

Using Simulation to Enhance Global Nursing

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Abstract

In light of the technological, social, and political changes taking place in the world today, it is important that nurses are not just culturally competent but globally informed and engaged. The goal of this paper is to help nurses help their patients and themselves to benefit from globalization. The use of guided simulation, virtual reality, and augmented reality learning experiences is considered for each of five areas of global nursing; global aesthetics, global intelligence, global ethics, global politics, and global health. This approach invites nurses and student nurses to discern new patterns, take charge of their learning, and build multiple iterations to facilitate the processing of new and different information and “realities.”

Keywords

augmented reality, global nursing, simulation, virtual reality

In light of the technological, social, and political changes taking place in the world today, it is important that nurses are not only culturally competent but globally informed and engaged. Part of the reason for this is the extent of globalization that now exists and the likelihood it will continue with the plurality of worldviews in most healthcare settings. Even in the face of recent efforts to restrict international trade, communication, and migration, all one needs to do is consider the variety of products and services now available and the diversity of those we can encounter either face-to-face or online to appreciate the world is now a universal stage. The goal of this discussion is to help nurses help their patients benefit from globalization and stay abreast of the ever-changing unpredictable world. The term *global* as it is used here includes planetary and the universe perspectives. In such a world, it is critically important to clarify personal identity, values, and focus as a nurse and human being, while having an open attitude toward plurality of worldviews and opinions. Without knowing and being comfortable with yourself, it is hard to appreciate the contribution and worthiness of that which is different. The opposite is also true: Open encounter with others helps us discover who we are.

International travel, study, and work are the gold standards for the kind of immersion into a foreign environment and learning experiences, which help people look and think beyond their ethnocentric assumptions and biases, but these opportunities are not available to most nursing students and nurses. The Foundation for International Medical Relief of Children, for example, provides a terrific 1-week Global Health experience, but it is expensive and requires a week away from other responsibilities. Some nursing programs

offer international learning opportunities, and many nurses do volunteer for international medical missions, but these opportunities may be limited to a particular area of the world, and often only a limited number of students are usually able to participate. Therefore, the authors here explore how simulation, virtual reality (computer-generated situations), and augmented reality (AR) (computer-enhanced real-world environments) can be used to prepare nursing students and those in practice to enrich their global awareness and competencies, so they can live, work, and flourish in today's world. Existentially, such educational technologies afford new opportunities to embrace potentials. The use of guided simulation learning and virtual realities is considered in regard to enriching five elements of global nursing; global aesthetics, global intelligence, global ethics, global politics, and global health (see the Table). Like most effective simulation learning experiences, it requires guided reflection and debriefing. The online, virtual, or AR simulations offer low-risk complex experiences (Caine & Caine, 2011). This approach invites learners to discern new patterns, take charge of their learning, and build multiple

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Table. The Five Elements of Global Nursing.

The Five Elements of Global Nursing	Referred Intention	Operational	Main Virtues	Simulation Learning
Global aesthetic	Taste for and interest in that which is different or foreign	Consumption	Openness and pleasure	Aesthetical
Global intelligence	Knowledge of other's ways, values, and beliefs	Development	Decentralization	Historical, cultural
Global ethics	Concern for others	Engagement	Solidity and justice	Ethical
Global politics	Conviviality	Hospitality	Tolerance	Political
Global health	Concern for the health of the earth and all living things	Purposeful becoming	Beneficence and freedom	Global health and nursing

Source: Adapted from Baumann & Goldberg (2018, p. 76) and Cicchelli & Octobre (2016).

iterations to facilitate the processing of new information and “realities.” The first part of the discussion is to explore global aesthetics, theory, and practice for nurses.

Global Aesthetics

Global aesthetics is more about ways of being than ways of doing. As lived by nurses and those studying to become nurses, they are purposefully planned encounters with art and nonart, some areas of which are dissimilar to what one previously liked. The potential of life to mimic art and art to mimic life can lift people toward new potentials and ideals. It involves fluidity of objects and actions that cross borders of what is art and nonart as well as geographic borders, north and south, east and west, material-rich and material-poor places. Art gives rise to pleasure, engages attention, and activates the same brain chemicals some drugs and special meals do. Global aesthetic is lived in the tension between apprehension and pleasure arising in the encounter with what is different. Everyday life and language can become poetic and filled with new possibilities, giving rise to life enhancing, purpose, and happiness. But this requires openness, alertness, and being attuned to the presence of beauty even where, even when it is least expected. The evidence for accomplishing greater global aesthetics is taste and interest in that which was previously foreign (Baumann & Goldberg, 2018; Cicchelli & Octobre, 2016).

Virtual tours are now available for many of the world's most famous art and history museums; some of these are connected with universities and other educational sources. While some are commercial- or industry-sponsored, such as a virtual tour of the Louvre. Others, like Google Art and Culture, are connected with Google Earth and are less directly related to sales. Google Art and Cultures allows the user to interact with images and text or video. It combines aesthetic and interactive elements, on a plurality of art, culture, clothing, and foods, which draw in the curious viewer, when accompanied by music, video, and text. AR can include visual, auditory, haptic, somatosensory, and olfactory information (Schuettel, 2017). Some of the art and museum tours

can be done in various languages. Such experiences draw on active learning theory, providing extraordinary ways of exploring the unknown.

The careful viewing of art can enhance one's observational skills and can be connected with health, as was the Rubin Museum's interactive exhibit on the Art of Tibetan Medicine and the book *Bodies in Balance: The Art of Tibetan Medicine*, which invited the visitors and readers to consider their lifestyle patterns and diets in a new light. Now the Rubin also offers virtual reality exhibits. The National Library of Medicine provides online digital works of art on various medical and nursing topics. Art has long provided rich and uncompromising access to understanding various states of the human mind and health.

Global Intelligence

Global intelligence is here defined as the ability to acquire the knowledge and skills necessary to not only function but thrive in a pluralistic, global, everchanging world. It shares with cosmopolitanism a strong interest in learning about and participating in foreign practices (Katz-Gerro, 2017). In nursing, Leininger's cultural care diversity and universality (McFarland & Wehbe-Alamah, 2015) is one theory that is accompanied by a research method to study the cultural care patterns associated with various ethnic groups. Knowledge of these patterns and the Sunrise Model provides nurses with a tool to help them consider the cultural norms and care patterns common to various groups. These can be used to guide nursing practice with members from a group who follow these norms.

In medicine, Paul Farmer and Partners in Health seek to combine medical and medical anthropology knowledge to adapt healthcare practices to specific places and groups, such as working to eradicate TB in a Russian prison or providing primary care in rural Haiti. In these cases, standard medical and nursing practices need to be modified to fit and respect the unique cultural ways of people and their situations. Global intelligence includes research findings that include diverse participants and considers whether researchers were fluent in the language and customs of the groups

studied. Careful efforts are made not to impose the researcher's culture or practices. Genetic and genomic studies reveal how diverse people previously seen as homogeneous really are, which can be a "powerful weapon against bigotry" ("On the Use and Abuse of Ancient DNA," 2018, p. 559). Global intelligence involves a political dimension particularly when nurses participate in the decentralization of knowing and seek to challenge erroneous generalizations and misconceptions. The global nurse appreciates that persons from different backgrounds have different epistemologies, that is to say different ways of knowing, and that these ways of knowing are legitimate and deserve a voice in the conversation. Global intelligence also is needed to be aware of and protected from cyberattacks, such as ransomware, the origin of which can be anywhere.

Project Implicit (2018) is an online tool and research study that explores unconscious bias and social cognition attitudes associated with various groups, including race, gender, sexual orientation, disability, skin-color, religion, and age. By participating, nursing students and nurses can gain knowledge about their own assumptions and ways of responding to images and consider how they make judgments on limited information. This online tool is an example of how greater self-understanding can be linked to being open-minded and learning about others. Inside Disaster TVO provides an online simulation experience of living through the 2010 earthquake in Haiti. The simulation asks, "What decisions would you make as an earthquake survivor, aid worker, or journalist in Haiti after the earthquake?" (InsideDisaster, 2018). It provides journalism videos and virtual reality to engage the viewer in the learning simulation. The Center for International Rehabilitation Research Information and Exchange (CIRRIE, 2018) also provides interprofessional online simulations, scenarios, and monographs with provider guides about Haiti as well as 11 other countries.

Global Ethics

As suggested above, global nursing practice seeks to be free of cultural or political imposition or control. In other words, the provider avoids hegemonic exercise of power, even in regard to medical and health information. The encounter seeks to respect the dignity of persons, families, and groups. On the other hand, efforts are made to address the immediate health issues and, if possible, consider the upstream determinants of health and well-being, as outlined in the United Nation's (UN's) 2030 sustainable development goals. The preface of which is as follows:

This agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. (United Nations, 2015, p. 1)

This is the case for nursing practice that intentionally seeks to be inclusive and address social structures that contribute to health inequity. Humanbecoming perspective's (Parse, 2014) consideration of dignity as the ethic of nursing practice and provides a method to understand humanbecoming with universal human experiences that acknowledges freedom, possibilities, and mystery. The discovery of universality of caring patterns or humanbecoming universal living experiences are processes that help nurses see the similarities of all sentient beings, enhancing concern for and engagement with others, and seeking to build global solidarity and justice. Global ethics in nursing like Seller's (2015) calls for effective altruism, based on the principle that we should do the most good we can. Unlike Seller's (2015) effective altruism, global nursing ethic does not necessarily seek to maximize one's salaries in order to be able to give more generously to charities internationally or locally but seeks to transform practice to do the most good one can in one's practice. For global nursing, and healthcare in general, who should avoid what Muller (2018) describes as becoming totally fixated on performance metrics? Overreliance on mathematics and empirical rationality can negate dignity and can often be too short-term. In the longer term, it often backfires. Nurses who in their work and personal life seek to reduce their carbon footprint by practicing ethically and demonstrating concern for the planet are living global ethics. While we may not be the cause of climate change, nurses contribute to it and therefore should be willing to take responsibility for doing something to achieve global sustainability. Global ethics encourages being open to spiritual experiences and practices that transcend traditional religious boundaries, such as visiting or creating shared sacred spaces.

Greenawalt, O'Harra, and Little (2017) reported on an education study that involved undergraduate students viewing four simulated scenarios: a teenage pregnancy case, a substance impaired nurse, a nurse withholding treatment, and a nurse facing ethical dilemmas in the neonatal intensive care. They reported that the students were better able to discern ethical values, such as advocacy, autonomy, beneficence, and nonmaleficence. Shoeb and others (2014) reported similar outcomes using global ethic scenarios in interprofessional training, scope of practice, informed consent, privacy or confidentiality, professional ethics, harm and benefit, and corruption. They included medical, pharmacy, dental, and nursing students. The scenarios involved standardized patients in a mock remote rural African site who needed a procedure outside of the trainee's scope of practice (perform a pericardiocentesis), an HIV-positive pregnant woman who feared being ostracized and harmed if she started treatment (privacy/confidentiality), a hospital pharmacist who secretly diverted medications to poor patients (corruption), and a pregnant minor who will die without a C-section (voluntary informed consent) because she was not allowed to go to the hospital because of gender norms. The debriefing involved asking a

series of standardized questions to address key ethical issues and concepts as well as ways to develop strategies when confronted with such dilemmas and discussed participants' emotional states and preparedness to deal with such dilemmas. They evaluated how well the learners were able to strategize and deal with ethical dilemmas and identify someone to turn to for guidance. They reported that the learners showed significant increase in all areas and felt the simulation was more effective than traditional educational approaches.

Global Politics

While it is unclear if Julian Assange acted alone in acquiring and distributing secure government documents and information on WikiLeaks, the internet has changed the exchange of information, potentially giving greater power to individuals. Of course, in the case of Mr. Assange, this appeared to be more malicious, self-serving, and destructive than doing good for others or seeking to equal the playing field. Unlike global aesthetics and ethics, global politics is about doing. Helping people gain access to basic resources, education, employment, housing, and healthcare has always been a global political activity, as is disseminating research findings. Information and education is now potentially universally available. Open Education and Open Education Resources (OER) are now seeking to maximize access to information and education while reducing or eliminating costs. Nursing students have long been encouraged to get involved as responsible citizens—to vote, write letters, or make visits to political offices, and even at times to demonstrate or boycott. Grassroots International is one example and mechanism for nurses to engage in global social change.

Reducing gun violence, sexual harassment (Me Too Movement), and protecting veteran health benefits are a few of the current political issues in the United States. Involvement in the provision of international aid to address global health issues and reduce inequalities in the United States today is at this time increasingly done by supporting and participating in large nongovernmental organizations (NGOs) such as the Bill and Melinda Gates Foundation and The W. K. Kellogg Foundation. Many medical and nursing schools have international partnerships in order to provide their students with global learning and research opportunities, while providing healthcare services and seeking to participate actively in global health policymaking (Gimbel, Kohler, Mitchell, & Emami, 2017).

Ben-Yehuda, Levin-Banchik, and Naveh (2015) have published various simulations in international relations teaching and research, and they provide a guide to integrating their methodology with social media. Their Facebook site is called WorldPoliticsSimulationsProject. They address skills needed to negotiate and resolve international and intergroup conflicts by using simulations such as facing fanaticism. Another webpage that includes simulations and games

to teach political science is Active Learning in Political Science (ALPS). Simulation and game-based learning could raise nursing students' awareness of the local and global political dimension of nursing and healthcare and sensitize them to ways they could practice to reduce health inequality. The goals of such education should include increasing conviviality and tolerance.

Global Health

In many places, simulation, virtual, and augmented realities are playing an increasingly important role in nursing and medical education and in healthcare practice. Surgery, for example, is now being transformed by virtual reality simulation and augmented realities in training and practice, as is the treatment of pain, phobias, trauma, and stroke. Such technology is allowing experienced practitioners in their home countries to provide training and capacity building in remote and resource-poor communities. The Georgetown University School of Nursing webpage describes the use of simulation to help students appreciate the impact of poverty on health. They use clinical experiences to explore ethical issues related to health equity. Such simulations could be conducted with simulation of not only poverty but also religious, cultural, and political issues, as in a simulation of providing nursing or healthcare in a Syrian refugee camp. Global health nursing integrates and relies on all of the above elements.

Conclusion

Sigma Theta Tau has numerous global health initiatives for nurses to connect with nurses around the world to better address global health and nursing professional issues (*The Global Advisory Panel on the Future of Nursing & Midwifery (GAPFON®) Report*, 2017). Its educational strategies recommend to:

continue to expand nursing curriculum to support the maximization of the scope of nursing practice to meet country-wide and global challenges and advocate for and promote opportunities for nurses and midwives in all countries to engage in higher education, continuing education, and specialization in ways that meet their country's and region's health priorities. (GAPFON, 2017, p. 40)

Likewise, the National League for Nurses (NLN, 2017) has also called for expanding U.S. nursing education toward greater global health engagement. Many virtual tools are easy to access and inexpensive or without any direct costs to the learners. Simulation learning can be used to address the need for nurses to become more globally involved. The five areas included in the model for global simulation, virtual, or AR in nursing education are aesthetics, intelligence, ethics, politics, and health. Specific nursing specialties such as global mental health nursing or global health of families, children, or older adults need to

be further explored. Additional simulations, of various types and levels, need to be designed and ideally be made available to the global nursing community.

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References

- Baumann, S. L., & Goldberg, D. (2018). Toward becoming a global nurse. *Nursing Science Quarterly*, 31, 175-179.
- Ben-Yehuda, H., Levin-Banchik, L., & Naveh, C. (2015). *World politics simulations in a global information age*. Ann Arbor: University of Michigan Press.
- Caine, R. N., & Caine, G. (2011). *Natural learning for a connected world: Education, technology and the human brain*. New York, NY: Teachers College Press.
- Center for International Rehabilitation Research Information and Exchange. (2018). *Culture competence*. Retrieved from <http://cirrie-sphhp.webapps.buffalo.edu/culture/simulations/>
- Cicchelli, V., & Octobre, S. (2016). *L'amateur cosmopolite Goûts et imaginaires culturels juvéniles à l'ère de la globalisation* [The cosmopolitan amateur: Juvenile cultural tastes and imaginations in the era of globalization]. Retrieved from http://www.arts-vivants-departements.fr/userfiles/files/Documentation/amateur-cosmopolite_synthese.pdf
- Gimbel, S., Kohler, P., Mitchell, P., & Emami, A. (2017). Creating academic structures to promote nursing's role in global health policy. *International Nursing Review*, 64, 117-125.
- The Global Advisory Panel on the Future of Nursing & Midwifery (GAPFON®) Report*. (2017). Indianapolis, IN: Sigma Theta Tau International. Retrieved from <http://www.nursinglibrary.org/vhl/handle/10755/621599>
- Greenawalt, J. A., O'Harra, P., & Little, E. (2017, August). Undergraduate nursing students' ability to apply ethics in simulated cases. *Clinical Simulation in Nursing*, 13(8), 359-379. <http://dx.doi.org/10.1016/j.ecns.2017.04.007>
- InsideDisaster. (2018). *Simulation: Inside the Haiti earthquake*. Retrieved from <http://insidedisaster.com/haiti/experience>
- Katz-Gerro, T. (2017). Cross-national differences in the consumption of non-national culture in Europe. *Cultural Sociology*, 11, 438-467.
- McFarland, M. R., & Wehbe-Alamah, H. B. (2015). *Leininger's culture care diversity and universality, A worldwide nursing theory* (3rd ed.). Burlington, MA: Jones & Bartlett.
- Muller, J. Z. (2018). *The tyranny of metrics*. Princeton, NJ: Princeton University Press.
- National League for Nurses. (2017, February). *A vision for expanding US nursing education for global health engagement: A living document from the National League for Nursing (NLN Vision Series, Transforming Nursing Education, Leading the Call for Reform)*. Retrieved from file:///F:/nsq/Education%20for%20Global%20Health%20.pdf
- On the use and abuse of ancient DNA [editorial]. (2018, March 29). *Nature*, 555, 559. doi:10.1038/d41586-018-03857-3. Retrieved from <https://www.nature.com/articles/d41586-018-03857-3>
- Parse, R. R. (2014). *The humanbecoming paradigm: A transformational worldview*. Pittsburgh, PA: Discovery International Publications.
- Project Implicit. (2018). *Implicit social cognition: Investigating the gap between intentions and actions*. Retrieved from <https://www.projectimplicit.net/index.html>
- Schuettel, P. (2017). *The concise Fintech compendium. Fribourg: School of Management Fribourg/Switzerland*. Retrieved from https://en.wikipedia.org/wiki/Augmented_reality
- Seller, P. (2015). *The most good you can do: How effective altruism is changing ideas about living ethically*. New Haven, CT: Yale University Press.
- Shoeb, M., Logar, T., Glass, M. H., Harrison, J. D., Brock, T. P., James-Ryan, S., ... Ve, P. V. (2014). Teaching global health ethics using simulation: Interprofessional training. *The Lancet Global Health*, 2, Suppl. S5.
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015. Seventieth session Agenda items 15 and 116*. New York, NY: Author.