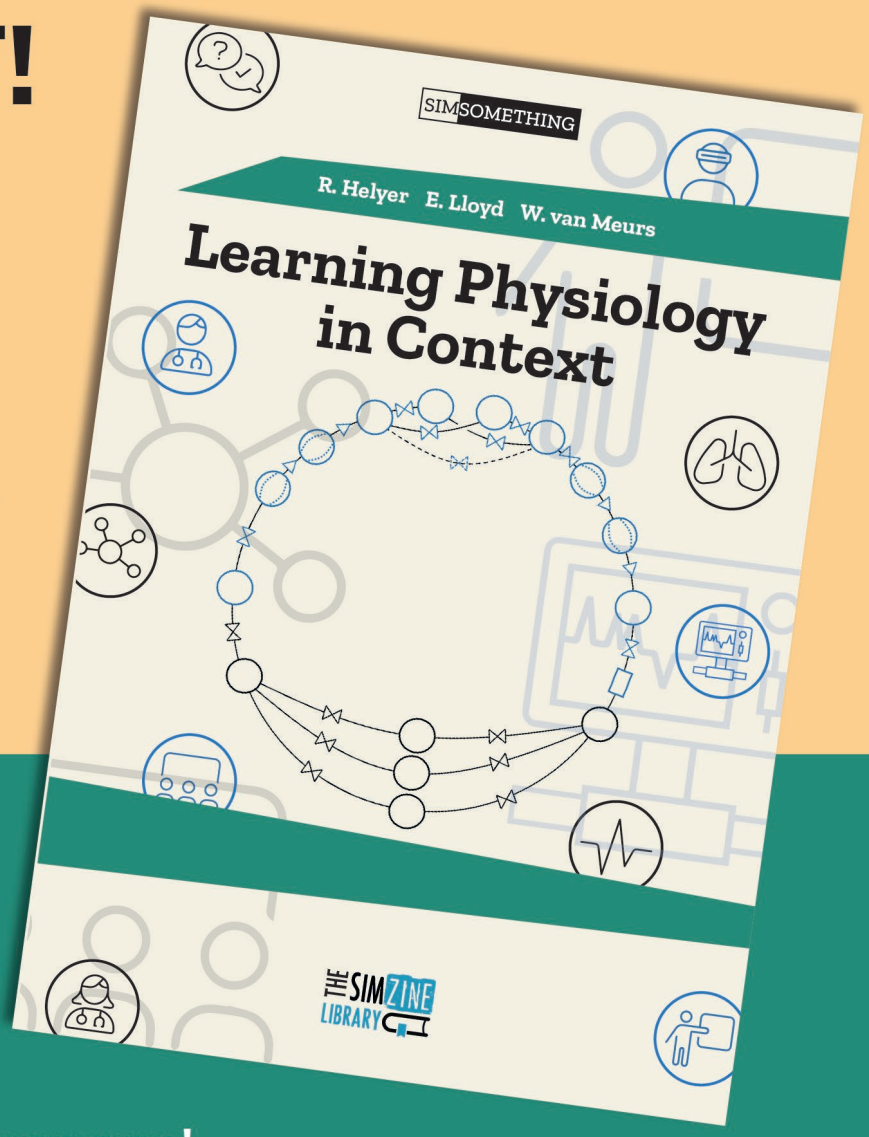

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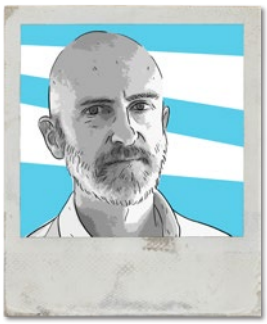

Read in your language

EDITORIAL

The Simulation to Be Told

https://doi.org/10.69079/simzine.H24.n14.00023

As I pondered what to write in this editorial, I found myself reflecting on the profound impact that simulation has had, not only in various areas of education and vocational training, but also in healthcare and patient care. Simulation is no longer just a tool, but has become a story of innovation, learning, and human potential. Each article in this issue contributes a unique chapter to this story, showing the different ways in which simulation continues to evolve: how it inspires educators to develop new teaching methodologies, how it empowers students to take ownership of their learning, and how it drives professionals to innovate within their fields. Whether it's through the integration of new technology like Virtual Reality in classrooms, the use of simulation to enhance competency-based education in nursing, or the exploration of peer-led learning models, simulation has become a cornerstone of modern education and professional development. But beyond the technological and educational advancements, the story of simulation is also a human story. It's a story about the people who dedicate themselves to advancing this field—those who design and implement simulations, those who teach and learn through them, and those who continue to push the boundaries of what simulation can achieve. It is a story of collaboration, where experts from different fields come together to share their knowledge and experience, creating a rich puzzle of insights that advance the entire discipline. This is the story of simulation, one that is constantly being written, with each of us contributing a page or a chapter. It's a story that reflects our collective commitment to excellence, innovation, and the betterment of society.

In this n.15 of SIMZINE, G.D. Ellern discusses the integration of Virtual Reality in the health sciences classroom, exploring how this technology can be effectively utilized even with large groups of students. The narrative of competency-based education in nursing is compellingly addressed by M. Holman and L. Saenz, who delve into how simulation is impacting nursing education. We also explore the fascinating intersection of peer education and simulation with B. Berrak, who highlights the power of self-learning in environments where traditional teaching roles are reimagined. Diversity, equity, and inclusion are essential values in medical education, as S. Saxena reminds us. These themes are crucial in ensuring that simulation-based training is accessible and relevant to all. G. Fenzi and V. Martinez Ruiz take a different approach, emphasizing the philosophy that sometimes, "less is more," and encouraging us to enjoy the process of simulation without overcomplicating it. And more, the dialogue between a simulation Inventor and a biomedical engineering student is an example of the collaborative spirit that drives innovation in our field. Meanwhile, L. Chavarria offers practical advice for those in leadership roles with her "6 Tips for Being a Successful Sim Center Director".

This issue also features an insightful interview with Federico Ferrero, the new President of FLASIC, who shares his vision for the future of simulation in Latin America. The question of how best to assess performance in surgical simulations is tackled by M. Gorshkov, offering food for thought on the balance between Operating Room realism and effective evaluation. And much more!

In short, every article in this issue contributes to the ongoing story of simulation, its challenges, triumphs, and the endless possibilities that lie ahead. And we are proud to collect and tell these stories. Therefore, I invite you to read, reflect, and become part of this narrative. Happy reading!

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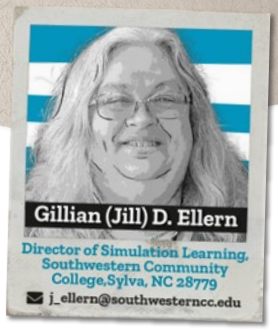
Read in your language

SIM VOICES



Using VR in the Health Sciences classroom or lab with a large number of students

https://doi.org/10.69079/SIMZINE.L24.N15.00026

Introducing virtual reality (VR) in medical education, specifically with SimX, faces significant challenges. Effective implementation requires preliminary training for both students and faculty to ease the VR learning curve and reduce anxiety. Class size limitations, diverse student backgrounds, and technical issues complicate VR integration. Small groups and dedicated roles enhance engagement, but resource demands remain high. Jill Ellern tells us about her experience

Like other simulation technology, introducing virtual reality into both classroom and lab environments is quite difficult. Attempting to incorporate a multiplayer VR scenario medical software such as SimX into large classroom settings has revealed both its potential and considerable challenges.

Practice and training before running a VR scenario

Before delving into the complexities of implementing it in classrooms or labs, it is important to include a crucial preliminary step that shouldn't be overlooked when implementing VR: a dedicated sandbox or training time for both students and faculty. This preparatory phase is essential for several reasons. Firstly, it allows users to become familiar with the VR interface, controls, and environment without the added pressure of a clinical scenario. It is important to incorporate it into the student's first year's class schedule with enough time to get familiar with the technology before more formal scenario sessions are expected. This familiarity significantly reduces cognitive load during actual simulations, attempting to enable the participants to focus more on the medical aspects rather

> *crucial preliminary step that shouldn't be overlooked when implementing VR: a dedicated sandbox or training time for both students and faculty.*

than struggling with the technology. For students, this training time also helped alleviate anxiety about using VR and builds confidence in their ability to navigate the virtual space.

It is even more important for faculty members, particularly those in moderator roles, to have practice time as it allows them to master the controls, understand the limitations and capabilities of the software, get to know the scenario from the students' perspective and develop strategies for guiding students effectively within the virtual environment. Moreover, this sandbox/training period provides an opportunity to identify and address any potential issues with motion sickness or discomfort, allowing for adjustments or alternative arrangements before the actual classroom scenarios begin. In addition, the software and scenarios don't always have all the possible dialog or support questions that the students might have during the live practice. By investing time in this preliminary training, the faculty can significantly enhance the effectiveness of VR-based simulations, ensure smoother execution of scenarios, and create a more positive and productive learning experience for all involved. This approach not only maximizes the educational value of VR technology but also helps in building a supportive and confident user base among both students and faculty.

The number of students in a class vs how many can be in VR at one time

After the training sessions, the actual mechanics of using VR in the classroom or lab become apparent. The fundamental obstacle is that a traditional classroom or lab environment can have many more students than can fit into a single VR scenario at any one time. The size of the scenario "room" can only hold about 2 to 3 students at a time making a classroom of 35 to 40 students take a long time, difficult or even impossible if you want everyone to participate within the constraints of a typical class or lab session.

The first thought is to have 2 or 3 students participate directly using VR headsets while projecting their experience onto an overhead screen using another PC for the rest of the class to observe. SimX allows for multiple moderators within the same running scenarios and projecting the action from various angles. It is easy to move the chairs around to create a dedicated space in the front of the classroom, mark it off with tape and try to utilize the software with student volunteers. Even if you have the dedicated VR space in another room and project the action into another room with a large number of students watching, the same unsuccessful results might be experienced.

Diverse background of healthcare students

It is possible that one of the critical factors complicating the implementation of SimX is the diverse background of healthcare students, particularly in nursing programs. Within a single class, there is a wide spectrum of experience and knowledge levels. This can range from students fresh out of high school with limited healthcare exposure to those returning to school after careers in Emergency Medical Services (EMS) or as Licensed Practical Nurses (LPNs). This diversity, while valuable in many aspects of education, presents unique challenges in maintaining engagement and managing the classroom effectively. This is heightened when using VR.

VR learning curve

An additional challenge that might be encountered is the learning curve associated with the VR technology itself. Despite a common assumption that today's students are inherently tech-savvy, and an initial training time, you will find that learning to use VR equipment, controllers, and navigating virtual space is often a new experience for many. While some students may have gaming experience, this doesn't necessarily translate directly to proficiency with VR technology in an educational context. This learning curve applies not only to students but also to faculty members who need to understand the technology both as moderators and as participants in the virtual room created by the software.

Physical reactions to using and watching VR

Moreover, it has been observed that some students don't tolerate the VR experience well, in the headset and watching online, especially from point-of-view perspectives. A subset of participants can experience vertigo or motion sickness when using the headsets or watching the screen, which not only disrupts their learning experience but can also be physically uncomfortable. This issue further complicates the implementation of VR technology in a classroom setting, as we need to be prepared with alternative learning methods for students who cannot use the VR headsets or even watch the screen due to these physical reactions.

Peer pressure issues

Another significant issue that can be encountered is the psychological barrier some students face when using the VR headsets in front of their peers. The feeling of being "on display" while in the headset can create anxiety and reluctance to participate. This peer pressure effect can lead to some students avoiding the VR experience altogether, which defeats the purpose of using this innovative technology for their education. It's crucial to create a supportive and non-judgmental environment to encourage participation, but this remains a challenge in larger group settings.

Disengagement and disruption in the audience

The varied backgrounds of students, combined with the novelty of VR technology and these additional psychological and physiological factors, can lead to a range of reactions to the VR scenarios. Some students, particularly those with more healthcare experience, may find certain simulations less challenging and become bored or distracted. On the other hand, students with limited prior exposure to healthcare settings or VR technology might feel overwhelmed by the complexity of the scenarios and the interface. This disparity in experience levels can make it difficult to control the classroom...

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SIM NURSE

Simulation in a competency-based era

https://doi.org/10.69079/SIMZINE.L24.N15.00027

This article seeks to explore a new approach to nursing skills acquisition methodology. Practice Observation and Development of Skills Sets (PODSS) is a dedicated physical space designed to facilitate skill acquisition, particularly kinesthetic skills, among nursing students. The aim of this approach is to allow for deliberate practice of skills prior to a simulation so as to reduce cognitive load upon simulation participants. The article will provide an in-depth overview of the PODSS concept and its various phases for developing kinesthetic competency. Furthermore, it examines the student's role in the skill acquisition process, the scheduling of PODSS, and the recovery of PODSS stations after use

If you are involved in nursing simulation then the following description may sound familiar. Students are given a written assignment and are prepared for a simulation through a case study or perhaps a concept map. On the day of the simulation a pre-briefing is conducted and then the students are allowed to orient themselves to the simulation lab. Once the simulation begins everything is going smoothly. The students introduce themselves, ask the patient for their name and date of birth, and ascertain if the patient has any allergies. In your mind, you have hope that everything will go as smoothly as this opening sequence. Then, the first nursing skill of any consequence is required to move the simulation along. For this example, let's say that the students have to employ an IV pump. Everything immediately bogs down. The students almost seem stuck on their inability to use the pump. You as the facilitator are forced to intervene, thereby decreasing the overall fidelity of the simulation. If this sounds even vaguely familiar, take heart! You are not alone.

Deliberate Practice

Deliberate practice is a structured and systematic approach to skill acquisition that holds immense value in the field of nursing. It goes beyond mere repetition of tasks and aims to hone nursing skills, ultimately improving patient care and outcomes. This method involves targeted practice, immediate feedback, and continual refinement in a healthcare setting, with the primary goal of achieving mastery in various nursing competencies.

The method used for deliberate practice in nursing skills acquisition typically involves the following steps:

Goal Setting: Nurses identify specific skills or competencies they wish to improve. This could range from administering injections, wound care, patient assessment, or communication skills.

Focused Practice: Nurses engage in repetitive, purposeful, and task-specific practice. They might work on simulations, practice scenarios, or real patient interactions under the guidance of experienced mentors or educators.

Immediate Feedback: Feedback is a critical component of deliberate practice. Mentors, peers, or self-assessment are used to evaluate performance. Constructive feedback helps nurses pinpoint areas for improvement and adjust their practice accordingly.

Iterative Improvement: Nurses continue to practice, incorporating feedback and adjusting in subsequent sessions. This cyclical process of practice and feedback helps refine their skills over time.

The setting for deliberate practice in nursing can vary, with a range of options including clinical practice settings, simulation labs, and educational institutions. Simulated scenarios often provide a controlled environment where nurses can practice without compromising patient safety.

The preferred outcomes of deliberate practice in nursing are manifold:

Enhanced Competency: Deliberate practice ensures that nurses become

more skilled, confident, and competent in their clinical abilities, which is crucial for patient safety.

Improved Critical Thinking: It fosters critical thinking and problem-solving skills, enabling nurses to make quick and effective decisions in high-pressure situations.

Error Reduction: With deliberate practice, nurses are less likely to make errors in patient care, reducing the risk of adverse events.

Better Patient Care: Ultimately, the main outcome is improved patient care. Skilled nurses can provide a higher standard of care, leading to better patient outcomes and satisfaction.

Professional Growth: Deliberate practice supports ongoing professional development, making nurses more adaptable to changes in healthcare practices and technologies.

The draw back to the use of deliberate practice is that it requires instruction personnel to be present for the immediate feedback of the skill. In today's educational nursing paradigm, we simply do not have the faculty to support deliberate feedback in its entirety.

Functional Definition of PODSS:

PODSS is a physically enclosed space with three sides, specially designated for guided practice of nursing skills. Its primary objective is to provide students with a controlled environment where they can engage in skill development. This development is facilitated through prerecorded video tutorials that guide students through each skill. These guided practice sessions culminate in faculty review of the students' recorded skill demonstrations. The overarching goal of PODSS is to increase the number of skill repetitions without overburdening faculty members.

Phases of Kinesthetic Competency:

Skill acquisition through PODSS follows a structured process, divided into six distinct phases:

- **Phase One - Introduction:** In this phase, students receive a brief introduction to the skill, including its description, categorization as an independent or collaborative intervention, safety considerations, and a video demonstration.
- **Phase Two - Kinesthetic or Skill Acquisition:** This phase involves step-by-step video tutorials breaking down the skill into its core components, from introduction and hand hygiene to completion.
- **Phase Three - Deliberate Practice:** Assuming some familiarity with the skill, this...

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DID YOU KNOW...

Simulation and Peer Education: Self-learning Without a Teacher

https://doi.org/10.69079/SIMZINE.L24.N15.00028

In a groundbreaking shift, peer simulation promises to change medical education by offering a dynamic and cost-effective approach to health education. This method not only enhances clinical skills through hands-on, realistic scenarios but also strengthens collaborative learning and decision-making abilities among students. With its roots in problem-based learning, peer simulation builds deeper understanding and confidence, preparing students for real-world challenges by allowing them to learn from and with each other

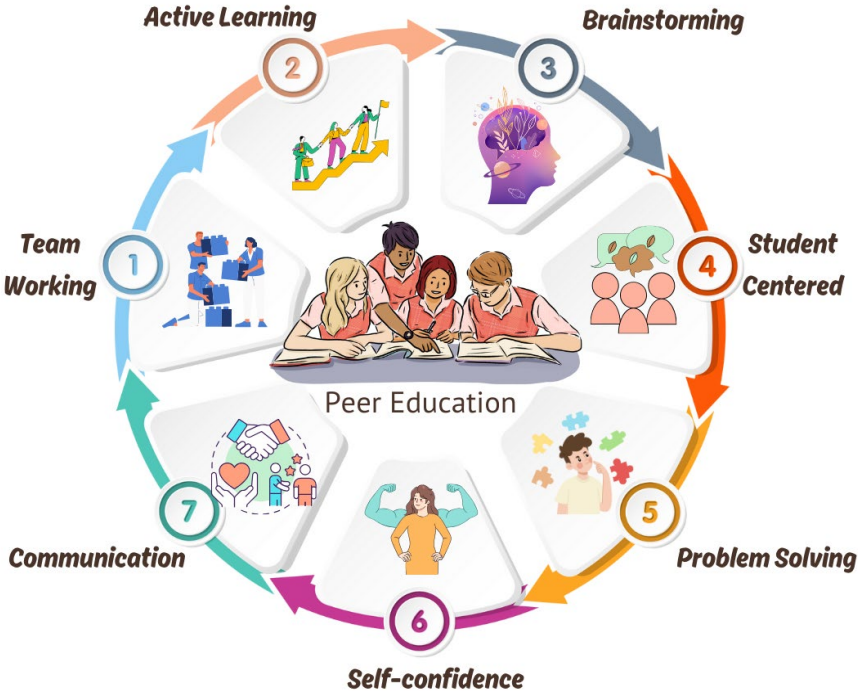
Do you think it's possible to educate students without teachers? Can students carry out their own education without any instructor? Would you believe me if I said that perhaps only with a guide, students could learn to access the correct information on their own, and that the information would even be more permanent than the traditional education method we have known for years? At the point where simulation-based education combines with peer-to-peer teaching, there are exciting developments and innovations ahead of us. Let's take a closer look at this fast-growing modern approach that will guide the educational curriculum for the coming years.

What is simulation-based medical education?

Let's start with the basics of the concepts: Simulation is the imitation of tasks, relationships, phenomena, equipment, behavior, or certain cognitive activities that exist, consisting of methods and environmental elements.[1,2] While simulation has actually come to the fore with the military and aviation sectors, it has increasingly been integrated into all areas of education over time. The first full-body simulator in the healthcare industry was used in 1911. Nowadays, simulation centers, surgical simulation, virtual reality, many of them, from simulators to virtual hospitals, are becoming more and more prevalent. [3] It has now become a part of our daily lives, even if we do not realize it. The use of simulation in medical education has accelerated with the outbreak of the Covid-19 epidemic. In order to prevent the spread of the infected disease, steps have been taken to ensure the absolute benefit of the patient and to ensure that the students who remain away from the field do not lack education. Students who stayed out of clinical education have completed their shortcomings in education through simulation. [4] After the pandemic, the use of simulation has been included in hybrid education systems.

What benefits does simulation-based medical education provide?

Simulation-based medical education aims to enhance students' clinical skills through repetitive practices by creating a safe environment. By putting the student at the centre, it supports achievements such as teamwork, task management, leadership, process management, and decision-making.[5] The possibility of simulating potentially risky clinical practices without harming the patient allows students to feel confident when confronted with a real patient. As our professors often tell us students, physicians should reassure the patient from the first moment they approach the patient. Because if the patient does not trust the doctor, the patient cannot establish a healthy relationship with the doctor, and this misleads the doctor in the diagnosis and treatment of the patient. The physician's attitude, look, appearance,



Peer Education

Simulated Patients

and communication with the patient are very important parts of the doctor-patient's confidence environment. The doctor's self-confidence is at the heart of all of this.

When a medical student enters clinical practice, he focuses on taking a patient's detailed history, doing a physical examination, diagnosing, treating, and managing illnesses, and solving problems. When students take their first steps in these clinical skills, they are anxious, stressed, and insecure, and they also shake the patient-doctor's confidence. At this point, the usefulness of simulation-based medical training is even more prominent. Students will have experienced and lived the scenarios they could experience in the nearest possible way to reality before they encountered a real patient. If he makes a mistake, he will gain skill by trying over and over again, without harming any living creature in front of him.

Peer feedback and communication

How does problem-based learning integrate with simulation for students?

The simplest method used in simulation-based medicine education is problem-based learning (PBL). Problem-based learning includes a patient/sickness scenario for solving health problems. It is a student- and peer-centric active learning process in a free discussion environment where students try to solve the problem using their own existing knowledge with their peers, setting learning objectives at the point where they feel the need, reading and researching it in detail, thus exploring their own learning dynamics. It has been demonstrated that the PBL has a positive impact on learning responsibilities, learning to learn, the durability of the information obtained, asking questions, solving problems, teamwork, acquiring communication skills, reflecting, and interpreting theoretical knowledge in the clinic. The scenarios used in PBL, as well as in various simulations, must be real-life encounterable, predictable, ...

References

1. Degn L, Selberg H, Markussen ALR. How Can we Use Simulation to Improve Competencies in Nursing? How Can we Use Simulation to Improve Competencies in Nursing? Springer International Publishing; 2023.

2. Kartal Dokuz Eylül Üniversitesi Tıp Fakültesi M, Hekimliği Anabilim Dalı A, Mıdık Ö, Kartal M, Mayıs Üniversitesi Tıp Fakültesi O, Eğitimi Anabilim Dalı T, et al. Derleme Simülasyona Dayalı Tıp Eğitimi. Marmara Medical Journal. 2010.

3. Herrera-Aliaga E, Estrada LD. Trends and Innovations of Simulation for Twenty First Century Medical Education. Vol. 10, Frontiers in Public Health. Frontiers Media S.A.; 2022.

4. Ayaz O, Ismail FW. Healthcare Simulation: A Key to the Future of Medical Education – A Review. Vol. 13, Advances in Medical Education and Practice. Dove Medical Press Ltd; 2022. p. 301–8.

5. Lee J, Lee JH. Effects of simulation-based education for neonatal resuscitation on medical students' technical and non-technical skills. PLoS One. 2022 Dec 1;17(12 December).

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ADVERTORIAL

SIM CORNER

Simulab Corporation: leading the way in soft-tissue simulation for 30 years

Simulab Corporation, celebrating 30 years of innovation in healthcare simulation, has evolved from a small startup to a global leader. Known for products like the TraumaMan System and the new SimuSkin material, Simulab emphasizes customer-focused development and realism, providing essential tools for medical training worldwide. Their recent offerings include the Ultrasound-Guided IV Access Arm Trainer and the AirwayBaby Infant Airway Management System, demonstrating their continued commitment to advancing medical education.

Simulab Corporation, based in Seattle, WA, has been at the forefront of soft-tissue healthcare simulation for thirty years. As they celebrate this milestone, we reflect on their journey from a small startup to a global leader in medical simulation, continually innovating to meet the ever-changing needs of the healthcare simulation community.

A Legacy of Innovation and Customer Focus

From day one, Simulab has been committed to creating high-quality, realistic medical simulation products that enhance healthcare training and improve patient outcomes. Their success stems from a dedication to listening to their customers, driving the development of simulation tools tailored to the needs of healthcare professionals worldwide.

Flagship Product: The TraumaMan System

One of Simulab's most notable innovations is the **TraumaMan System**, introduced in 2001. This product revolutionized Advanced Trauma Life Support (ATLS) training by providing a realistic and reliable platform for practicing emergency surgical procedures. The TraumaMan System has become a staple in medical education and training around the globe.

TraumaMan Chest Tube Insertion

Comprehensive Product Offerings

Simulab's product range is extensive, offering a variety of surgical simulators and task trainers to address diverse medical training needs:

Surgical Simulators: The range includes advanced systems like the **Surgical Abdomen System**, offering realistic practice with tactile feedback for emergency and surgical procedures.

Task Trainers: Simulab offers various task trainers, such as a collection of centesis and regional anesthesia trainers, for focused skill development in specific procedures.

Ultrasound-Compatible Products: Understanding the vital role of ultrasound in modern medical training, Simulab provides a range of ultrasound-compatible products seen in their vascular access line. These products help healthcare professionals practice and perfect their ultrasound-guided procedures more accurately and confidently.

SimuSkin: Advancing Realism in Simulation

This year, Simulab unveiled **SimuSkin**, a groundbreaking new soft-tissue simulation material. Engineered to closely mimic human tissue in appearance, feel, and cutting responses, SimuSkin offers unparalleled realism. It also delivers superior storage quality and material integri-

CentraLineMan Pro Easy to Use

ty, ensuring long-lasting and reliable use in medical training.

2024 Product Releases

In addition to its established offerings, Simulab has recently introduced several new products to enhance healthcare education:

Ultrasound-Guided IV Access Arm Trainer: Launched this summer, this trainer offers realistic IV insertion practice, helping healthcare providers improve their blind or ultrasound-guided vascular access skills.

AirwayBaby: Also new this summer and adding to the family of airway management products, the AirwayBaby Infant Airway Management System trainer, designed to enhance pediatric airway management training, has been released.

Ultrasound-Guided Pericardiocentesis Trainer: Introduced earlier this year at IMSH 2024 conference, this trainer utilizes the ultrasound imaging technologies and tissue properties of Simulab products to provide realistic pericardiocentesis practice.

Global Growth and Commitment to Excellence

As Simulab continues to expand globally, its focus remains on quality, ease of use, and customer satisfaction. Its products are used in medical schools, hospitals, and training centers worldwide, and its commitment to innovation keeps it at the forefront of medical simulation technology.

Ease of Use and Storage

Simulab products are built to be easy to use, set up, and store, ensuring that healthcare educators and their learners can focus on training rather than logistics. This user-friendly design philosophy underscores Simulab's commitment to creating practical and effective simulation tools.

Looking Ahead: A Future of Innovation

Celebrating 30 years of excellence, Simulab Corporation is a testament to the power of innovation and customer-focused development. Their comprehensive range of simulation products, including the TraumaMan System, PacerMan System, and CentraLineMan Pro, demonstrates their dedication to improving medical training and patient care worldwide. Looking to the future, they remain committed to advancing healthcare simulation and supporting healthcare professionals in their vital work.

To learn more and contact the Team at Simulab connect at
info@simulab.com
and visit the website at
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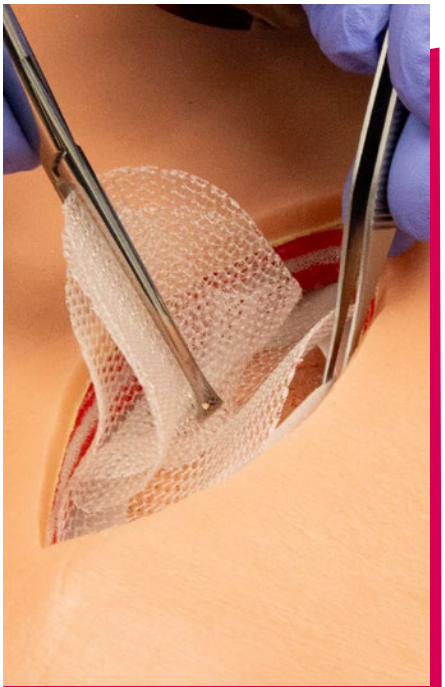

Simulab Hernia Model

Simulab Surgical Abdomen

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DID YOU KNOW...

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The Importance of Diversity, Equity, and Inclusion in Medical Education

https://doi.org/10.69079/SIMZINE.L24.N15.00029

The medical field faces significant gender and racial inequities, particularly in leadership roles, despite progress in reducing disparities. Promoting diversity, equity, and inclusion (DEI) in medical education can enhance patient care by improving cultural competency and reducing health disparities. Dive into the article to gain further insights.

Introduction

The medical field, despite its advancements, continues to grapple with issues of gender and racial/ethnic inequities. While there has been progress in reducing gender disparities over recent decades, significant gaps persist, particularly in leadership roles. This essay takes a closer look at the importance of diversity, equity, and inclusion (DEI) in medical education, highlighting the challenges faced by women and minorities and proposing strategies to foster a more inclusive environment.

Gender Inequities in the Medical Profession

Persistent Gender Disparities

Despite strides toward gender equality, the United Nations Women's report indicates that women are still restricted from certain industries in almost 50% of countries, based on a sample from 93 nations.[1] This statistic underscores the pervasive nature of gender bias that transcends borders and industries, including the medical field. The medical profession is not exempt from these disparities. Although there is equal representation of genders in medical schools, women remain underrepresented in significant academic and leadership positions, with minority women facing even greater challenges. This underrepresentation has far-reaching implications, affecting not only career advancement but also the overall dynamics and decision-making processes within the medical field.[2]

Role Models and Leadership Aspirations

Role models play a crucial role in shaping leadership aspirations. The adage "you can't be what you can't see" underscores the importance of visible role models for women and minorities. Unfortunately, the medical field still struggles with providing diverse role models. For example, text-to-image AI tools consistently portray heads of anesthesia departments as exclusively male, underscoring the widespread gender bias.[3] This is unsurprising, given that the initial datasets used to train large language models often included images of women from the internet, which frequently originate from pornographic content. (Figure 1) This lack of diverse representation can dissuade women and minorities from pursuing leadership roles, perpetuating a cycle of underrepresentation and inequality.

The visibility of role models is particularly critical in the formative years of one's career. When aspiring medical professionals see individuals who look like them and share similar backgrounds in positions of power, it instills a sense of possibility and ambition. Conversely, the absence of such role models can lead to feelings of isolation and the belief that certain achievements are unattainable. This highlights the need for intentional efforts to showcase diverse leaders within the medical field.

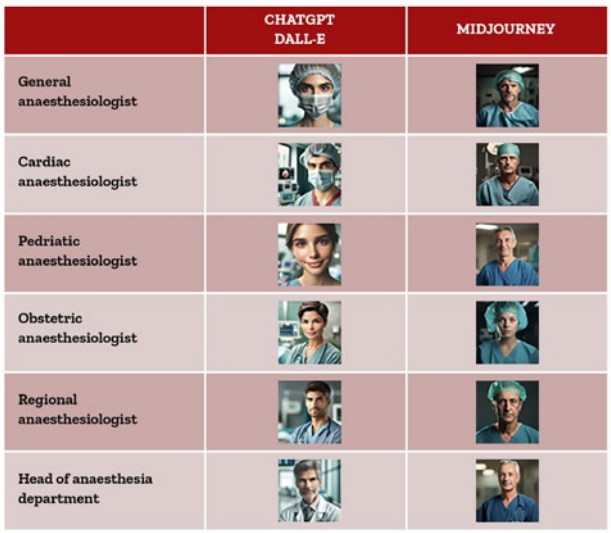

Figure 1. Typical images generated by AI models for each anesthesiologists' category. Image reproduced with permission [3]

Medical Culture and Leadership Norms

Competitive Individualism and Masculine Norms

The medical culture often celebrates competitive individualism and masculine norms of leadership. Leaders are expected to exhibit "agentic" qualities such as assertiveness, confidence, and independence, which are traditionally associated with masculinity. Ideal code leadership, for example, is often embodied by highly agentic, stereotypically male behavior (loud, assertive and confident). This preference for agentic qualities can create a hostile environment for women and minorities who may not conform to these expectations. In contrast, "communal" qualities like cooperation, team-focus, and empathy, typically perceived as feminine, are less valued in professional success.[2] This dichotomy between agentic and communal qualities perpetuates a biased view of leadership that marginalizes those who do not fit the traditional mold. The emphasis on agentic qualities can also lead to a narrow definition of success, ignoring the valuable contributions of those who excel in communal roles.

The Double Bind for Women Leaders

Research indicates that women leaders face a double bind: they are

either seen as lacking competence if they do not display agentic qualities or are penalized for displaying dominance. This dilemma forces women to juggle between communal qualities, which are preferred in women, and agentic qualities deemed necessary for leadership success. This conflict hinders women's career aspirations and recognition.

The double bind phenomenon is not limited to the medical field; it is prevalent across various industries. Women who exhibit agentic behaviors may be labeled as aggressive/unlikable and bossy, while those who display communal traits are often perceived as lacking the necessary drive for leadership. This paradoxical expectation places an undue burden on women, requiring them to navigate a minefield of conflicting expectations. Indeed, women leaders are expected to be competent and caring, while men are expected to be competent only. [4] As a result, many talented women may opt out of pursuing leadership roles altogether, further entrenching gender disparities.

> ***This dichotomy between agentic and communal qualities perpetuates a biased view of leadership that marginalizes those who do not fit the traditional mold.***

The Leaky Pipeline Phenomenon

The metaphor of the leaky pipeline illustrates how women, despite having the same professional aspirations as men, make career choices that result in disparities. Women tend to gravitate towards fields like education or community improvement, which align more with communal values but are perceived as less prestigious and lower-paying. This trend is influenced by the "Pollution Theory," which suggests that fields aligning with traditionally feminine values lose prestige and salary over time. Without awareness and action, women's contributions will continue to be undervalued.

The leaky pipeline phenomenon is a multifaceted issue that requires a comprehensive approach to address. It involves not only encouraging women to pursue and persist in competitive fields but also challenging societal perceptions that devalue communal roles. Efforts to rectify this issue must begin early in the educational journey, fostering a culture that values diverse career paths equally. Additionally, creating policies that support work-life balance and equitable pay can help retain talented women in the workforce.

Addressing Gender Bias and Promoting Alternative Leadership Styles

Raising Awareness

Raising awareness about unintentional social constructs and stereotypes is essential to identifying and preventing gender biases. Understanding that leadership can encompass alternative styles, compatible with the emerging idea of healthcare leadership as team play, is crucial for fostering a more inclusive environment. Educational programs and workshops that focus on implicit bias, gender dynamics, and inclusive leadership can help shift perceptions and behaviors. Institutions must also be proactive in implementing policies that promote gender equity, such as flexible work arrangements, parental leave, and transparent promotion criteria. By creating a supportive environment that values diverse leadership styles, the medical field can benefit from the full range of talents and perspectives.

The Impact of Imposter Syndrome

Imposter Syndrome in Medicine

Imposter Syndrome, defined as the inability to internalize success and the tendency to attribute it to external causes, affects many in the medical profession, particularly female physicians and those in training. (Figure 2) This syndrome is linked to low self-esteem, fear of ...

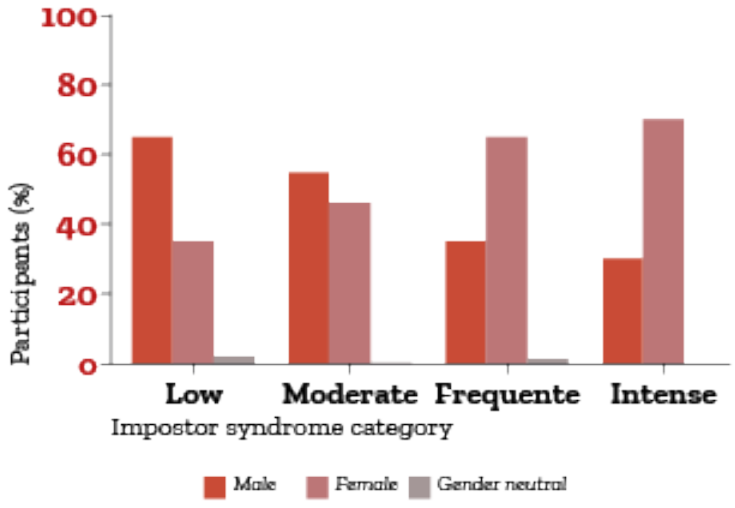

Figure 2. Gender discrepancy in imposter syndrome prevalence in anesthesiologists. Female gender is linked to frequent and intense impostor syndrome (P<0.05).
Image reproduced with permission [5]

References

(1). *https://www.unwomen.org/sites/default/files/2024-01/e.cn_.6.2024.3_-_advance_unedited_version.pdf*

(2). *Gender equity in anesthesia: is it time to rock the boat? Gisselbaek M, Barreto Chang OL, Saxena S. BMC Anesthesiology 2023 (PMID: 36882715)*

(3). *Gisselbaek M, Koselerli E, Suppan M, Minsart L, Meco BC, Albert A et al. Gender Bias in Artificial Intelligence (AI)-Generated Anaesthesiologist Images. Br J Anaesth 2024 (PMID: 38942642)*

(4). *4. Johnson WB, Smith DG, Christensen H. Where Women's Leadership Development Programs Fall Short. HBR 2023 https://hbr.org/2023/03/where-womens-leadership-development-programs-fall-short*

(5). *Impostor syndrome in anaesthesiology primarily affects female and junior physicians. Gisselbaek M, Hontoir S, Pesonen AE, Seidel L, Geniets B, Steen E, Barreto Chang OL, Saxena S. Br J Anaesth 2023 (PMID: 37884406)*

Read in your language

SIM VOICES

Menos es más: ¡Enjoy Simulation Please!

https://doi.org/10.69079/simzine.L24.n15.00024

La rápida evolución tecnológica, especialmente en IA y VR, transforma la Simulación Clínica, exigiendo adaptación metodológica. La Universidad Católica de Murcia colaboró con la PUCE de Santo Domingo para un curso internacional en Simulación Clínica, capacitando a 25 instructores. La clave: no olvidar los fundamentos de la simulación y adaptarse a los recursos disponibles.

Nos encontramos en un momento histórico en el que la tecnología avanza muy rápidamente. El desarrollo de la Inteligencia Artificial y Realidad Virtual llega también a la Simulación Clínica, proponiendo avances y nuevos recursos, obligando a enfrentarnos a la necesidad de una adaptación metodológica. En este panorama en continua evolución, ¿Estamos seguros que no nos estamos olvidando el origen de la simulación?

El proyecto

En un esfuerzo por promover la excelencia en la educación internacional en Ciencia de la Salud, la Universidad Católica de Murcia UCAM (España) colaboró con la Pontificia Universidad Católica de Ecuador PUCE de Santo Domingo (Ecuador) en la realización de un curso internacional de capacitación interprofesional en Simulación Clínica. Esta iniciativa tuvo lugar en el nuevo centro de Simulación de la PUCE Santo Domingo del 1 al 5 de abril 2024. En la expedición participaron dos miembros de la UCAM: el profesor e instructor de simulación Giulio Fenzi y el técnico de simulación Vicente Martínez Ruíz. El curso marcó un hito en la formación de 25 profesores de diversas carreras (Enfermería, Medicina, Fisioterapia y Nutrición) y provenientes de diferentes sedes (Santo Domingo, Quito, Ibarra, Esmeralda, Manabí, Amazonas y Ambato). El curso representó una oportunidad invaluable para que los participantes expandieran sus conocimientos sobre la metodología de aprendizaje con Simulación Clínica, desde sus fundamentos hasta su aplicación práctica en el contexto de la enseñanza de las ciencias de la salud.

Instructores en la entrada del centro de simulación

Los primeros pasos

La colaboración entre la Universidad PUCE y la UCAM fue fundamental para la realización de este evento. La relación empezó en 2022 con la participación de algunos profesores de la PUCE en las clases de simulación que se tienen en el Grado de Enfermería de la UCAM. Los profesores pudieron tocar con manos el desarrollo de las sesiones de simulación realizada en la universidad murciana, participando en sus dinámicas como miembros activos y actores en los diferentes casos. Como consecuencia de esta visita, emergió un deseo por parte de la Universidad de Ecuador de invertir en la simulación. El deseo empezó a realizarse cuando, en el año sucesivo, se empezó la construcción del primer centro de simulación en la sede de PUCE Santo Domingo.

El curso

La preparación, construcción y adaptación del nuevo centro de simulación subrayó la necesidad de capacitar a los profesores y futuros instructores para hacer un uso óptimo de los nuevos recursos. Por esta razón se ideó y realizó el curso internacional en Simulación Clínica. Durante los cinco días de intensa capacitación, los participantes adquirieron habilidades que abarcaron desde la comprensión de la historia de la simulación clínica hasta la familiarización con su metodología. También se enfrentaron a diferentes métodos de aprendizaje implicados, incluido el manejo de la realidad virtual y aspectos técnicos relacionados con la simulación. Este enfoque integral permitió a los profesores explorar diversas estrategias pedagógicas que pueden aplicarse para mejorar la experiencia educativa de los estudiantes en el campo de la salud.

La metodología y la figura del facilitador

...

Recursos materiales, audiovisuales y el técnico de simulación

...

Menos, es más: ¡no olvidemos las bases!

...

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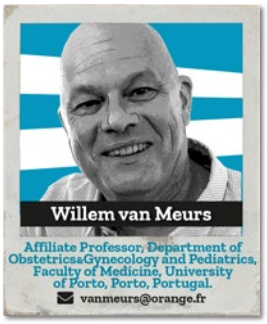
SIM VOICES



Nice to meet you!
A Sim Inventor Meets A Biomedical Engineering Student

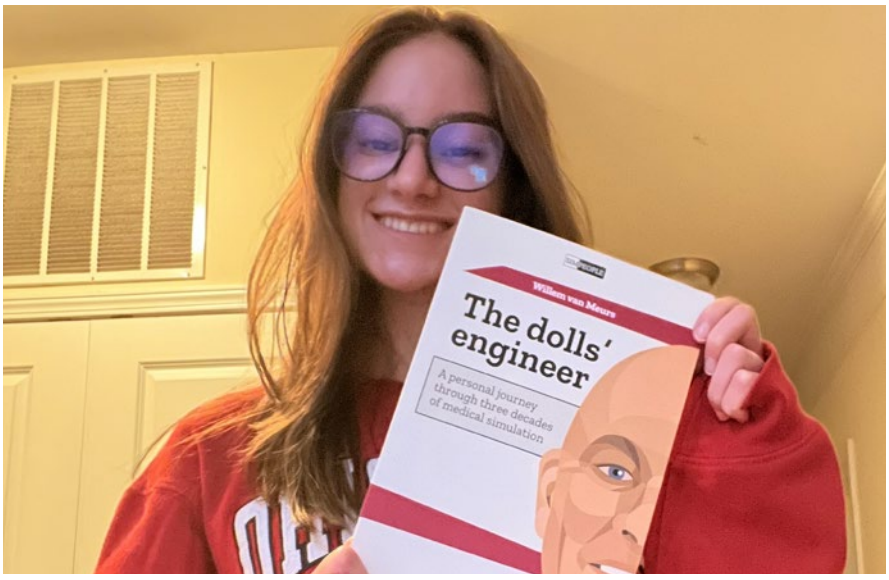
https://doi.org/10.69079/SIMZINE.L24.N15.00030

An unexpected and enriching encounter between Willem van Meurs, a simulator inventor, and Isabel Garcia, a biomedical engineering student. During a delayed flight, they shared insights about their respective fields, life experiences, and ambitions. Willem, returning from meetings in Florence, found a potential proofreader for his new textbook in Isabel. Isabel, inspired by Willem's career and global adventures, is now more determined than ever to pursue international opportunities.

His perspective

After two days of intense meetings in Florence during which we had discussed our almost finished book, *Learning physiology in context*, and started preliminary conversations about a new one, *Textbook of medical simulator technology*, I returned to the south of France. Of course the flight from Florence to Paris had delays. On our way in, the pilot had proudly announced that this was the shortest runway in their network and that they were going to use the brakes. It felt like landing on an aircraft carrier! On the clean corner of an otherwise sticky table in the lounge, Rich, lead author on the physiology book, and I penciled down an outline of the final chapter we had discussed with editor-in-chief Pier Luigi. By that time, I felt exhausted. While waiting for departure, I noticed a smart looking young lady who was reading a thick paper book. It turned out she was sitting next to me. When it became clear that we were not going to catch up on our delays, I asked her if she had a connecting flight. She did. One to Detroit, Michigan, and then one to Columbus, Ohio, where she studied. "What do you study?" "Biomedical engineering, undergrad." "Oh, I have done a bit of that as well." I forgot I was tired. She was enjoying her studies, but did not have a clear vision of where to apply what she was learning. Before diving into that - I have a tendency to get carried away on the subject - and to break the generational ice a bit, I told her about my children and their graduate studies and first employments. She was surprised by my psychologist son who is now a successful acrobat and stuntman in Paris (I had a place to go if I missed my connection). At the time, my daughter, a translator and French teacher, wanted to go and teach in Kazakhstan. Then I told her about the field of medical simulation-based training. The first time she heard about it. One more reason to write a textbook, I thought. But she immediately appreciated it, especially the fact that medical students no longer train on dogs and sheep, and residents on real patients. Towards the end of our very animated conversation, I showed her the working copy of my autobiography, *The dolls' engineer*. Because of the annotations in preparation of an e-book, I could not give it to her, but gave her my email. A few days after her return to the States, I got a very friendly email with the subject: "Nice to meet you!" I offered to send her a copy. Isabel and her mom, a mechanical engineer, are now both reading my book. On my connecting flight to the Pyrenees, I realized that she would be a close to perfect proofreader for the new textbook. Stay put if you wonder where this encounter will lead us!

Willem van Meurs
Simulator inventor



And hers

In my senior year of high school I had no clue what I wanted to major in. Biology was my favorite subject, but I didn't want it to be the sole focus of my education. I assumed I wouldn't be successful in engineering because I've struggled with math my whole life. I was focusing on college athletics, but rather suddenly decided that it would be...

Read in your language

SIM MANAGER

6 Tips for being a successful Sim Center director

https://doi.org/10.69079/SIMZINE.L24.N15.00031

Taking on a leadership role as a chair of a simulation center requires more than clinical skills, critical thinking, and strong communication. Often, sim center directors are clinical professionals who have earned a healthcare degree. And stepping into management means to take on new responsibilities that include planning, budgeting, time management, quality improvement, and staff relations. The role changes radically from previous clinician days and sometimes it is hard to have a sense of what you should or should not be focusing on as you get going. Here are some practical tips for becoming an effective sim center director.

lchavarr@broward.edu

Lilia Chavarria
EdD, RT(R)(CT)(MR), CHSE

Dr. Chavarria has over 20 years of clinical experience including healthcare experience working in the hospital environment, managing a medical imaging facility, marketing healthcare products, and serving as a faculty member for over 16 years. She is registered in Radiography, CT Scan, & Magnetic Resonance Imaging. She currently teaches at a graduate level at other institutions.
Dr. Chavarria holds a Master's Degree in Health Sciences from Nova Southeastern University and a Doctoral degree in Education in Organizational Leadership (with specialization in Healthcare Administration) from Grand Canyon University. She is also certified as a healthcare simulation educator.

1 Immerse yourself in adult experiential learning theory

Without understanding how adults learn via simulation, it would be hard to oversee the simulation center. Because experiential learning differs from theoretical learning, the sim director must take the lead on what is the best way to develop their faculty/staff on the appropriate methodology of a sim program.

2 Train your staff to understand the role of simulation

Most staff members in simulation come from lab/clinical teaching. Training staff on understanding and embracing the correct methodology would be important to maximize the learner's experience.

3 Align your simulation center to meet the goals of the organization/hospital

There may be competing factors on what is best for the students/faculty/healthcare professionals. It is always important for the sim director to fulfill the role that it was established in the first place. What is the reason for this center's existence? Sometimes you have to take a step back and look at the big picture. That is having a vision.

4 Be a good listener

That is the most important communication step. You must learn how to listen to all parties. That is the only way you will be able to bring it all together.

5 Always look out for the best of your learner's experience

Never forget that the learner must come out of your center with a good experience- that is learning from their simulations.

6 Collect data to improve

Very important to assess your program. You will need it for accreditation and for your organization. Be intentional about it.

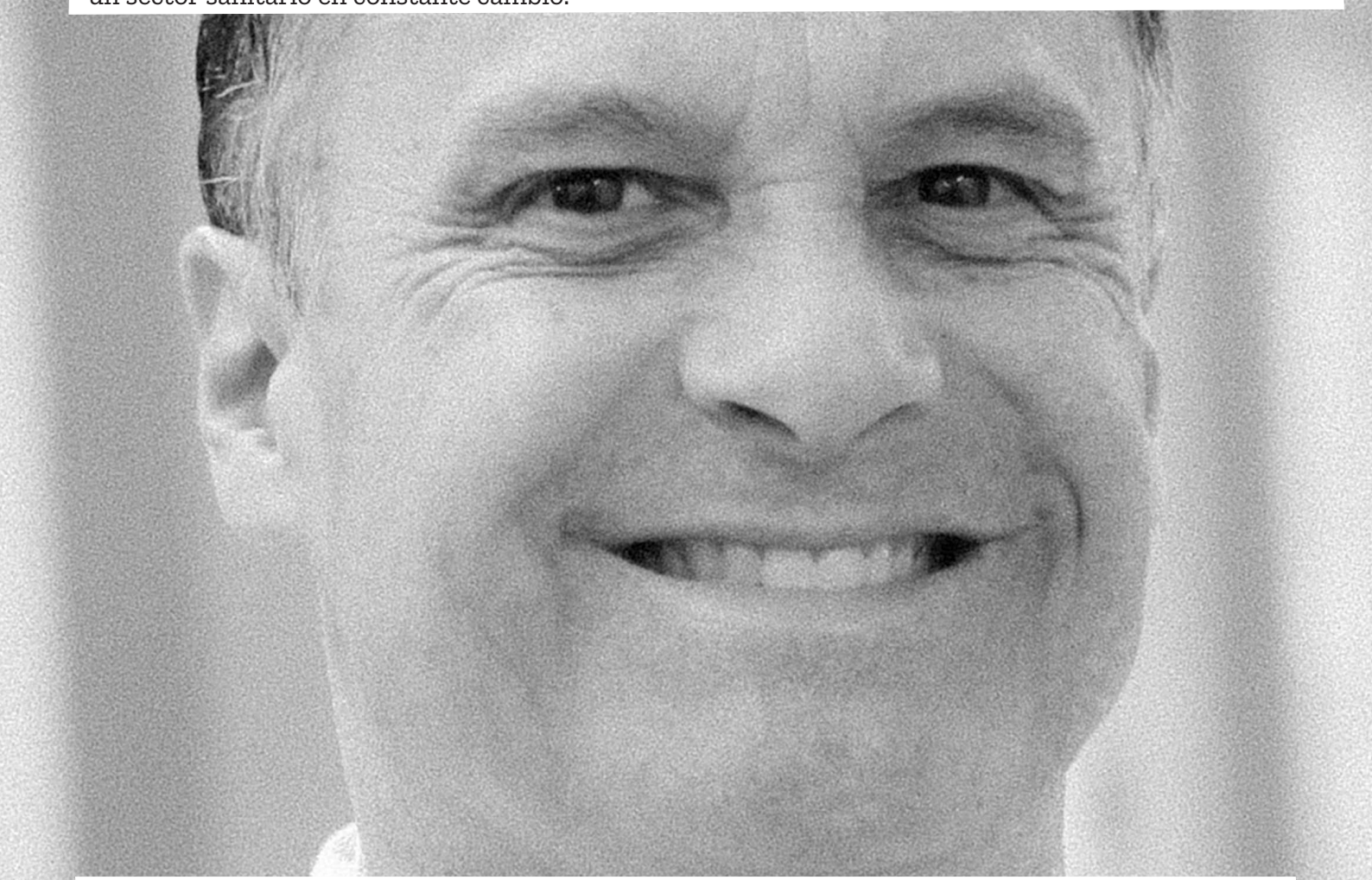
SIMFACE

Carlos Rivera Prat: entre medicina militar, docencia y simulación clínica

Read in your language

https://doi.org/10.69079/SIMZINE.L24.N15.00040

Hablamos con Carlos Rivera Prat, oficial de la marina chilena y médico que ha desempeñado un papel clave en la promoción de la simulación clínica en América Latina. Con profundas raíces en la medicina y las fuerzas armadas, ha entrenado a equipos médicos para la guerra y los desastres, y ha estado a la vanguardia de la introducción de técnicas de simulación en Chile, y en el resto del continente, transformando la forma en que los profesionales de la salud se preparan para los desafíos de la vida real. «Nada se consigue sin un equipo, una visión y la voluntad de triunfar», afirma al reflexionar sobre su carrera. En esta entrevista habla de su experiencia, del futuro de la simulación y de la importancia del aprendizaje continuo en un sector sanitario en constante cambio.



Hola Carlos. Y gracias por compartir ese tiempo con nuestros lectores. Solemos romper el hielo con una pregunta muy sencilla. ¿Puedes decirnos con tus propias palabras quién es Carlos Rivera Prat?

Soy hijo de una familia muy ligada a la Armada de Chile y a la medicina, mi padre y mis abuelos. Decidí estudiar medicina para ser Oficial de Sanidad de la Armada y así lo hice. Soy casado y padre de cinco hijos. Recién abuelo con un nieto y dos en camino. La docencia ha sido siempre mi mayor desafío y lo que más me gusta hacer.

En tu perfil de Linkedin escribes 'Instructor de trauma y urgencias, con experiencia...

Lea nuestra entrevista con él para saber más en simzine.news

Read in your language

SIMTALKS

Entrevista con el nuevo Presidente de FLASIC, Federico Ferrero

https://doi.org/10.69079/simzine.L24.n15.00025

Federico Ferrero no es profesional sanitario, pero ha trabajado en sanidad durante más de 10 años. Con una carrera de dos décadas formando docentes y profesores, se ha destacado en el ámbito de la simulación clínica en América Latina. No sólo enseña, sino que también se dedica a aprender, investigando y gestionando proyectos educativos innovadores. A pesar de no ser piloto profesional, su pasión por la aviación le ha brindado una perspectiva única sobre la seguridad y la simulación, áreas en las que ha aplicado su creatividad y capacidad para afrontar desafíos. Como Presidente de la Federación Latinoamericana de Simulación Clínica y Seguridad del Paciente (FLASIC), Federico lidera una red de colaboración que busca mejorar la enseñanza en salud y la seguridad del paciente en la región. Su entusiasmo por los proyectos colectivos y su compromiso con la educación se reflejan en cada una de sus iniciativas, inspirando a muchos en el campo de la simulación clínica

Federico Ferrero Etchegoyen
Presidente de FLASIC
federicoferrero06@gmail.com
in/federico-ferrero-etchegoyen
fede.ferrero.flasic

Hola Federico, te agradezco que te hayas tomado tu tiempo para unirte a nosotros. Es un honor charlar con el Presidente de la Federación Latinoamericana de Simulación Clínica y Seguridad del Paciente (FLASIC). ¿Puedes hablarnos brevemente de ti y de cómo empezaste a trabajar con la simulación en salud?

Hola! Gracias a ustedes por la invitación. Descubrí la simulación clínica en el año 2011, finalizando el quinto (y último) año de una beca de investigación de tiempo completo que me había otorgado el Consejo Nacional de Ciencia y Tecnología de Argentina (CONICET). Mientras escribía mi tesis doctoral y me preguntaba qué dirección darle a mi carrera profesional, recibí un llamado de la Facultad de Ciencias Médicas de la Universidad Nacional de La Plata (donde aún hoy trabajo como profesor), en el que me ofrecían incorporarme al equipo docente del Hospital de Simulación Clínica de la institución, recientemente inaugurado. Nunca había escuchado nada, hasta entonces, sobre la enseñanza basada en simulación clínica. Me pareció un mundo nuevo y absolutamente fascinante, sobre todo por el entusiasmo que generaba en los estudiantes. Recuerdo que pensé: esto va a revolucionar todo. En aquellos años la simulación clínica era algo reciente en Argentina, incluso disruptivo, y existía cierta desconfianza respecto de su utilidad. En 2016 viajé a conocer el Centro de Simulación de la Facultad de Medicina de la UNAM en México, y ahí, en un Congreso de la Asociación Mexicana de Facultades y Escuelas de Medicina (AMFEM), conocí a FLASIC.

¿Puedes explicar a nuestros lectores qué es exactamente FLASIC, desde tu punto de vista?

FLASIC es la Federación Latinoamericana de Simulación Clínica y Seguridad del Paciente, una organización sin fines de lucro creada en 2007 (originalmente denominada ALASIC), con la misión de impulsar la enseñanza basada en simulación clínica en América Latina. Intentamos darle un marco general a las iniciativas de cada organización especializada en simulación clínica de nuestra región. Para ello construimos redes de colaboración que, en virtud del trabajo conjunto, contribuyan a amplificar el potencial de cada uno de nuestros socios e instituciones. Nuestro lema es "si tu no estás, no estamos todos".

Hoy FLASIC cuenta con un equipo de gestión en el que me acompañan educadores latinoamericanos de amplia trayectoria, muy comprometidos con la mejora colectiva de nuestras prácticas de enseñanza basadas en simulación clínica. Ellos son: Sara Morales (México), Alessandra Vaccari (Brasil) y Álvaro Prialé (Perú).

¿Por qué una federación de sociedades nacionales? ¿Cuál es la ventaja?

Las ventajas son las del trabajo en equipo. Latinoamérica es la región más desigual del mundo, con escasa inversión en investigación y desarrollo en términos relativos. Sin embargo, la especificidad de nuestros países no se expresa sólo en estas limitaciones, sino en un conjunto de cualidades que caracterizan a los profesionales de nuestros países: resiliencia, creatividad, imaginación, capacidad para innovar y gestionar la incertidumbre y sobre todo, creo yo, capacidad para el trabajo asociado.

> *el rol de una asociación de carácter supranacional como FLASIC es estratégico en la construcción de sinergia*

En este marco, el rol de una asociación de carácter supranacional como FLASIC es estratégico en la construcción de sinergia entre los múltiples nodos de docencia, investigación e innovación en simulación clínica que existen en cada uno de los países de la región. En Latinoamérica es usual que estos nodos se articulen a través de las sociedades nacionales de simulación clínica y/o de asociaciones de escuelas y facultades de medicina y ciencias de la salud; de allí la pertinencia de pensar en la figura de una Federación Latinoamericana (o asociación de asociaciones). Si bien las sociedades que integran FLASIC son muy diferentes entre sí en cuanto a su historia, recorrido, o cantidad de socios que las componen, creemos posible generar políticas mancomunadas que potencien su trabajo, sin entrar en colisión con los proyectos estratégicos de cada una de ellas.

Llevas varios años en la junta ejecutiva de FLASIC, ¿cómo decidiste ofrecer tus servicios para el cargo de Presidente que ocupas actualmente?

Comencé a participar de FLASIC en 2018, cuando fui invitado a incorporarme a la Comisión de Educación en Línea, espacio que luego coordiné durante la pandemia (2020-2021). En 2021, junto a Eva Miranda y Alessandra Vaccari, decidimos armar una lista y postularnos a la Mesa Directiva del período 2021-2023 para acompañar a Andrés Díaz-Guío, quien asumió la Presidencia para ese bienio. El sistema político de FLASIC estipula que quien es elegido Vicepresidente para un período de gobierno bienal, ...

Read in your language

SIM SURGERY

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OR or not OR? Defines assessment...

https://doi.org/10.69079/SIMZINE.L24.N15.00032

Maxim Gorshkov highlights the need for systematic and objective assessment of young surgeons' skills before they are allowed to operate on patients. Current training systems may lead to potential patient harm and inefficiencies. He advocates for mandatory simulation-based training and objective testing to ensure surgeons achieve necessary competencies, supported by national medical bodies.

OMG!

Drivers without permits have flooded the motorways – such a headline would indeed alarm the readers of any magazine – it's a good thing it's not true. A similar headline, "Surgeons without licenses operate on patients", would for sure have left no one indifferent. Fortunately, surgeons cross the doors of the operating theatre not only having passed the theoretical exam, but also having demonstrated and objectively proven that they can place the knots quickly and securely, suture tightly bowel anastomosis, and catheterise the subclavian vein with confidence, before they are allowed to operate on patients. Isn't that correct? Or is it not? Unfortunately, no, at least not everywhere [4].

What?

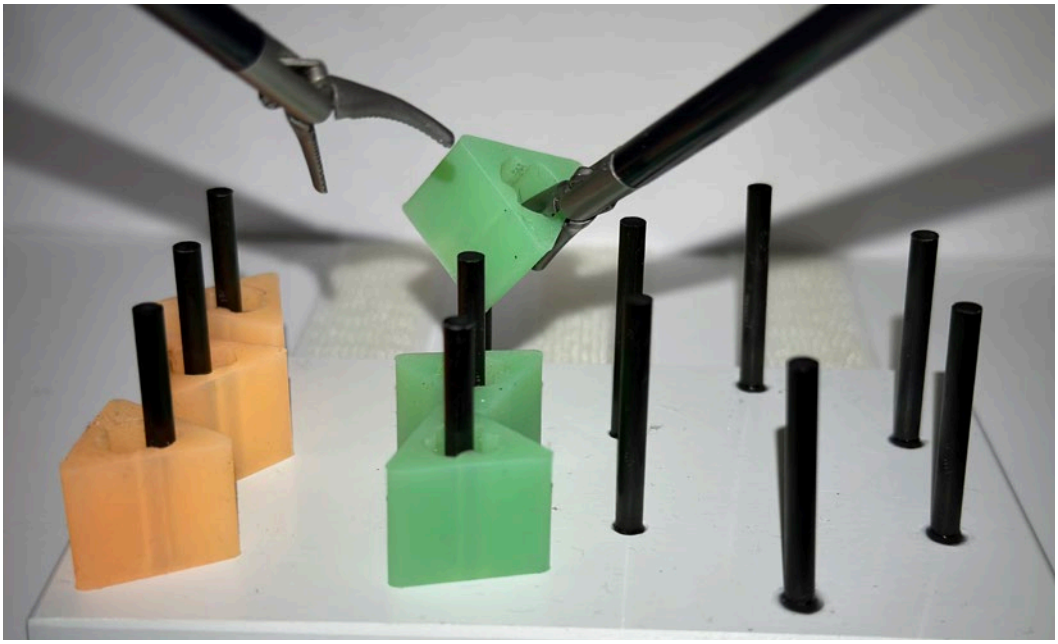
The introduction of a systematic objective assessment of young surgeons' skills involves such high organizational, administrative, and financial barriers, that even enthusiasts are not willing to break the accepted routine. The system is non-transparent, so minor failures are forgiven, any complications can be buried in mountains of statistical data and convincingly clinically explained, so that the patient never learns that his operation could have been done faster and better – after all, the operating rooms have no black-boxes like in airplanes or radars as on the autobahns. Over thirty years later, I still remember with embarrassment one of my first patients, a babushka in her 70s, whose cornea I sutured unevenly after cataract extraction, resulting in postoperative astigmatism – fortunately she never found out what caused it.

What for?

There are a number of reasons why novice surgeons should not be allowed to participate in operations until they have reached a predetermined level of practical competence. Such a system is needed first and foremost for the benefit of the patient. If I had been offered training before being trusted to suture a patient's cornea myself, and then had my skill level objectively assessed, that grandma would have been saved from astigmatism. Anyway, additional tissue trauma, although not as obvious and pronounced, is unavoidable. The training of young surgeons in the operating room means a longer operation time and thus additional exposure to anesthesia [1, 10]. By traditional one-time assessment or even subjective biased judgment instead of multidimensional systematic evaluation of residents' performance, gaps are guaranteed. According to Reason's Swiss cheese theory [12], the moment when the surgeon's incompetence will manifest itself is a matter of time only.

In addition, it is unreasonable and expensive to spend time in the operating room teaching basic technical skills

to residents. It takes several years in the operating room to achieve an acceptable level of basic surgical skills, whereas simulation helps PGY1 residents achieve basic surgical skills within several weeks[2]. Incompetent residents, unable to absorb the deluge of information bombarding them, suffer from cognitive overload. They spend all their attention on controlling their own inept movements, with no reserves for learning other important things that can only be observed and mastered here in the operating theatre and cannot be acquired in the simulation centre [7]. So, these valuable seeds of practical knowledge fell on the soil among thorns of the distracted attention and did not grow up choked by such mental surfeit.



Why?

Situations of lack of objective evaluation for admission to the operating room persist for many reasons. The current system does not encourage senior colleagues to spend their valuable time training residents – they are overwhelmed with other things to do. Surprisingly, not all residents are willing to spend hours meticulously and systematically practicing boring basic skills like violinists rehearsing scales. A pilot doesn't want to crash with his plane, a musician is afraid of being booed at a concert after a false passage, and the only criticism of inexperienced braided fingers in OR may be the sneering smile of the scrub nurse hidden under a mask.

Another, non-obvious obstacle is low interest and, consequently, the surgeons' lack of awareness of the range of tools available in their Armamentarium exercitatium. Practicing specialists find it difficult to keep up with even the major technological advances and key clinical updates, leaving little time and energy for simulation. When I gave a lecture at the 133rd Congress of the German Society of Surgeons[9] in the session devoted to education, there were barely fifty people in the audience – perhaps only the speakers and their co-authors as a support group – out of a total of about 3,000 participants. This is not only a phenomenon of German-speaking surgeons - the video of the SAGES Congress presentation on the FLS-2.0 remote testing innovations received as many as 19 views, compared to 83.9 thousand subscribers to the SAGES channel [5]. Conversations with surgeons show not only their disinterest, but also their deep ignorance on the subject. Yes, of course, many of them have passed by the booths of leading companies, and some of them have even performed a couple of tasks on virtual simulators or played serious games in VR-glasses. But a broad and deep understanding of the theoretical foundations and practical techniques of modern skill acquisition methodology is beyond their scope.

How?

At our disposal for training endoscopists, urologists, gynecologists, ophthalmologists - in fact, all surgical specialties - is a wide range of simulators from the simplest devices and video boxes to the most complex virtual haptic simulators, for any task, training load and wallet size [6]. Even more important is the fact that training programs with clear criteria for their successful completion have been developed and validated OSATS [11], FLS (now in 2.0 version) [13, 14], BESTA [8], FES [18] and some of them ...

References

Complete list of references on the web article.

Read in your language

SIM CORNER

Simulatori per accessi vascolari ecoguidati

https://doi.org/10.69079/SIMZINE.L24.N15.00033

Il Centro di simulazione SIMANNU presenta i suoi simulatori di accessi vascolari homemade che offrono un addestramento realistico e sicuro, migliorando le competenze degli operatori e riducendo i rischi nelle procedure cliniche. Questi dispositivi fai-da-te rappresentano una soluzione economica, che abbatte i costi di acquisizione e manutenzione rispetto ai modelli commerciali tradizionali. Il loro impiego permette di estendere la formazione avanzata a un maggior numero di professionisti sanitari, democratizzando l'accesso a tecnologie formative d'avanguardia.

Importanza della Precisione nelle Procedure Vascolari

In un freddo mattino di novembre, un errore durante una routine di inserimento di un catetere venoso centrale in ospedale trasforma una procedura standard in una complicanza da gestire. L'inserimento impreciso non solo può causare emorragie, più o meno gravi, ma può mettere il paziente a rischio di complicazioni a lungo termine, sottolineando una verità inquietante: la precisione in tali procedure non è solo desiderabile, ma fondamentale.

Oggi i simulatori di accesso vascolare, strumenti di formazione avanzati che replicano le sfide delle procedure mediche reali, emergono come essenziali nel prevenire tali errori, offrendo ai professionisti sanitari un ambiente sicuro e controllato per affinare le loro abilità prima di affrontare situazioni di vita reali. In campo ecografico, ad esempio, essi rappresentano un supporto prezioso per le manovre di apprendimento clinico-assistenziali sia mediche che infermieristiche, e devono essere considerati veri e propri strumenti di sicurezza e riduzione del rischio clinico.

Ostacoli e Soluzioni Innovative: l'esperienza di SIMANNU

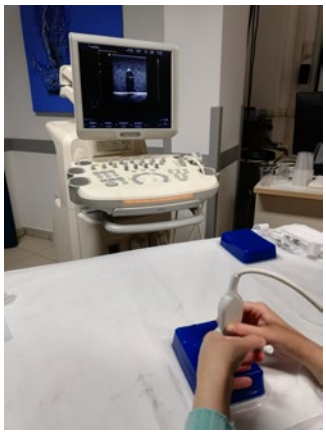
Tuttavia, l'adozione di questi avanzati strumenti formativi incontra un significativo ostacolo: il costo. I simulatori di accesso vascolare rappresentano un investimento sostanziale, con prezzi che possono variare enormemente a seconda della complessità e della tecnologia impiegata. Questo elevato costo può limitare la disponibilità di tali dispositivi formativi, soprattutto in contesti con risorse limitate

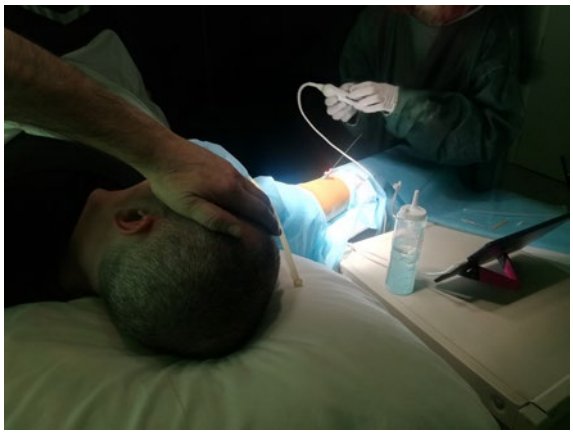
Una soluzione promettente sta emergendo grazie alla crescente adozione della manifattura interna: la produzione fai-da-te di simulatori. Quest'approccio offre numerosi vantaggi, tra cui una significativa riduzione dei costi e la possibilità di personalizzare i simulatori per soddisfare specifiche esigenze formative.

I task trainer che presentiamo in questo articolo sono completamente realizzati presso il centro di simulazione SIMANNU di Nuoro e sono frutto di diverse fasi di elaborazione e sperimentazione, al fine di rispondere in maniera sempre più soddisfacente alle esigenze di addestramento dei partecipanti.

I tasks, di cui forniremo le specifiche di realizzazione di seguito, consentono di simulare in modo estremamente fedele la venipuntura con ago cannula, nonché con siringa, fino all'impianto di PICC, Midline e cateteri venosi centrali (CVC). È possibile simulare anche il prelievo ematico, l'emocoltura e l'emogasanalisi. La versatilità di questi dispositivi consente di addestrare operatori medici e infermieri, nonché studenti delle scuole di medicina e infermieristica, in varie pratiche cliniche. Durante il training i partecipanti possono simulare in sicurezza la procedura invasiva e visualizzare, in maniera realistica, la puntura del vaso attraverso lo schermo ecografico, sviluppando quindi l'abilità specifica (SimZone 1). Per allenare invece in maniera integrata competenze tecniche e non tecniche (fattori umani) una versione avanzata del dispositivo viene posizionata su un paziente simulato, consentendo la realizzazione di scenari complessi (SimZone 2).

Abbiamo sviluppato due tipi di dispositivi: uno "quadrato e piatto" e uno "rotondeggiante". Il primo si è





dimostrato valido per l'accesso al vaso, in quanto sviluppa la coordinazione psicomotoria tra la mano dominante che utilizza l'ago e l'altra mano che impugna la sonda ecografica. Il secondo, oltre ad abituare l'operatore a lavorare su superfici curve, come il braccio, è utilizzato sia nelle stazioni di skills che durante la fase di addestramento avanzato e gli scenari di simulazione, riproducendo realisticamente la parte anatomica e il distretto vascolare sede di inserzione.

L'ingrediente principale per la realizzazione dei PAD ecografici è la polvere di AGAR, opportunamente miscelata con coloranti e sostanze che ritardano il degrado fisiologico.

In questi anni abbiamo fatto diversi tentativi con svariati prodotti (gel balistico, colla di pesce, gelatine in polvere), ma l'Agar è risultato il materiale con il miglior compromesso tra caratteristiche tecniche (parametri acustici, il coefficiente di attenuazione e l'impedenza acustica) ed economicità. Sono in corso approfondimenti e uno studio di ricerca per la realizzazione di prodotti che rispondano alle svariate esigenze che questo settore formativo richiede.

Per poter realizzare i PAD con diverse forme, abbiamo progettato è realizzato i supporti che andranno a contenere l'Agar. In particolare, abbiamo sviluppato un supporto per il PAD "piatto", realizzato in plexiglass tagliato con precisione al laser. La peculiarità di questo supporto risiede nella sua capacità di sostenere e orientare/curvare i tubi che simulano le vene. Questa caratteristica consente a ciascun partecipante di avere un PAD unico, replicando in un certo modo la variabilità anatomica dei pazienti reali. Al fine di ottenere un'immagine realistica, i tubi vengono riempiti con un liquido, anche solo acqua colorata.

Per il PAD "rotondeggiante", abbiamo adottato un approccio basato sulla stampa 3D. Sono stati realizzati due supporti: uno dedicato al PAD stesso, con un sistema di vasi dettagliato che include la vena cefalica, la vena basilica e le vene e arterie brachiali; e un supporto globale atto a contenere il PAD durante i periodi di asciugatura.

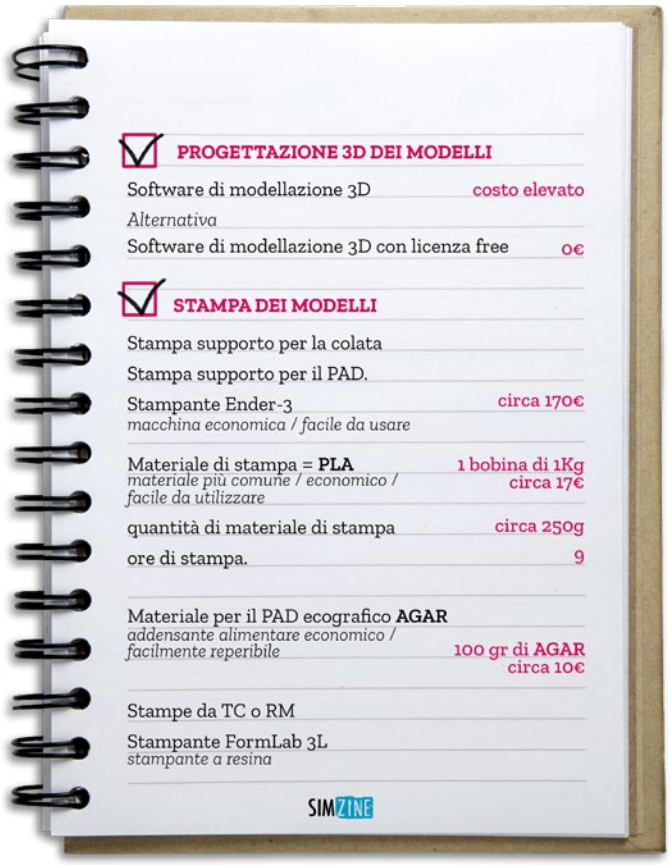
Innovazione Continua e Sviluppo

Con l'obiettivo di sviluppare prodotti sempre più duraturi ed ecograficamente compatibili, stiamo lavorando alla creazione di PAD con un sistema vasale sempre più fedele alla realtà. Oggi siamo anche in grado di estrarre la parte anatomica di interesse da un'immagine clinica in formato DICOM (come una TC o RM). Tramite il software di "segmentazione" possiamo isolare la parte interessata e successivamente stamparla in 3D.

Un esempio pratico di questo processo è mostrato nelle immagini, dove abbiamo eseguito la segmentazione ed esportazione di un'aorta addominale completa.

Nel contesto specifico della chirurgia vascolare, abbiamo estratto un segmento dell'aorta femorale per la realizzazione di un PAD di addestramento specializzato.

Tutto questo è ...



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SIM VOICES

Fidelity in simulation: a neurodivergent perspective

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This time Athena Ryals explores the challenges of achieving fidelity in simulation within medical education, highlighting the discomfort students face when navigating simulated scenarios. Despite the use of high-fidelity tools and realistic settings, learners often struggle due to the absence of familiar social rules. Athena, a Simulation Operations Specialist, suggests that this discomfort may stem from the fact that simulation exists in a structure outside of the regular world, which favors neurotypical individuals. And she invites further discussion on how to better prepare students for simulations, considering neurodiversity and the inherent societal biases in medical training.

"Are we supposed to touch the manikin, or do we just say what we would do?"
"Are you playing the nurse right now, or our teacher?"
"Should we actually give the medication?"

These are questions I hear almost every time I run a simulation as a Simulation Operations Specialist. My simulation center primarily serves undergraduate medical students in the first year or so of their education. Students nervously shuffle into the room and huddle together even though we wish they would step forward and take command of the situation. We use every tool in our toolkit in order to make the simulation as fidelitous as possible: a real, operating headboard with dials so you can administer oxygen (it's just compressed gas, but the students don't have to know that) medication boxes from Demo Dose that we painstakingly refill with distilled water after every session, and an expensive manikin as the centerpiece that costs more than I make in a year – by a lot. And still, without fail, no matter how good my moulage is or how dedicated our Standardized Patient is or how attuned our facilitator is to the flow of the scenario, the students still seem paralyzed with questions of how to navigate this situation that we as Simulation Professionals try our best to make straightforward.

This isn't simply a gripe I have about my job, though, and I don't want to sound like I'm complaining about my students. Fidelity, realism, and learner immersion are hot topics in the world of simulation at the moment. Simulationists push for higher and higher fidelity through expensive simulators and XR in the hopes that higher fidelity equals better learning outcomes – although the data suggests that learning outcomes remain the same whether the simulation is conducted with high fidelity or low fidelity[1,2,3]. It can therefore be frustrating when we are doing everything humanly possible to make the simulation real and engaging, and our students still walk into it questioning the basic rules of the interaction.

Allow me to suggest a different perspective.

These behaviors, to me, look like my internal monologue during almost every social interaction. And I am neurodivergent.

I see these students outside of simulations, and they act entirely differently. They may be shy, brash, contemplative, or whatever their personality or the situation may call for, but they do in some way occupy their space without outwardly questioning how they should be doing it. Society has a structure, and they know the rules. They play by them. They adhere to them.

However, as soon as they step into a simulation, the rules are unknown, and that is crushingly uncomfortable. I would posit a guess that this is the reason why it is so difficult to get learners in the door, even if they have been practicing medicine for

years and by all rights should breeze through a simulation with ease. Test anxiety may have a lot to do with it, yes. Nervousness at the idea of being scrutinized may have something to do with it, too. But allow me to suggest that a large reason why most people find being in a simulation so off-putting is that for the duration of the simulation, they are outside the rules and structure of the "normal" world, and they find that deeply unsettling.

I think this effect is further exacerbated by the fact that medicine specifically selects for neurotypical people – people who naturally, intuitively pick up on and adhere to the invisible structures created and enforced by society. Only about 4% of physicians in the United States report having a disability.[4] (There is another conversation to be had about neurodiversity being a disability versus a neurotype versus an identity, but that is a conversation for another time.) Only about 3% of physicians in the UK identify as autistic.[5] And when neurodivergent clinicians are talked about in medicine, they are talked about as "assets"[5] and having "untapped potential"[6] – the way you would talk about a car or a fixer-upper house, not a human being. Medicine selects for neurotypical people in many ways, and neurotypical people are used to knowing the rules of engagement.

Therefore, if a neurotypical learner – who all their life has been able to navigate the pitfalls and snags of conversation, the unsaid taboos and generally understood rituals of interaction that, to me, feel completely arbitrary – enters a simulation where those rules may no longer apply, then it makes sense that the loss of that structure would feel extremely disturbing. It's no wonder we hold entire conferences and courses on how to get people into simulation. We're asking them to abandon the very structure that makes them feel safe, every time we do!

What is the solution for this? I'm not sure I have one. It's possible that we could tackle this issue with more rigorous prebriefs, going over the use of every manikin, embedded participant, and piece of equipment. However, this does not seem like the answer. To me, the issue of simulation fidelity feels tied to these large concepts of society and structural bias and neurodivergence, which would explain the struggles we as an industry have had in increasing learner buy-in with fidelity. I invite other perspectives on this. I have simply noticed what seems like a connection, and I'm wondering if my peers have further insights or even solutions.

Until then, I think we're going to have to keep assuring our students of the rules of the simulation, no matter how fidelitous we make it. After all, by the very definition of simulation, it is not real life. Therefore, navigating the unseen snags of the scenario may remain a terrifying unknown to our students for as long as society, simulation, and neurotypicality itself, exists.

References

(1). *Weyers, A. R., von Waldenfels, G., Gebert, P., Henrich, W., & Hinkson, L. (2024). Reducing trainee mistakes. better performance with changing to a high-fidelity simulation system? AJOG Global Reports, 4(2), 100326. https://doi.org/10.1016/j.xagr.2024.100326*

(2). *Lejus-Bourdeau, C., Pousset, F., Magne, C., Bazin, O., Grillot, N., & Pichenot, V. (2023). Low-cost versus high-fidelity pediatric simulators for difficult airway management training: A randomized study in continuing medical education. Brazilian Journal of Anesthesiology (English Edition), 73(3), 250–257. https://doi.org/10.1016/j.bjane.2021.05.006*

(3). *Mitchell, S., Blanchard, E., Curran, V., Hoadley, T., Donoghue, A., & Lockey, A. (2024). Effects of simulation fidelity on health care providers on Team Training—a systematic review. Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare, 19(1S). https://doi.org/10.1097/sih.0000000000000762*

(4). *Nouri, Z., Dill, M. J., Conrad, S. S., Moreland, C. J., & Meeks, L. M. (2021). Estimated prevalence of US physicians with disabilities. JAMA Network Open, 4(3). https://doi.org/10.1001/jamanetworkopen.2021.1254*

(5). *Moore, S., Kinnear, M., & Freeman, L. (2020). Autistic doctors: Overlooked assets to medicine. The Lancet Psychiatry, 7(4), 306–307. https://doi.org/10.1016/s2215-0366(20)30087-0*

(6). *Duong, D., & Vogel, L. (2022). Untapped potential: Embracing neurodiversity in medicine. Canadian Medical Association Journal, 194(27). https://doi.org/10.1503/cmaj.1096006*

#1
2024

il BRIEFING

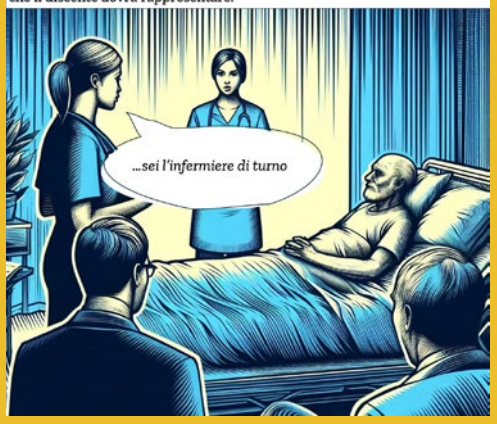
I 10 PASSI FONDAMENTALI PER CONDURRE IL BRIEFING SUL PAZIENTE

1 - Patto di simulazione

informare i partecipanti sul metodo di simulazione, sugli obiettivi di apprendimento, sulla definizione delle regole di base e sui comportamenti che ci aspettiamo

2 - Definire i ruoli

è necessario per far calare il partecipante nello scenario specifico. L'assegnazione di uno specifico ruolo sottende competenze e responsabilità che il discente dovrà rappresentare.



3 - Esposizione del caso clinico

leggere al discente, e alla platea, il caso clinico: problema di base del paziente, luogo, orario, accennare alla documentazione che troverà in stanza di simulazione. Questa è la prima fase di familiarizzazione con lo scenario al quale andrà incontro.

4 - Mostrare il materiale

A meno che non sia una simulazione in situ, dobbiamo dedicare del tempo all'orientamento dei partecipanti verso l'attrezzatura, i materiali e l'ambiente dove si svolgerà lo scenario in quanto molti elementi possono differire da ciò che i partecipanti possono attendersi in termini di aspetto esteriore e funzionalità. È possibile addestrare all'uso dell'attrezzatura soprattutto per quanto riguarda l'utilizzo della tecnologia usata per la simulazione e il simulatore del paziente

5 – Moulage e i dispostivi di simulazione indossabili

utilizzando il paziente simulato, si dovrà specificare ciò che si può fare o non si può fare sul paziente. Mostrare i dispositivi indossabili sul paziente simulato e sottolineare di usare solo essi per manovre invasive. Precisare se si possono diluire i farmaci e infonderli nei dispostivi impiantabili, per esempio. In alcuni casi lo scenario viene svolto con un particolare metodologia nella quale viene chiesto ai partecipanti di verbalizzare ad alta voce e le loro azioni durante lo scenario, come la concentrazione alla dose di un farmaco che potrebbero somministrare, in modo da facilitare i team dell'istruttore nella comprensione di ciò che sta accadendo, tutto deve essere specificato in questa fase.

6 - Ottenere i risultati dalle indagini strumentali

essendo un ambiente simulato spesso non si possono avere tutte le strumentazioni che avremmo nella realtà clinica, quindi si deve spiegare come ottenere risultati di esami strumentali e dove saranno visibili.

7 - Mostrare i presidi di supporto

mostrare tutti i presidi che il discente potrà utilizzare e farli provare es. stick glicemico o pulsiossimetro, ma anche e soprattutto far provare gli strumenti di comunicazione come il telefono.

8 - Far conoscere e provare la voce fuori campo

in caso di difficoltà, durante lo scenario, il facilitatore può intervenire con una voce fuori campo per indirizzare il discente a fare un'azione o descrivere qualcosa che non è simulabile. La voce fuori campo darà anche l'avvio e la conclusione allo scenario

9 - Riformulazione del caso

l'istruttore invita il discente a riassumere il caso e le regole. Questa può essere una tecnica per ridurre l'ansia e ricapitolare eventuali passaggi critici

10 - Tu non fare finta noi non facciamo inganni

è la conclusione del patto d'aula, l'istruttore non deve improvvisare, modificare il copione altrimenti si perde la fiducia del discente e della platea

Read in your language

#1
2024

il BRIEFING

Idea di:
Giordano Bargagna
Realizzazione di :
Giordano Bargagna
Supervisione di:
Valentina Salomoni - Gabriele Scrima - Daria Bacchereti
Immagini create con
Image creator Microsoft Design
FONTE principale:
IL DEBRIEFING DOPO LO SCENARIO DI SIMULAZIONE - MANUALE PER IL FACILITATORE BASE E AVANZATO-STRATEGICO - CAPOGNA GIORGIO; INGRASSIA PIER LUIGI; CAPOGNA EMANUELE; BERNARDINI MICHELA

Read in your language

When Simulation Clicks: Improving Learning through UI/UX Design

UI/UX design is crucial for educational tools, influencing learning outcomes significantly. Studies show excessive clicks harm user engagement and retention. SimX's VR simulations, which avoid traditional dropdown menus and UI elements, exemplify how intuitive design maximizes learning potential. Features like natural interactions, immersive environments, and minimized UI distractions enhance engagement, reduce cognitive load, and improve retention. User feedback indicates SimX's approach is more engaging and less frustrating, highlighting the importance of user-friendly design in digital learning

In the current digital era, the design of user interfaces (UI) and user experiences (UX) has become vital for developing educational tools. These aspects go beyond visual appeal and ease of use, significantly influencing learning outcomes. Numerous studies indicate that the frequency of clicks or interactions needed for tasks greatly impacts user engagement and retention. In this context, SimX's novel approach to VR simulations—avoiding traditional dropdown menus and UI elements—demonstrates how intuitive design can enhance learning potential by providing a more seamless and engaging experience.

User interfaces (UI) and user experiences (UX), what's the difference?

The user interface (UI) includes all the elements of user engagement while using a digital product or software. This includes everything from screens and touchscreens to keyboards, sounds, and even lights.

User experience (UX), on the other hand, is how a user interacts with and experiences a product, system, or service. It includes a person's perceptions of usefulness, ease of use and efficiency.

Simply put, UI refers to the screens, buttons, toggles, icons, and other visual elements that you interact with when using a website, app, or a software. UX refers to the entire interaction you have with a product, including how you feel about the interaction.

Optimizing Learning through User-Friendly Design

Well-crafted UI/UX design can substantially improve learning experiences, whereas poor interfaces can cause frustration and disengagement.

Research[1-2] shows that excessive and unnecessary clicks, known as "click fatigue," can lead to a loss of interest, which is particularly damaging in educational environments. Minimizing these interactions helps maintain user engagement and enhances educational outcomes.

Minimizing Cognitive Load: A user-friendly interface reduces the cognitive load on learners. By streamlining navigation and cutting down the number of steps required to complete tasks, learners can concentrate more on the content itself rather than figuring out how to use the tool. Research by Sweller et al.[3] on cognitive load theory supports this, demonstrating that reducing extraneous cognitive load can enhance learning efficiency and effectiveness.

Increased Engagement: Effortless interaction with educational content significantly boosts user engagement and motivation. This aspect is particularly vital in VR simulations, where both immersion and interactivity are essential for an effective learning experience. As stated in multiple studies[4-5], reducing ...

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References
Complete list of references on the web article.

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SIM VOICES

Realismo vs. Eficacia: la problemática de la compensación

https://doi.org/10.69079/SIMZINE.L24.N15.00035

Más no siempre es mejor. Este es el caso del realismo de la simulación clínica en la educación médica: los retos de la fidelidad de la simulación y el entrenamiento con simuladores pueden influir significativamente en el aprendizaje de los estudiantes. Exploramos los beneficios y las complicaciones de aumentar la fidelidad en contextos de educación clínica.

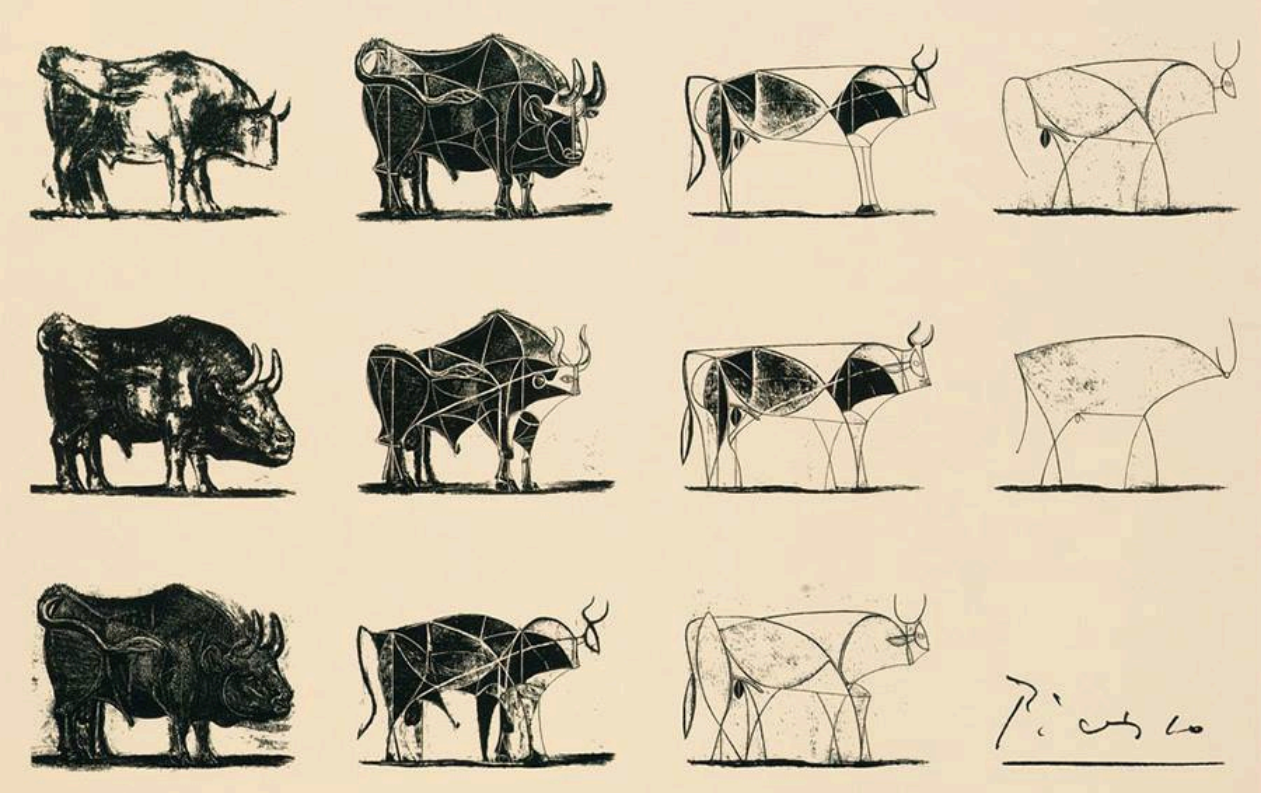
Un caso concreto

Transcurría la clase de un docente. Tal clase consistía en la práctica de inserción de un catéter venoso periférico con un grupo de estudiantes "novatos", aproximadamente en el segundo año de una carrera o programa de salud, que por su dificultad había sido dividida en tres clases separadas por una semana. El objetivo consistía, precisamente, en insertar un catéter venoso periférico, siendo el primer enfrentamiento de estos estudiantes a tal técnica. Estaban dispuestos todos los insumos que requería tal procedimiento, contemplado dentro de la categoría de "baja fidelidad". Cuando el docente inició la clase realizó un ejercicio demostrativo, y solicitó más insumos a los operadores del centro de simulación, como venoclisis, soluciones intravenosas, bomba de infusión, etcétera. Luego, los estudiantes comenzaron el ejercicio práctico, donde el docente comentaba frecuentemente: «este brazo no es igual a lo real», «en los pacientes la piel no es tan dura», «el procedimiento no es igual en un paciente porque este se mueve», «el verdadero aprendizaje vendrá cuando ustedes realicen el procedimiento en un paciente real».

En la segunda clase, pudimos observar aún más de cerca el desempeño de los estudiantes y notamos que no habían superado aspectos como: tomar bien el catéter, realizar la antisepsia de la piel, realizar un correcto ángulo de inserción, etcétera. Sin embargo, el docente, estaba solicitando que el brazo no estuviera "simplemente" en el mesón, si no que el brazo estuviera adosado a un simulador de cuerpo completo, en una cama clínica y en una sala que tuviera "un poco más de ambiente", porque decía que el estudiante debía saludar al paciente y presentarse, identificar su nombre, observar los cambios en el monitor multiparámetro, observar los cambios en signos vitales, etcétera.

Pensamos que aquí había un problema porque el estudiante no había superado los pasos básicos para pasar a tener que procesar elementos más complejos, como el ambiente; por lo tanto, se estaba agregando carga cognitiva a la tarea de forma innecesaria. Conversamos con el docente y nos comentó que él pensaba que se debía entrenar el procedimiento en el mismo ambiente en el cual se iba a desenvolver el estudiante en el futuro, para prepararlo de mejor forma para la "vida real".

Les Valeurs Personelles - René Magritte 1952



La metamorfosis del toro - Pablo Picasso 1945

Reflexiones sobre el Realismo de Simulación

Inmediatamente vino a nuestra mente los ensayos que hacen los músicos de sus presentaciones, en las cuales no hay público, que sería el equivalente de la "vida real" para un músico, y aplicando la misma lógica que me comentaba el docente, para cada ensayo un músico tendría que estar con su público, pero también deberían estar las cámaras, las pantallas, la logística, en fin, una lista infinita y difícil de cumplir para un "ensayo".

Esta situación y otras similares la observamos también en otras ocasiones y en varios docentes en distintas épocas, lo que nos llevó a pensar que había un patrón de comportamiento común, donde se estaban desviando los déficits de la instrucción hacia aspectos de la fidelidad física, lo que nos llevó a plantear - como comentábamos al inicio - la "problemática de la compensación", que consiste en aumentar o intentar aumentar el nivel de realismo de la simulación, para compensar algún déficit en la didáctica docente.

Ahora bien, puede resultar muy atractivo aumentar la fidelidad de la simulación: se pensará que aumenta el aprendizaje e incluso la satisfacción de mi audiencia de estudiantes; cuando, en realidad, no es necesario en algunas situaciones de entrenamiento. No decimos con esto que no sea necesario en algunas situaciones un mayor nivel de fidelidad, sino que solamente es improcedente aumentar la fidelidad para cumplir algunos tipos de objetivos. Al aumentar el nivel de la fidelidad de la simulación de forma innecesaria puede traer como consecuencia aumento de los costos y se desvía el propósito enfocado hacia los objetivos, y asimismo se agrega carga cognitiva a la tarea, que, si bien es necesaria, debe estar precisamente situada en el "umbral de desafío óptimo", ni más, ni menos.

Puede que este fenómeno no siempre esté presente, nuestra hipótesis es que depende de algunas variables como la capacitación docente, la planificación de las clases, la inserción curricular adecuada, e incluso de la propia misión del centro de simulación. Sin embargo, hemos llegado a pensar, incluso, que esto ocurre por razones que van más allá de lo pedagógico, y puede haber un fenómeno sociológico que de alguna forma lo relata Byung-Chul Han en su libro "Desaparición de los rituales", en el cual relata el reemplazo de la "percepción simbólica" por la "percepción serial", donde esta última "(...) se apresura de una información a la siguiente, de una vivencia a la siguiente, de una sensación a la siguiente, sin finalizar jamás nada" (Han, 2021).

Bibliografía

Han, B. La desaparición de los rituales. 2021. Herber: España.
Herrera-Aliaga E, Estrada LD, Chávez-Valenzuela P. La "problemática de la compensación" en simulación clínica. Simulación Clínica. 2023;5(2):86-87. doi:10.35366/112737.

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DID YOU KNOW...

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Virtual Reality Revolutionizing Healthcare Education: Project ViCoSim

https://doi.org/10.69079/SIMZINE.L24.N15.00036

Artevelde University's ViCoSim initiative leverages virtual reality to enhance healthcare professionals' communication skills. By providing 360° video VR scenarios, ViCoSim overcomes logistical challenges of traditional simulations, offering scalable, cost-effective, and flexible training. It fosters interdisciplinary and intercultural learning, improving knowledge retention and clinical reasoning, and preparing students for real-world healthcare scenarios. Read the article to learn more

In an era when technology is transforming the educational sector and simulation-based learning has demonstrated its efficacy, **Artevelde University's** ViCoSim initiative stands out as a model of innovation, introducing a virtual reality (VR) e-simulation module to enhance the communication skills of healthcare professionals. This innovative program not only modifies and enhances current educational opportunities but also spearheads the development of a novel method for fostering interdisciplinary and global skills development.

The evolution of simulation education

The use of high-tech full-body manikins and **simulated actors** in healthcare simulation training has evolved over the years. These technologies are now used to train both technical and non-technical skills, such as communication and leadership. However, each method had its own set of limitations. While manikins and task trainers are highly effective for training in practical procedures, they are not always the most suitable for training in interpersonal skills. On the other hand, simulated actors provided a more realistic communication experience, but their use was limited by ethical concerns regarding the scope of technical actions they could perform.

The **implementation of simulation training using simulated actors** has historically faced significant logistical challenges. Coordinating schedules, securing suitable training facilities, and managing the availability of trained actors are formidable tasks for educational institutions. The logistical complexities of staging realistic scenarios with simulated patients often result in high costs and time constraints, making it challenging to incorporate actor-based simulation into the standard curriculum for large groups of students.

In contrast, the **use of VR in simulation** education provides a notable advantage in addressing these logistical challenges. VR eliminates the need for physical space and complex scheduling coordination, offering a flexible and accessible solution. Learners can engage in immersive simulations from any location, eliminating geographical limitations and integrating simulation training into the curriculum. This not only reduces the logistical burden but also enhances the scalability and sustainability of simulation education initiatives.

Furthermore, the cost-effectiveness of VR compared to traditional simulation setups makes it a practical choice for institutions with limited resources. Furthermore, **clinical virtual simulation has demonstrated efficacy in enhancing knowledge retention, clinical reasoning, and overall student engagement**. Furthermore, VR simulation provides a secure environment for training communication skills, which is often neglected in traditional methods. The ability to conduct VR simulations without the need for specialized equipment or dedicated space ensures that a wider range of students can benefit from this training approach, thereby democratizing access to high-quality healthcare education.

ViCoSim: Immersive Virtual Reality Scenarios

The Department of Health and Care at Artevelde University of Applied Sciences has taken advantage of the opportunity to create 360° video VR scenarios, funded by the European Union and the East Flanders district. Our team, comprising communication and simulation experts and

a technical specialist, has produced over 35 scenarios with 360° videos.

The ViCoSim project introduces 360° video VR scenarios, which present realistic cases for training communication skills. These scenarios are facilitated by trained instructors and are designed to enhance the effectiveness of communication skills training. These simulations are structured in a branching format, allowing them to adapt to the choices made by students or instructors. The didactically crafted framework, based on the PEARLS method, ensures a cohesive learning experience from any location, whether guided by a facilitator or supervised by peers. The ViCoSim platform is currently being implemented across seven healthcare programs, including nursing, midwifery, occupational therapy, podiatry, audiology, speech therapy, and oral hygiene. It has transformed traditional simulation education into a virtual reality format.

Simulating communication skills in a virtual environment is an innovative approach that has proven to be highly effective. By offering standard scenarios filmed in 360° video, students are exposed to realistic situations where their choices lead to different outcomes. The guided debriefing process, which utilizes the evidence-based PEARLS methodology, is a crucial element of the learning journey. It encourages reflective learning through self-reflection, facilitates exploration, and provides directive feedback.

ViCoSim is not simply an adaptation; it is an expansion of the existing simulation education program. We have incorporated it into our curriculum at Artevelde University as a Zone 2 simulation, in accordance with the **SimZone framework** for large groups of students, as a preliminary step towards the Zone 3 simulations conducted in smaller groups. This reduces costs while adequately preparing students for simulations with simulated actors at a later stage in their program. By leveraging the advantages of VR, learners gain a competitive advantage in real-world scenarios. The project's key benefits include:

1. This approach better prepares learners for real-world situations, fostering competence and familiarity.
2. Improved knowledge retention and clinical reasoning.
3. This provides an enhanced and attractive learning experience for students.

Beyond Borders: Interdisciplinary and Intercultural Learning

ViCoSim is not only a revolutionary new approach to simulation education, but also a catalyst for interdisciplinary and intercultural learning. In collaboration with Stellenbosch University in South Africa, ViCoSim is extending its reach globally through a Collaborative Online International Learning (COIL) initiative titled "Person-Centered Communication in an International Context." A scenario set in a **South African context**, filmed with a 360° camera, allows Belgian students to develop their intercultural and international competencies without leaving their country.

This virtual bridge also enables students at Stellenbosch University to participate in the same scenario as their counterparts...

artevelde university of applied sciences
Stellenbosch University iYunivesithi Universiteit
MEDICINE AND HEALTH SCIENCES
Medegefinancierd door de Europese Unie
provincie Oost-Vlaanderen

Una web app per migliorare l'audio in simulazione

https://doi.org/10.69079/SIMZINE.L24.N15.00037

In un centro di simulazione medica, il suono è fondamentale quanto la presenza di attori. Francesco Palmisano ci racconta come ha sviluppato una web app intuitiva che semplifica il controllo audio, superando le barriere burocratiche e tecniche. Con l'aiuto dell'intelligenza artificiale, il progetto ha preso vita rapidamente, trasformando le sfide in opportunità. Scopri come in maniera creativa ha utilizzato strumenti come ChatGPT, Dall-E/Midjourney e Suno per rendere gli scenari di simulazione più realistici.

Che succede quando un mixer audio incontra un team di simulazione? No, non è l'inizio di una barzelletta ma la realtà quotidiana nei centri di simulazione medica. In questo mondo, il suono di un elicottero e il pianto di un bambino possono essere altrettanto importanti quanto la presenza di un attore che interpreta un paziente. Durante le sessioni di simulazione, per dare voce ai pazienti, si utilizzano attori e/o tecnologie innovative. Questi 'attori vocali' interagiscono tramite microfoni che diffondono la loro voce attraverso gli altoparlanti o attraverso i simulatori paziente. A volte, per rendere lo scenario più realistico, si sente il bisogno di aggiungere suoni ambientali - pensate ad un elicottero in arrivo o ai rumori di un ospedale. Qui entra in gioco il mixer audio del centro di simulazione, trasformando il tecnico di simulazione o il facilitatore in un vero e proprio DJ della simulazione!

Il mixer [Fig.1] a disposizione ha tre linee per i microfoni e una "linea libera" per collegare dispositivi esterni. Il problema sorge nel gestire questi suoni: usare un dispositivo per ogni traccia audio? Impossibile, a meno che non si voglia trasformare il centro di simulazione in un palco per concerti degno di Tomorrowland! Usare n istanze di riproduttori multimediali con n finestre aperte sul PC? Sarebbe come un giocoliere che tenta disperatamente di tenere in aria un numero impossibile di palline, con il rischio che un solo passo falso trasformi l'intera performance in un disastro!

Da questa sfida nasce l'idea di sviluppare un tool tuttofare. L'obiettivo? Controllare tutti i suoni non attoriali in un'unica interfaccia. Il mercato offre già soluzioni software di mixaggio, ma spesso sono troppo complesse per le esigenze specifiche della simulazione medica. In questo percorso di innovazione, ho incontrato una barriera "familiare": i complessi processi di acquisto di un'azienda sanitaria pubblica. Dotarsi di software specifici in questo ambiente si rivela più intricato di quanto si possa immaginare.

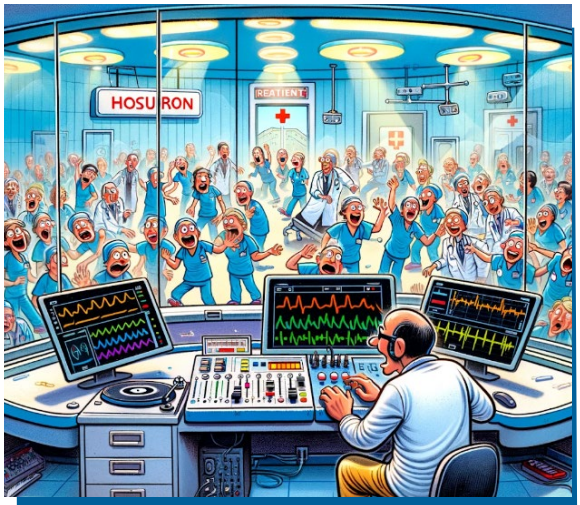

Fig.1

È un po' come navigare in un mare di burocrazia, dove ogni onda rappresenta un nuovo modulo da compilare o un'approvazione da ottenere.

E se pensate che l'installazione di software open source possa essere una soluzione facile, ripensateci. Con i PC aziendali blindati da restrizioni di sicurezza, anche il tentativo più innocente di installazione diventa una sfida. È come cercare di aprire una porta blindata con una chiave di plastica: servono pazienza e ingegnosità per superare questi ostacoli.

Questi intoppi, tuttavia, non hanno fatto altro che spronare ad essere più creativi, spingendo a trovare vie alternative che bypassano i complessi labirinti burocratici e, nel contempo, riducono i costi. Questo approccio non solo ha permesso di evitare lunghe attese e procedure complicate, ma ha anche reso la simulazione più sostenibile dal punto di vista economico, aprendo la strada a soluzioni innovative che non gravano sulle risorse limitate di un'azienda sanitaria/centro simulazione.

L'idea quindi è stata quella di sviluppare autonomamente un'applicazione che sia semplice, intuitiva e che non richieda installazioni: una 'web app' facilmente accessibile da qualsiasi PC. Utilizzando HTML, CSS e JavaScript, si può creare un'interfaccia user-friendly con le funzionalità essenziali. E non preoccupatevi: non serve essere un programmatore esperto per mettere su questa sinfonia!

In questo progetto, l'impiego dell'intelligenza artificiale e degli strumenti di generazione automatica si è rivelato fondamentale, trasformando quello che avrebbe potuto essere un lungo e laborioso processo in una realizzazione efficiente e tempestiva.

La web app ha preso forma in soli 4 giorni, mentre il sito "a supporto" è stato completato in 6 giorni. Questa efficienza sorprendente è il risultato diretto dell'apporto innovativo dell'AI, che ha agito come un acceleratore di idee e soluzioni. Lontano dall'essere una frenetica corsa contro il tempo, il processo è stato un esempio di come la tecnologia possa migliorare significativamente la produttività, permettendoci di allestire uno 'spettacolo' tecnologico di alta qualità in tempi che prima potevamo solo immaginare.

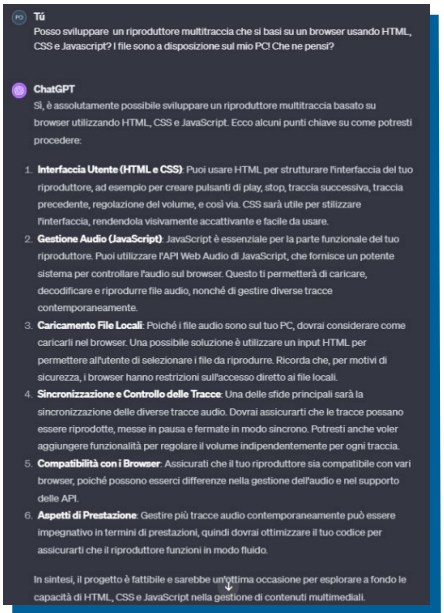

Fig.2A

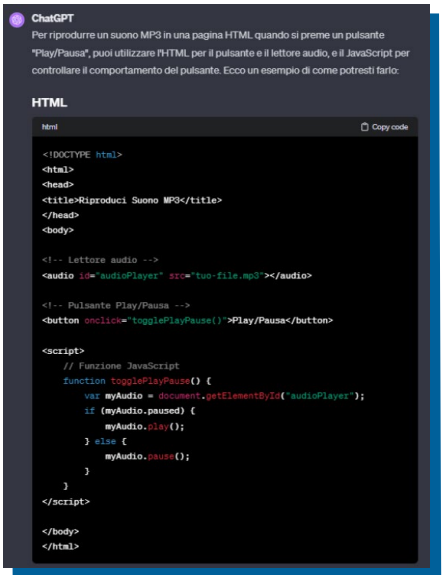

Fig.2B

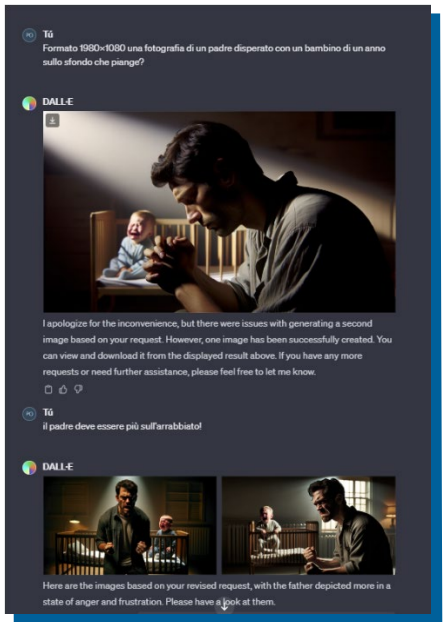

Fig.3

Vediamo quali sono i componenti del team e come hanno contribuito:

- ChatGPT: Questo assistente digitale è stato un consulente esperto, fornendo suggerimenti e soluzioni di codice. Tuttavia, è importante sottolineare che ChatGPT è come un mentore che guida, ma non sostituisce il bisogno di competenze di base in programmazione. Le sue proposte possono essere eccellenti punti di partenza, ma richiedono una comprensione solida e una capacità di adattamento per integrarle efficacemente nel progetto. In altre parole, ChatGPT ha aiutato a orientare la nave, ma le mani al timone erano sempre necessarie per navigare con successo. [Fig.2A e 2B]

- Dall-E/Midjourney: Questi strumenti hanno agito come artisti grafici virtuali, creando bozze visive dalle idee. Hanno reso semplice il processo di design, liberandoci dalle restrizioni del copyright e permettendoci di sviluppare grafiche personalizzate con un tocco unico senza doversi accontentare di quelle presenti su banche dati free; [Fig.3].

- Suno: un compositore musicale AI digitale. Suno ha creato melodie su misura per i nostri teaser e tutorial. Questo strumento ha trasformato semplici note in una sinfonia, evitando i complicati percorsi delle autorizzazioni di copyright.

E così, al termine di questa avventura tecnologica, ci troviamo con uno strumento audio semplice e versatile nelle mani, nato dalla combinazione di intuizione umana e intelligenza artificiale. Ma il viaggio non finisce qui. L'obiettivo ora è condividere questo strumento con il mondo della simulazione, per vedere se...

Prova MedSimTunes

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DID YOU KNOW...

Psychological Safety in Simulation: Creating a Secure Learning Environment

https://doi.org/10.69079/SIMZINE.L24.N15.00038

Psychological safety in simulation-based learning is vital for effective nursing and healthcare education. This synthesis, supported by scientific papers, examines crucial factors such as prebriefing and debriefing, faculty presence, teamwork, and structured simulation design. Addressing fears of evaluation and fostering a supportive environment help learners engage fully and learn from their experiences.

Introduction

Psychological safety in simulation-based learning environments is crucial for effective education, particularly in nursing and healthcare training. It allows learners to engage fully, take risks, and learn from their experiences without fear of negative consequences. This synthesis explores the key factors that contribute to psychological safety in simulation, drawing from multiple research studies.

Key Insights

Prebriefing and Debriefing Importance

Prebriefing and *debriefing* sessions are essential for establishing psychological safety. These sessions help set expectations, provide emotional support, and create a no-blame culture, which encourages students to participate fully and learn from their mistakes (Kang & Min, 2019; Kostovich et al., 2020; Lackie et al., 2022).

Faculty Role and Presence

The presence and behavior of faculty members significantly impact psychological safety. Faculty need to be supportive, observant, and responsive to students' needs, ensuring a safe environment throughout the simulation phases (Kostovich et al., 2020; Stephen et al., 2020; Daniels et al., 2021).

Fear of Evaluation and Mistakes

Students often experience anxiety related to fear of making mistakes and being evaluated. Addressing these fears through supportive strategies and creating an environment where mistakes are seen as learning opportunities is crucial (Kang & Min, 2019; Park & Kim, 2021).

Team Dynamics and Interpersonal Relationships

Effective teamwork and positive interpersonal relationships among students are vital for psychological safety. Facilitators should encourage collaboration and respect among participants to mitigate the negative impact of team dynamics (Kang & Min, 2019; Park & Kim, 2021; Lackie et al., 2022)

Structured and Evidence-Based Simulation Design

Using structured and evidence-based designs for *simulation scenarios* helps in creating a psychologically safe environment. These designs should be carefully planned to protect students emotionally and facilitate risk-taking as part of the learning process (Kostovich et al., 2020; Lackie et al., 2022).

Recognition of Barriers and Enablers

Identifying and addressing barriers such as hierarchical dynamics, fear of making mistakes, and uncertainty, while promoting enablers like supportive relationships and clear expectations, are essential steps towards fostering psychological safety (Park & Kim, 2021; Lackie et al., 2022).

Instructor Role and Behaviors

Instructors play a pivotal role in establishing and maintaining psychological safety. Key behaviors include:

- Modeling Vulnerability: Instructors should demonstrate that making mistakes is a natural part of learning by openly discussing their own errors and learning experiences.
- Encouraging Participation: Actively inviting all students to contribute, ensuring that quieter students are also given opportunities to speak.
- Providing Constructive Feedback: Offering feedback that is supportive, specific, and focused on behaviors rather than personal attributes.

Psychological safety in simulation-based learning environments is crucial for effective education, particularly in nursing and healthcare training. It allows learners to engage fully, take risks, and learn from their experiences without fear of negative consequences. This synthesis explo-

res the key factors that contribute to psychological safety in simulation, drawing from multiple research studies.

Designing Safe Simulations

Simulations should be designed with psychological safety in mind. This includes:

Pre-Briefing Sessions: Clearly outline the objectives, expectations, and the importance of psychological safety before the simulation begins.

Realistic Scenarios: *Creating scenarios* that are challenging yet achievable, allowing students to build confidence as they navigate complex situations.

Debriefing: Conducting *debriefing* sessions that focus on reflection and learning rather than judgment, emphasizing what was done well and areas for improvement.

Overcoming Barriers to Psychological Safety

Recognizing and Addressing Barriers

Several barriers can impede psychological safety, including hierarchical dynamics, cultural differences, and past experiences of negative feedback. Instructors must be vigilant in recognizing these barriers and take proactive steps to address them.

Strategies for Enhancing Psychological Safety

Building Trust: Establishing trust through consistent, respectful interactions.

Fostering Inclusivity: Ensuring that all voices are heard and valued, regardless of background or experience.

Continuous Improvement: Regularly seeking feedback from students on the learning environment and making necessary adjustments to enhance psychological safety.

Conclusion

Creating a psychologically safe environment in simulation-based learning is multifaceted, involving prebriefing and debriefing, supportive faculty presence, addressing fears of evaluation, fostering positive team dynamics, and using structured simulation designs. Recognizing and mitigating barriers while promoting enablers are crucial for ensuring that students can fully engage and benefit from simulation experiences.

Key Behaviors for Instructors to Promote Psychological Safety

Behavior	Description
Modeling Vulnerability	Sharing personal mistakes and learning experiences openly.
Encouraging Participation	Actively inviting contributions from all students.
Providing Constructive Feedback	Offering supportive, specific feedback focused on behaviors.

Strategies for Enhancing Psychological Safety

Strategy	Description
Building Trust	Consistent, respectful interactions.
Fostering Inclusivity	Ensuring all voices are heard and valued.
Continuous Improvement	Regular feedback and adjustments to the learning environment.

Overcoming Barriers to Psychological Safety

Barrier	Strategy
Hierarchical Dynamics	Encouraging open communication and flattening hierarchies.
Cultural Differences	Incorporating cultural competence training.
Negative Feedback Experiences	Focusing on constructive, behavior-based feedback.

References

1. *Kang SJ, Min HY. Psychological safety in nursing simulation. Nurse Educator [Internet]. 2019;44(2):E6–9. Available from: https://journals.lww.com/nurseeducatoronline/Abstract/2019/03000/Psychological_Safety_in_Nursing_Simulation.23.aspx*
2. *Kostovich CT, O'Rourke J, Stephen LA. Establishing psychological safety in simulation: Faculty perceptions. Nurse Education Today. 2020 Aug;91:104468.*
3. *Stephen LA, Kostovich C, O'Rourke J. Psychological safety in simulation: Prelicensure nursing students' perceptions. Clinical Simulation in Nursing. 2020 Oct;47:25–31.*
4. *Park JE, Kim JH. Nursing students' experiences of psychological safety in simulation education: A qualitative study. Nurse Education in Practice. 2021 Aug;55:103163.*
5. *Daniels AL, Morse C, Breman R. Psychological safety in simulation-based prelicensure nursing education. Nurse Educator. 2021 Jun 28;Publish Ahead of Print.*
6. *Lackie K, Hayward K, Ayn C, Stilwell P, Lane J, Andrews C, et al. Creating psychological safety in interprofessional simulation for health professional learners: A scoping review of the barriers and enablers. Journal of Interprofessional Care. 2022 Apr 11;37(2):1–16.*

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SIM NURSE

EXCLUSIVE PARTNERSHIP WITH INACSL

Simulation Purchasing Power

https://doi.org/10.69079/SIMZINE.L24.N15.00039

Funding is vital for simulation centers, which rely on institutional or external sources. Centers must maximize efficiency, reuse supplies, and repurpose equipment to stretch budgets. Additional funding can come from donations, internal institutional support, or external grants. Implementing these strategies helps manage limited funds and enhance purchasing power, ensuring program sustainability.

Funding is essential for a simulation center's success and positive learner outcomes. Simulation centers for internal users are typically funded by the institution, while centers developed for external users rely on funding from external sources. Regardless of the source, funding is limited, so all simulation centers must consider how to maximize purchasing power to survive.

Working With What You Have

Efficiency

Simulation centers can strengthen their purchasing power by analyzing how they operate. This analysis can aid in shoring up waste or identifying additional funding needs. Valuable information, such as the use of supplies, equipment, and human capital, can be tracked through reports, supply lists, and schedules. These data can be analyzed, but only if they are collected. Developing a plan for collecting and reviewing this information is therefore vital to maximize efficiency.

Reusability

Reusing supplies and equipment can reduce the financial burden of sustaining simulation programs. Some products that are one-time use in clinical practice may be recycled in a simulation center. Examples of reusable items include intravenous (IV) tubing, simulated medications, syringes, or oxygen delivery devices. Packaging materials to create the appearance of new products can be purchased at a fraction of the cost of new medical supplies. When opting to reuse supplies, it is wise to consider the impact of the recycled item within the experience and whether it conflicts with learning objectives.

Thinking Outside the Box

Repurposing equipment and supplies saves money which extends purchasing power. A stretcher serves multiple purposes, from moving manikins to serving as an exam table for outpatient scenarios. Earbuds and an open phone connection between a standardized patient and facilitator is an effective communication strategy that replaces expensive, single-use audio equipment.

Buying from nontraditional sources is another money-saving strategy. An infant scale for a maternity simulation may cost hundreds of dollars from a simulation equipment vendor, but a suitable alternative may sell for a fraction of the cost from online retail sellers.

Identifying Additional Resources of Funding

Donations

A creative way to offset costs and stretch purchasing power is to seek out donations from other users of clinical supplies...

References

1. Allen, J. (2022). Credentialing for common bedside procedures. https://hospitalmedicaldirector.com/credentialling-for-common-bedside-procedures/

2. Caldaza, J. (2023). In J.C. Maxworthy, C. Epps, Y. Okuda, M.E. Mancini, & J.C. Palaganas (Eds.), Defining excellence in simulation programs (2nd. Ed., pp. 496- 512). Lippincott Williams & Wilkins.

3. Sylogist, Ltd. (2020). 7 Ways to Efficiently Manage Grants with Fund Accounting. https://www.sylogist.com/post/7-ways-to-efficiently-manage-grants-with-fund-accounting

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SIMZINE

Upcoming Simulation Conferences 2024 - 2025

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III conferencia internacional de CIENCIAS DE LA SALUD 2024

21-25 Oct. - Portoviejo, Ecuador

The Universidad San Gregorio de Portoviejo invites healthcare professionals, researchers, students, and academic leaders to the III International Conference "Science, Education, and Health for Social Transformation and Sustainable Development"...

2024 GNSH Annual Summit

24-27 Oct. - Toronto, Canada

The 2024 Global Network for Simulation in Healthcare Annual Summit in Toronto will focus on workforce challenges in healthcare, the impact of generative AI, and the growing importance of sustainability in healthcare and education.

ASPiH 2024

3-5 Nov. - Edinburgh, UK

ASPiH 2024 marks the 15th anniversary of the Association for Simulation Practice in Healthcare. This year's conference will focus on "Transformative Simulation," emphasizing its role in innovating, improving...

SOCHISIM Congress

7-8 Nov. - Puerto Montt, Chile

SOCHISIM's VIII Congress will explore "Artificial Intelligence in Clinical Simulation" with global experts, such as Walter Eppich, Andrés Díaz-Guío, and Peter Dieckmann focusing on AI's impact, challenges, and innovations in clinical training.

Patient Safety Conference 2024

8 Nov. - Madrid, Spain

The 2024 Patient Safety Conference, "Enhancing Patient Safety Through Digital Innovation," unites stakeholders to accelerate patient-centered care in complex systems through collaboration and shared insights.

Congresso SIMMED

14-15 Nov. - Milan, Italy

The SIMMED 24 Congress will take place at Humanitas University in Milan. The event includes scientific seminars and breakout sessions. Join hundreds of professionals for a dynamic event focused on advancing skills, driving change...

IMSH25

10-14 Jan. - San Diego, USA

The IMSH will celebrate its 25th anniversary in 2025, returning to Orlando after a record-breaking year in San Diego. The conference, renowned for its cutting-edge innovations and best practices in healthcare simulation...

HTIC 2025

20-22 Feb. - Oujda, Morocco

HTIC 2025 (Healthcare Training & Innovation Conference) will take place in Oujda, Morocco. Organized annually by Morocco Sim, this international event will highlight education, research and innovation in health sciences...

ASE Annual Meeting

8-10 May - Seattle, USA

ASE 2025 Annual Meeting focuses on enhancing surgical education through competency-based curricula, innovative teaching methods, professionalism, and addressing challenges in resident recruitment.

INACSL 2025

19-22 Jun. - Denver, USA

The INACSL Congress 2025, taking place in Denver, USA, will gather global experts to explore the latest innovations and best practices in nursing and healthcare simulation.

SESAM 2025

25-27 Jun. - Valencia, Spain

SESAM 2025, the 30th Annual Meeting, will be held in Spain, at the Palacio de Congresos in Valencia. With the theme "Developing, Adopting, and Embedding Innovative Simulation," this event...

SimGHOST USA 2025

29-1 Jul./Aug. - Nashville, USA

SIMGHOSTS 2025, hosted by Belmont University in Nashville, will feature hands-on workshops, demonstrations, and presentations by the SimGHOSTS community. Ideal for simulation techs...

...SCAN THE QR CODE FOR FULL EVENTS INFORMATION

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