Cyber Culture and Intercultural Communication Teaching, Learning and Collaboration

Lana Rings, PhD

This manuscript version
is a rendition of
the author's post review copy.
The official version of record
is available at the
Perioperative Nursing Clinics site.

KEYWORDS

- File management • Personal information management • Structure
- Organization

KEY POINTS

- Virtual simulation training in distance learning can help perioperative registered nurses further develop their skills.
- Simulation training in education provides the experiential learning needed for successful nursing practice.
- Technological issues must be explored for a cyber world that is in flux.
- Nonverbal and verbal intercultural communication should be addressed as pertinent to distance learning and professional practice.
- The legal and ethical implications of using social networks such as *Second Life* for professional purposes must be addressed as well.

Perioperative nurses must understand what is going on all times in the operating room. Circulating perioperative nurses have to be competent in nursing skills, able to foresee and prevent accidents and problems from occurring, make sure the patient is getting the best care possible (in essence be a patient advocate), and comfort patients in a place that feels foreign to them. Working in communities composed of people from diverse cultural and linguistic backgrounds, they must also have good intercultural communication skills when interacting with both fellow professionals and patients. Nursing education and continuing professional development can and should address all these issues in a world grown small. Training in all of these areas can and should also be provided in distance learning education, because of the advantages of cyberspace for connecting geographically disparate populations, and because of technology's ability to provide simulation training for nurses.

The author has nothing to disclose.

College of Liberal Arts, Department of Modern Languages, The University of Texas at Arlington,
701 Planetarium Place, Arlington, TX 76019-0557, USA

E-mail address: rings@uta.edu

Perioperative Nursing Clinics 7 (2012) 267–282

[doi:10.1016/j.cpen.2012.02.011](https://doi.org/10.1016/j.cpen.2012.02.011)

2012 Elsevier Inc. All rights reserved.

periopnursing.theclinics.com

For learners to take advantage of the benefits of learning in cyberspace, there are a number of factors affecting whether one is a “have” or “have-not” in the interconnected Web world. Whereas it is true that electronic communication is changing the way in which the health care and educational communities provide their services (witness the emergence of electronic medical records and distance learning, for example), yet not all populations have equal access. Internet connectivity is not equalized across the nation. In household use, “rural America lags behind urban areas by ten percentage points (60% vs 70%).”¹ Yet rural nurses, as well as nurses in large metropolitan areas, should be able to benefit from distance learning. There are efforts underway to provide funding to “bring high-speed Internet to the 6% of the population that has been saddled with slow or no Internet and is losing ground economically and academically as high-speed Internet have-nots.”² Indeed the goal of the Obama administration is broadband access for 10 million rural Americans.³

Comfort and experience with the technological aspects of cyberspace, together with an understanding of online culture, also affect one’s willingness to access the potential of distance education. Those who are comfortable with the technology will not have the emotional drag that they otherwise would have, and gaining experience with the technology provides a better attitude toward it.⁴ As the younger generations grow older, it is quite possible that the comfort level will shift in the populations in cyberspace.

Furthermore, from knowing abbreviations and texting shortcuts to Internet etiquette, or netiquette, of various kinds in virtual reality, there is an enculturation period. Thus, emoticons like the smiley face are icons that express specific intentions of the user, as well as emotional and nonemotional meanings.⁵ Different languages and cultures differ in their use and interpretation of the Internet.^{6,7}

As access becomes ever more possible, the potential benefits of simulation training in cyberspace can be far-reaching for otherwise geographically unreachable learner populations who need to further their professional development. Learning in virtual environments (VEs) can serve in-servicing types of functions and address annual reiterations of knowledge. Research already demonstrates the efficacy of simulation training with repetitive practice in virtual reality, because it is being used and tested in fields as distinct as medical training and the military. Surgeons, for example, are able to hone their skills in laparoscopic surgery through virtual simulation training⁸ and in the military, practicing space maneuvers in virtual three-dimensional (3D) worlds is possible as well.⁹ Furthermore, professional education is encouraging such types of learning; a number of universities are already using 3D worlds in nursing education and a few are trying it out in distance learning contexts.¹⁰

As in on-campus simulation in smart hospitals,¹¹ virtual simulation training is an excellent form of experiential learning, providing experiences very similar to face-to-face simulation.⁸ Skill development, problem-solving, intercultural communication, and collaborative team work, all benefit from virtual simulation training, and such learning, because it is experiential, can be transformative.¹²

Additionally, students who feel safer hiding behind their computer screen can possibly express themselves and be heard more comfortably, or those who are tongue-tied in the classroom can write deeper analyses of what they are learning, if called on to do so.¹³ Finally, and importantly, the impact on patients can be significant, because they can be secure in the knowledge that their health care providers have been through such thorough and repetitive real-world training.

Today’s world challenges for continuing skill development and education, however, are twofold: technological and intercultural. First, in perioperative nursing education the environment that must be simulated virtually is the operating room (OR), and therefore the following physical layouts and interactive constraints must be taken into

consideration: In the OR professionals work across a table from each other, wearing masks and communicating through subtle hand gestures, eye contact, and body language, and often with colleagues from different backgrounds. At all times they must interpret the flow of events and be able to act spontaneously in crisis situations, working seamlessly in collaboration with others. Circulating registered nurses (RNs), as patient advocates in the OR, must be attentive and vigilant, compensating because neither focused surgeon nor anesthetized patient can, for example, react to a patient's leg that has fallen off the table. RNs must also communicate with patients, sometimes using touch and eye contact while respecting culture-specific rules for linguistic and nonverbal behavior. Furthermore, they are to create bonds of connection, trust, and a sense of safety for the patient who is in the foreign world of the OR. Technology must provide the simulation environments in 3D virtual worlds in which such interactions can be practiced.

Second, sophisticated understanding of intercultural communication is also needed, in both distance and face-to-face learning as well as in the workplace itself, because students, educators, medical professionals, and patients come from a variety of backgrounds, cultures, and languages. From large population centers to small rural communities, hospital personnel represent a diversity of cultures. Even in a small rural hospital a patient may have an African American RN, an Anglo-American surgical technologist, a primary physician from India, and an anesthesiologist from Southeast Asia. Student, educator, and patient populations are just as diverse. In the Dallas, Texas, Independent School District, for example, 60 languages are spoken in households within the district,¹⁴ and in Oregon, 11.7% of the population is now Hispanic.¹⁵ Immigrants continue to come, now "primarily from Asia and Latin America, a trend expected to intensify in the 21st century."¹⁶ Thus, one can encounter Euro-American, Mexican American, and Asian American cashiers and baggers in small-town America.

The following two examples from simulation training in a distance-learning course illustrate the convergence of the technological and the cultural challenges in cyberspace, where educator and student experience with the tools is often still relatively new. It should first be noted that a 3D virtual world is akin to a video game, with scenes and settings projected to represent reality. Animated figures called avatars, "computer-generated visual images" or "synthetic characters. . .for computer users,"^{17,18} are operated by a human controller. However, unlike video game contexts, virtual worlds are used to "create simulated experiences" for nongaming purposes.¹⁹

An educator must train students to use the technology specific to the virtual environment he or she is using. In the VE *Second Life*, students must learn, for example, how to obtain virtual professional clothing for their avatars. One educator did not realize that when she made a certain move for her avatar to change clothes, her avatar became undressed in front of the other avatars, in other words, her students. Although she was in reality physically clothed, she nevertheless experienced a feeling of embarrassment. If avatars are an extension of the self, as some say they are, and since nudity is unacceptable for both educator and nurse, it is no wonder that she felt naked emotionally. In another instance, she could not get her cursor to work properly, and her avatar kept bumping into another avatar on the screen (J.D. Baker, Arlington, TX, personal communication, January 27, 2012).

In addressing technological problems while using an avatar, one must decide the proper behavioral response. In the scenario described previously, apologizing would be appropriate in the US culture in physical reality, but the repetition of the act becomes a response to a technological problem that participants come to recognize. When then does one stop saying "excuse me" or "I'm sorry" and address the

bumping as an aspect of user interface problems? Furthermore, cultural interpretations come into play as well. If, for example, one is a member of a culture where one does not necessarily apologize for bumping into another unless one inconveniences the other in a major way, the false interpretation of different cultural rules can lead to misunderstanding and negative feelings among the participants. Thus, the interactive issues that may arise within the virtual space can compound the complexity of the situation.

Ultimately, intercultural communication skills are critically important to nursing professionals when interacting with patients and fellow health care professionals. In distance learning through simulation, however, multiple layers of interaction allow for intercultural communication problems to occur, as well as provide an opportunity to address them and to gain additional needed skills in our multicultural world.

Whereas it has now been well-understood for a number of years that that competence in cross-cultural interactions is critical to successfully extending health care to all,²⁰ this article expands on that discussion by exploring the importance of intercultural communication skills in general, and of simulation learning in cyberspace in particular. It also takes up the discussion of the use of 3D virtual worlds in perioperative nursing distance learning. The next section addresses critical issues in intercultural communication in some depth. A discussion of the technological benefits and challenges of simulated distance learning in 3D virtual worlds follows.

INTERCULTURAL COMMUNICATION SKILLS AT THE CONCEPTUAL, WORD, PHRASE, AND TEXTUAL LEVELS

To be able to successfully communicate with people who are different, in rank, background, experience, ethnicity, culture, and/or language, a specific form of cultural sensitivity and intercultural communication skill is needed. Successful relationships must be based on mutual trust, respect, and understanding, and on giving the other the benefit of the doubt. Intercultural communication education can go a long way to help professionals develop genuine tolerance, so that they can more readily attain their goals to help patients. A working definition of culture provides the basis on which to explore intercultural nonverbal and verbal behavior. Culture is composed of "the values, symbols, interpretations, and perspectives that distinguish one people from another. . . . People in a culture usually interpret the meanings of symbols, artifacts, and behaviors in the same or in similar ways."²¹

People from different cultures, however, often tend to interpret the symbols, artifacts, and behaviors, both nonverbal and verbal, differently from one another and in culturally specific ways. Broad concepts and behaviors that are culturally determined include the use of time and space, the concept of individualism and community, equality, the avoidance of uncertainty, indulgence, short-term orientation, and the "gendering" of human males and females (the expectations regarding talk, dress, behavior, and interaction).²²

Whereas differences exist between individuals within a culture, nevertheless cultural groups tend to share many of the same interpretations, and speakers tend to interpret language in quite culture-specific ways. Unfortunately, when cultures collide, misunderstanding occurs, and the differences are not perceived as such, but rather as indications of spiteful intentions, rudeness, an uncooperative attitude, or severe character flaws on the part of the other. Both nonverbal and verbal communication behaviors play a role in the way human beings shape their culture-specific conceptions of reality.

Nonverbal Behavior

Scholarship in health care recognizes the importance of cross-cultural differences in nonverbal behavior.^{23,24} Whether face-to-face or in cyberspace, awareness is the first step in appropriate response and understanding cross-cultural interaction. Campinha-Bacote²⁵ proposes a model of competent health care delivery based on the following assumptions about cultural competence:

1. Cultural competence is a process, not an event.
2. Cultural competence consists of five constructs: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire [described as the desire to understand another group].
3. There is more variation within ethnic groups than across ethnic groups (intra-ethnic variation).
4. There is a direct relationship between the level of competence of health care providers and their ability to provide culturally responsive health care services.
5. Cultural competence is an essential component in rendering effective and culturally responsive services to culturally and ethnically diverse clients.²⁵

Cross-cultural competence is also important in simulation scenarios, because avatars interact and react nonverbally in many of the same ways that the humans controlling them do. Whether in cyberspace or physical space, people tend to use their culture-specific ways of behaving and moving,²⁶ and avatars are coming to be perceived as extensions of the human beings who control them. Real-time human-to-avatar motion capture is being developed so that anything the human does, his or her avatar is able to do.²⁷ Indeed, there are those who maintain one should be held legally accountable for one's avatar's behavior and any emotional or financial damage that it may cause.²⁶

Much communication is nonverbal and is therefore an important aspect of human interaction, even in cyberspace. Several aspects of nonverbal behavior that are important for 3D worlds are summarized in the following discussion: the use of space (proxemics), eye movement (oculesics), specifically eye contact, touch (haptics), movement (kinesics), and laughter.

Proxemics addresses the "perception and use of space."²⁸ When meeting face-to-face, for example, those from cultures where one is expected to stand within about 12 inches of another's face will be constantly attempting to move toward someone who normally stands 2 feet or more away from one's conversation partner.²⁹ Both will be irritated, and both will misinterpret the behavior: as insult or brashness. Furthermore, in some cultures one stands closer in line (middle-class German), when compared with other cultures (middle-class US American).³⁰ When the unaware Germans cut in, according to the American, they are called rude. Yet, they do not see that the American is standing in line (P. Nest, personal communication, April 26, 1993). Similarly, research shows that avatars are placed next to others' avatars in similar ways that humans place themselves in physical reality. If two avatars isolate themselves, that behavior is interpreted as it would be in face-to-face situations.²⁶ It follows that cross-cultural space issues can surface even between avatars.

Eye movement (oculesics) is also interpreted differently depending on one's cultural background. In the United States one values looking another in the eye, because it expresses one's trustworthiness and forthrightness.³¹ In the Korean culture, on the other hand, if one is a subordinate, he or she is expected to divert his or her gaze unless answering a superior's questions.³² Avatar gaze, too, affects the interaction. Avatars whose gaze seems focused in natural ways, as opposed to those

with random gaze, are interpreted as more effective.³³ Because gaze is possible with avatars, it will be interpreted in culture-specific ways as well.

Furthermore, knowledge of whom one may touch and how often is also culture specific. In some cultures people touch frequently, whereas in others, they do not. Touch is dependent on roles. A higher ranked person may often touch a lower ranked person, whereas the opposite is not the case.³⁴ Again, an avatar bumping into another avatar will be interpreted as if the human controller were bumping into the other human.²⁶

Finally, the meaning of laughter also varies. In the Japanese culture, laughter provides other interactional signals besides joy: identification with one's in-group, easing tension, evasion and the avoidance of saying something uncomfortable, masking embarrassment, or bewilderment.³⁵ Hearing laughter in cyberspace will be interpreted according to one's culturally based expectations of the appropriateness of laughter in the situation.

If educators and students, nurses, practitioners, or patients are unaware of the potential for miscommunication, some will be offended and will work more reluctantly with, or with less trust of, the other.¹⁶ Indeed, how a nurse touches a patient, for example, will be interpreted by that patient as positive or negative, reassuring or invasive. This tendency is equally true in cyberspace. In the future, it will be even more so, as real-time human-to-avatar motion capture becomes common in more environments.²⁷

Language and Meaning

If the nonverbal world is complex, so too is the world of language, perhaps more so. It is not much of an exaggeration to say that any word that comes out of our mouths is culturally bound, has culture-specific meanings, and is therefore ripe for misinterpretation when people from different backgrounds interact. In fact, Wierzbicka³⁶ maintains that there are but a few words, perhaps³⁶, that are completely and totally universal in their meaning. The acquisition of a native language thus implies the acquisition of the native, culture-specific meanings humans accumulate, over years of hearing and using words in specific context. They are heard and used within the family, neighborhood, school, church, workplace, social groups, and other parts of the community, to describe particular objects, events, situations, abstractions, or feelings, or to accomplish specific goals (impressing, persuading, informing, showing friendliness, and so forth). Beginning at the word level and proceeding to ever longer linguistic utterances, the discussion that follows highlights how fragile communicating across cultures can be. Students and educators from different cultures will have to be aware of the possibilities for mistaken understanding, especially when they cannot see each other and when their avatars are playing different roles for them.

Words such as *house*, *hospital*, and *anger* hide meanings that people from differing backgrounds assume when using those words. Take, for example, the word *house*. The more different the cultures and backgrounds of the partners in a conversation, the more different the image one conjures up when hearing the word *house*. However, it is not just the size or the structural design, the materials of which it is made, and house color that reside in that meaning. It is also the space around it, the neighborhood one expects, as well as which people may inhabit it (nuclear family, multigenerational family, family and nonfamily members). In addition, what goes on inside of it is also embedded in the concept of *house*: lots of gatherings or few gatherings, meals together or separate, studying at the kitchen table or in a bedroom or study. But it does not stop there. The meanings change depending on the context. Consider the difference between *the houses in my hometown* and *the newer houses*

on the block in the new subdivision. One must know what a hometown or a subdivision entails, and in what era they exist(ed). Finally, the emotions play a role in one's definition: whether one looks on particular kinds of houses favorably or not depends on what kinds of emotional experiences one has surrounding them. A particular house resembling the one in which the family dynamics were painful may bring back distressing memories.

Words denoting emotions are also culture-specific. Whereas all human beings have emotions, nevertheless words describing emotions can be culture-specific. Wierzbicka³⁶ maintains that the word *anger* is not universal in all its nuances, although many think that it is. She says:

The way people interpret their own emotions depends, to some extent at least, on the lexical [vocabulary] grid provided by their native language. Two different creatures (eg, a large nocturnal moth attracted by lights and a clothes moth) may be classified as "the same kind of creature" (in English) and as "two different kinds of creature" in Polish. . . . The same applies to emotions: whether or not two feelings are interpreted as two different instances of, essentially, "the same emotion" or as instances of "two different emotions" depends largely on the languages through the prism of which these emotions are interpreted.³⁶

Words also express culture-specific values. For example, a key Anglo value is being reasonable, and its attitudes are expressed in *it is reasonable to*, *reasonable doubt*, *reasonable care*, *a reasonable time*, and *reasonably good*:

A few hundred yards from my home there is a preschool, with a sign warning that "any person who trespasses on these premises without a reasonable excuse may be prosecuted." Every time I pass this school, I am struck by how Anglo and how untranslatable its phrasing is, with its reliance on the key Anglo concept "reasonable" – untranslatable into my native Polish, into French, German, and, I believe, any other language of the world.³⁷

Single words also can represent important cultural institutions, as well as vast areas of knowledge and experience shared by the members of one culture. The terms *health care*, *disease*, *nudity*, *touch*, *religion*, and *government* and their interrelationships represent a multitude of experiences and meanings. Analogous to the situation with *house*, one's understanding and interpretation of the words *disease* and *health care* vary depending on one's experiences, and the greater the differences in cultural definitions of disease and their treatment, the greater the misunderstandings that can occur when people from different cultural backgrounds discuss them.³⁸

"Disease" is an elusive entity. It is not simply a less than optimum physiological state. The reality is obviously a good deal more complex; disease is at once a biological event, a generation-specific repertoire of verbal constructs reflecting medicine's intellectual and institutional history, an occasion of and potential legitimation for public policy, an aspect of social role and individual – interpsychic – identity, a sanction for cultural values, and a structuring element in doctor and patient interactions. In some ways disease does not exist until we have agreed that it does, by perceiving, naming, and responding to it.³⁸

Thus, the definition of disease, its causes, what should be done about it and when, where, how, and by whom, as well as other cultural concepts like religious beliefs and political policy that may affect it, all come to bear on the understanding of the word.

Locution, Illocution, and Perlocution

Single words are only the tip of the intercultural communication iceberg, however, and situations and context begin to determine more culture-specific meanings of words and their uses. As is the case with nonverbal communication, people can completely misunderstand each other without knowing they are doing so. Speech act theory³⁹ explains this possibility well. According to a simplified, but usable, definition of this theory, there are three levels of understanding that occur when one person speaks to another. The first, called the locution, is an understanding of the words, as in, "Hi, how are you?" Native and nonnative speakers of a language usually understand all four words, for each is a high-frequency word. The second level is the speaker's interpretation of the words, or the illocution. Here the context of situation comes into play. The native speaker of American English may be a cashier in a grocery store in certain parts of the United States. For her, "Hi, how are you?" is a polite greeting and conversational opener for the service encounter that she is beginning with the next customer in line. In this situation, she does not think of its other possible meaning, in other words, an expression of concern about the physical, mental, or emotional well-being of another.

The third level of understanding, called the perlocution, is the listener's interpretation of the message, again within the context of the situation. A young male, a native speaker of German, having just arrived in the United States to be an au pair, or nanny, for an American-German couple, has been asked to go to the grocery store and pick up some items. In the German culture, "Hi, how are you?" is not used in service encounters with strangers, but rather with people one knows and with whom one has some sort of relationship. At a German supermarket, "Hello," "Good morning," or "Good day" is used as a greeting. Thus, the young man misinterprets the young woman cashier's greeting as interest in him. ("Why else would she say that?" he thinks. Since they are both young, maybe she is interested in him.) It does not cross his mind that "Hi, how are you?" might serve as no more than a friendly greeting and service encounter opening. He answers with the following: "Well, I have had this root canal problem. . . ." He stops at that point, because he sees the look of consternation on her face. He is confused. In this actual event, her reaction was one of perplexity and his was disappointment that "Americans don't really say what they mean."⁴⁰

In the reverse situation, an American in Germany might think "good day" seems more stilted than what he or she considers a normal greeting. In fact, many commonly used phrases, such as good-byes, requests, invitations, apologies, warnings, and compliments are all examples of speech acts that may differ in meaning, connotation, and use from one language and culture to another, or even within subcultures.

Conversations

However, misunderstanding does not stop there. Conversational structure, including how one structures arguments, provides problems as well. In particular situations in Chinese or other Asian cultures, for example, the main point, comment, or action suggested in a conversation occurs after the background information or reasons for them are stated, whereas the opposite is true for most Western speakers of English, who expect the main point first, then the reasons afterwards. Thus, a Chinese person will say:

Because most of our production is done in China now, and uh, it's not really certain how the government will react in the run-up to 1997, and since I think a certain amount of caution in committing to TV advertisement is necessary because of

the expense. So, I suggest that we delay making our decision until after Legco makes its decision.⁴¹

But someone with a more western orientation might say:

I suggest that we delay making our decision until after Legco makes its decision.

That's because I think a certain amount of caution in committing to TV advertisement is necessary because of the expense. In addition to that, most of our production is done in China now, and it's not really certain how the government will react in the run-up to 1997.⁴¹

(The first example is from an actual conversation. The second was created by the authors. It is for this reason that one sees the "uh's" and nonsentential syntax in the Chinese utterances, but not in the Western rendition of the ideas. They are not due to the Chinese speaker's lack of linguistic skill.)

These two examples demonstrate why there might be some confusion when representatives from the two different traditions attempt to work together. Thus "arise the unfair and prejudicial stereotypes of the 'inscrutable' Asian or of the frank and rude westerner."⁴¹ Again, there is misunderstanding, because of the differences in the illocution (speaker's interpretations) and the perlocution (listener's interpretations), and neither interlocutor is aware of it.

Even within the Western tradition, differences exist between cultures. Germans and Swiss speakers will tend toward similar strategies in conversations, whereas US American and British speakers will tend toward others. In many German environments, it is important to address deep issues about politics and controversial issues to get to know someone or to interact with guests in one's home. In addition, heated debates are considered fun and enjoyable. Conversely, in many similar US American environments it is important to address commonalities when getting to know others or staying in their home. One does not normally begin by arguing in these situations or debating about politics. The resulting interpretations of the conversations are that the Germans are rude, according to many Americans, whereas the German speakers think the Americans are superficial.⁴² Similar discourse strategies ring true in Swiss-British conversations as well.⁴³

Within conversations themselves, rules exist as to when and how conversation partners can overlap (negatively viewed as interruption) and how people can hold the floor and continue talking. French and New York speakers tend to overlap more in conversations than other middle-class US American speakers. Thus, they are found to be rude in cases when, according to their cultural definitions, they actually are contributing interest, help, and good manners to the conversation. They, in turn, tend to find those who wait for an opening rather dull or unhelpful in carrying the conversation along.^{44,45}

Such ways of talking vary within a culture and, of course, across cultures. Certain groups within a culture may be allowed to speak less often, in specific situations, than they would in other cultures. Similarly, those cultures with more overlap, too, will tend to dominate the conversation when engaged with those with less overlap, with the resulting negative reactions.

All of these linguistic behaviors point to the fact that human beings have a kind of script in our heads regarding how nonverbal and verbal interactions should occur.⁴⁶ They demonstrate that if participants deviate from what is expected in the script, then it causes the listeners or readers to think about their interpretations of those deviations. When those deviations come from people from different backgrounds,

one does not tend to attribute their behavior to their culture-specific upbringing or to their cultural norms, but rather to their (“terrible”) personalities.

Therefore, whole texts, whether conversations, as those discussed previously, or long texts like books, can be interpreted very differently across cultures. Salman Rusdie’s *Satanic Verses*, for example, is a case in point. Many members of the Muslim world thought it was too irreverent, whereas other people took no offence.⁴⁷

Power and Rank

Finally, power and rank issues can exist within hospitals, and the urgency of the OR provides possibilities for the increase in tensions in interaction.^{48,49} In settings where nurses and doctors are from different backgrounds, languages, cultures, and countries, this problem can be exacerbated. The perceived formality between nurses and doctors and the status of nurses and doctors within the community socializes them to specific language behaviors and uses. Beliefs about the ways nurses, physicians, and technologists should interact with each other and with patients come into play in cross-cultural settings. The need for better understanding is evident for a just culture in which an understanding of all the above exists and in which the benefit of the doubt, mutual respect, and trust are nurtured.

Cyberspace is similarly complex. Avatars change roles in a simulation environment (from students and educator to various nursing personnel and physicians). Indeed, in the cyber world there are three layers of social interaction and potentially of status issues. The first comprises the computer users themselves and their relationship to each other. Second, the avatars’ relationships with each other are based on those of their controllers (although technological skill will often give one a more dominant role).⁵⁰ Third, in addition to representing their controllers (students and educators), the avatars represent the roles that they play (as health care professionals). As extensions of the learners and educators, they will speak in ways that are culturally appropriate to their human controllers, given the specific situation at hand. Thus, their ways of talking in cyberspace will be constrained by their role relationships and by their cultural influences.

Given all these possibilities for misunderstanding, the most grave issue involved in cross-cultural misunderstanding and miscommunication is the fact that very often people do not know that they are misunderstanding or being misunderstood. In most of the instances provided here, the intentions of the speakers and listeners were falsely interpreted by the others without their knowing it. They were basing their interpretation of the other’s behavior on their own cultural rules, and they thought that they were communicating clearly. Every patient encounter by the perioperative RN has the same potential communication issues.

CYBERSPACE FOR PERIOPERATIVE EDUCATION: OPPORTUNITIES AND CHALLENGES

Intercultural issues are one aspect of distance learning in simulation scenarios in cyberspace, with implications for the OR. Simulation technology also presents opportunities and challenges that frame the way in which teaching and learning occur in collaborative spaces.

As stated earlier, nursing skills can be learned and honed through repetitive practice in simulation exercises in virtual environments. This potential is true not only for commonly occurring situations in the OR, but also for the simulation of low frequency and high-risk events. Although the perioperative RN may or may not encounter these events within the lifetime of a career, repetitive practice with such scenarios fosters critical skills that will be needed: the ability to successfully respond to a health care problem seen for the first time by interpreting it appropriately and

determining the kinds of precautions that are needed. It also provides repetitive opportunities to work, interact, and communicate with others toward flawless team performance. Sample scenarios include low frequency pediatric scenarios, disaster planning and implementation, and hyperthermia events. In the latter case, in which an infrequently occurring but life-threatening problem is encountered, RN students must decide what to do as the patient's temperature radically drops. Finally, for testing purposes, similar scenarios can then be presented as problems to be solved. From a practical point of view, a wise allocation of time and concentration is needed to address the skills renewal, new skills development, and high-risk, infrequent event simulation that professionals need.

Skilled information technology (IT) specialists are needed to help create, in collaboration with faculty (through academic or staff development), scenarios that meet these needs. These personnel are critical in developing such mundane items as clothing for avatars (scrubs, uniforms, patient gowns, and so forth), as well as special aspects of the operating room. Potentially, they will be responsible for developing programmed recognition of such physical phenomena as the sensations of water while washing hands or a patient's pain response. For example, if a nurse reaches up to start an intravenous procedure without proper protocol and is accidentally pulling on a patient's arm, thus causing pain, then the patient might cry out in pain. These types of illustrations must be created in the environment for the simulation to work and seem like the real situation.

Such design costs money, in terms of purchasing design time and expertise and reducing faculty workloads in one area to compensate for the other. Furthermore, a virtual environment like *Second Life*, which is a proprietary product, charges if one wishes to build up assets within it. Whereas the *Second Life* software that one has to download is free, nevertheless one must purchase space to create within the environment.

There are additional challenges as well. Universities and health care facilities must be willing to support such activities. They are more likely to support endeavors that reach a critical mass of students and fulfill a critical societal need. However, if there is risk of losing significantly, for example if for some reason the technology proves too expensive and the venture fails or if it is not cost-effective, then universities or health care facilities will be cautious about their support. Furthermore, if the virtual environment being used is superseded by a new format, causing IT design to shift away from the current one, the question will be whether and how one can convert it and how expensive it is to do so. One need only recall how VHS (Video Home System) replaced the allegedly superior Betamax format in the 1980s.

Third, there are issues related to intellectual property, especially defining public versus private (student and educator) rights to the work done in virtual environments. Other questions include: How does one protect student/patient privacy while disseminating information to the public that is critical to its needs? If one has built a virtual environment like an operating room in *Second Life*, does one have the right to place it in a different VE platform? What rights does the vendor have? In addition, how much protection of one's content is there in this cyberspace environment?^{51,52}

Finally, *Second Life* is a social networking site. As in all social networking, one must navigate the personal, social, professional, and legal ramifications of behavior in this space, even by one's avatar. Unfortunately, the line of demarcation is not clear and raises a number of concerns: How does one keep one's professional and personal life separate? What should be done if students do not wish to use their private avatar personas for their student or professional avatars? Should the professional avatar persona look different from the way it does in social use? Furthermore, how much

professional distance does the site allow, and how can/should one establish parameters? Should a nursing educator friend a student in *Facebook* and vice versa? Should a nurse friend a patient in *Facebook*? What are the legal, ethical, and moral ramifications of such behavior? What is the responsible thing to do? Which tools are appropriate for which sites? Social networking platforms tend to blur cyber relationships.

As students become more professional, they tend to use social networks like *Facebook* less; however, unprofessional use in the early stages of medical education has been documented.^{53,54} Therefore, educating students about “e-professionalism” is warranted, to include “how online personas may blend into professional life; and . . . the risks of online social networking.”⁵⁵

AWARENESS AND BEHAVIOR: ADDRESSING CROSS-CULTURAL COMMUNICATION SUCCESSFULLY

The questions discussed here raise a number of issues, bringing us full circle to the ways in which human beings interact within and across cultures to get our needs met, to live life the way we wish to, to further our careers, and to help those in need and those about whom we care. In cyberspace, as well as “on the ground,” in addition to pure knowledge and nursing skills practice, intercultural communication training is, can, and should be an integral and necessary aspect of nursing education. Thus, a few words are appropriate concerning awareness and techniques to use in addressing intercultural communication, and communication in general.

Even if speaking the same language, it is important to remember that knowing the same words does not necessarily translate into having the same meanings for those words. Remembering that language is culturally loaded will help a person to slow down and take stock of a situation. If the emotions of frustration or anger surface, it is critical to remember that those emotions may be due to misunderstanding the other’s verbal or nonverbal behavior and intentions.

In addition to increasing awareness, one can make behavioral changes as well. If time allows, doing background research on the groups with whom one regularly interacts can help one better understand their goals and needs. If one serves a group of people who speak a different language, learning a few phrases in that language will help them feel more comfortable. Careful observation of others’ behavior and not assuming one knows the intentions behind it are also key. Although in some cultures beliefs and conventions may not always allow for complete forthrightness, learning active listening techniques can help one understand others better and can break down negative emotional barriers. In this way, one can create relationships and build trust, especially possible in longer term student-educator and professional-professional relationships, and in RN-patient relationships. Adapted from the scholarship of Carl Rogers,⁵⁶ such active listening techniques include the following:

1. In order to signify understanding and encourage further talk, one can acknowledge comprehension by providing back-channel behavior (“m-hm,” “I see,” nodding one’s head as appropriate) and by repeating what the other says.
2. To seek clarification, interpret, check understanding, and test perceptions, one can do several speech acts: ask what the other means (“What does X mean?”), ask if the other can say more about the situation (“Can you tell me more about it?”), and request an example or experience (“Can you tell me about something that happened to make you think that?” or “Can you give me an example?”).

3. To confirm understanding, one should clarify the interpretations of the other by again paraphrasing ("When you say X, you also mean Y, don't you?") and summarizing ("Let me see if I've understood you correctly. You said that . . .").⁵⁷

When training with avatar patients or in actual RN-patient relationships the following policies also apply:

1. Be aware that cultural differences may exist, even if the patients are proficient in English.
2. Do not interrupt your patients as they try to explain their symptoms. Give them time to think and find the right words.
3. Ask open-ended questions. Patients may not provide all of the necessary information when asked yes or no questions.
4. After taking symptoms, ask the patients what they think caused the disease. This can give you insight into how best to explain the diagnosis.
5. To ensure patient comprehension, ask the patients to restate the treatment regimen. Do not depend solely on the pharmacist to provide information about medications.⁵⁸

Seeking further understanding can be accomplished if one actually comes to know people better. In getting to know those who are from different backgrounds, one can develop trust and build relationships. If one's patient population is generally from a specific group, having relationships with similar people can open doors to learning more and to asking questions like the following: If you were preparing for an operation, what would bring comfort to you in the OR? Would touching you on the arm or on the forehead be a gesture of comfort? Would eye contact be valued or not? Would a soft tone of voice be soothing, even if a patient does not understand the words? In what other ways might a patient feel comforted, if I do not speak his or her language, and there is no interpreter present? Ultimately, however, patients value nurses' skills in caring for them.⁵⁹ Therefore, doing everything one can in one's professional role, given the constraints of the OR, will also be of comfort to many patients.

SUMMARY

To help humankind is perioperative nursing's *raison d'être*, and that help takes place on a number of levels: the physical, the emotional, the spiritual, and the interactive. With patients and health care professionals from very different backgrounds, it is in the interactive sphere where one can have a positive impact on the way in which the patient is able to accept care. Understanding and working with other people does not happen overnight. Once one learns that another's behavior is not due to a personality flaw, but rather to cross-cultural differences, one will find it easier to come to terms with the behavior, whether one agrees with it or not. The ideal is for both parties to understand these differences. As intercultural communication is better understood and practiced, the health of the patient is better served.

In a parallel fashion, access to further education and development, lifelong learning, is also critical in an ever-changing world. The cyber world does not replace the face-to-face world; it, however, adds quality. The cyber world affords the opportunity for more ways professionals engage in teaching and learning, for collaboration and dissemination of vital information, in order to effect better care and a better working environment. As technology becomes more accessible, usable, and cost-effective, there will be even more access, even more "haves."

So the haves online or off are those perioperative nursing professionals who are skilled in many ways, who seek continuing development, and are always cognizant of

the key questions and answers that inform their lives: “Why are we here?” “Why did we get into this profession?” “What is our goal for our patients in the short- and long-term?” The answer is to help patients have physical, mental, emotional, and spiritual health and to work in an environment where people believe the right thing is happening. Successful cross-cultural communication is the glue that makes communication happen. Such a skill set should not stay in the OR, for successfully interacting with other human beings is a skill set for life beyond the world of the hospital, and for communication in a venue as close as one’s private sphere, the home. We are all different from one another, to a degree, even those we love most dearly.

REFERENCES

1. US Department of Commerce: National Telecommunications and Information Administration. Digital nation: expanding Internet usage. February, 2011. Available at: <http://www.ntia.doc.gov/report/2011/digital-nation-expanding-internet-usage-ntia-research-preview>. Accessed January 17, 2012.
2. Martin S. FCC approves rural broadband push. USA Today. October 27, 2011. Available at: <http://www.usatoday.com/tech/news/story/2011-10-27/fcc-rural-broadband-fund/50960016/1>. Accessed January 17, 2012.
3. UPI.com. US funds broadband in rural areas. August 23, 2011. Available at: http://www.upi.com/Science_News/2011/08/23/US-funds-broadband-in-rural-areas/UPI-46221314137553/. Accessed January 17, 2012.
4. Venkatesh V. Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology. *Information Systems Research* 2000; 11(4):342-65.
5. Dresner E, Herring SC. Functions of the nonverbal in CMC: emoticons and illocutionary force. *Communication Theory* 2010;20:249-68.
6. Ess C, Sudweeks F. Culture and computer-mediated communication: toward new understandings. *Journal of Computer-Mediated Communication* 2006;11:179-91.
7. Cho B, Kwon U, Gentry JW, et al. Cultural values reflected in theme and execution: a comparative study of U.S. and Korean television commercials. *Journal of Advertising* 1999;28(4):59-73.
8. Seymour NE, Bansal VK. Virtual reality training improves operating room performance: results of a randomized, double-blinded study. *Ann Surg* 2002;236(4):458-64.
9. Witmer BG, Bailey JH, Knerr BW. Virtual spaces and real world places: transfer of route knowledge. *International Journal of Human-Computer Studies* 1996;45:413-28.
10. Skiba DF. Nursing education 2.0: a second look at Second Life. *Nurs Educ Perspect* 2009;30(2):129-31.
11. Smart HospitalTM. The University of Texas at Arlington. Available at: <http://www.uta.edu/nursing/smarthospital>. Accessed February 10, 2012.
12. Kolb DA. *Experiential learning: experience as the source of learning and development*. Englewood Cliffs (NJ): Prentice Hall; 1984.
13. Scollon R, Scollon SW. *Nexus analysis: discourse and the emerging Internet*. London: Routledge; 2004.
14. Fischer K. The Dallas ISD melting pot. *Dallas Morning News*. April 22, 2008. Available at: <http://dallasisdblog.dallasnews.com/archives/2008/04/the-dallas-isd-melting-pot.html>. Accessed February 1, 2012.
15. US Census Bureau. State and county quickfacts. Available at: <http://quickfacts.census.gov/qfd/states/41/4159000.html>. Accessed January 31, 2012.
16. Donnelly PL. Ethics and cross-cultural nursing. *J Transcult Nurs* 2000;11(2):119-26.

17. Nowak KL, Rauh C. The influence of the avatar on online perceptions of anthropomorphism, androgyny, credibility, homophily, and attraction. *Journal of Computer-Mediated Communication* 2005;11(1);8. Available at: <http://jcmc.indiana.edu/vol11/issue1/nowak.html>. Accessed February 13, 2012.
18. Colburn RA, Cohen MF, Drucker SM. The role of eye gaze in avatar mediated conversational interfaces [technical report MSR-TR-2000-81]. Redmond (WA): Microsoft Corporation; 2000.
19. Skiba DJ. Nursing education 2.0: second life. *Nurs Educ Perspect* 2007;28(3). Available at: <http://www.freepatentsonline.com/article/Nursing-Education-Perspectives/164947756.html>. Accessed January 25, 2012.
20. Campinha-Bacote J. The challenge of cultural diversity for nurse educators. *J Contin Educ Nurs* 1996;27(2):59-64.
21. Banks JA, Banks, CA, editors. *Multicultural education: issues and perspectives*. 7th edition. Hoboken (NJ): Wiley & Sons; 2010.
22. Hofstede G, Hofstede GJ, Minkov M. *Cultures and organizations: software of the mind*. 3rd edition. New York: McGraw-Hill; 2010.
23. Napholz L. A comparison of self-reported cultural competency skills among two groups of nursing students: implications for nursing education. *J Nurs* 1999;38(2): 81-3.
24. Betancourt, JR. Cross-cultural medical education: conceptual approaches and frameworks for evaluation. *Acad Med* 2003;78(6):560-9.
25. Campinha-Bacote J. Cultural competence in the delivery of healthcare services: a model of care. *J Transcult Nurs* 2002;13(3):181-4.
26. Gibbons LJ. Law and the emotive avatar. *Vanderbilt Journal of Entertainment and Technology Law* 2009;11(4):899-920.
27. Meta-Motion. Motion capture recording vs. realtime. Available at: <http://www.metamotion.com/motion-capture/motion-capture-recording-vs-real-time.htm>. Accessed February 1, 2012.
28. Hall ET. Proxemics. *Current Anthropology* 1968;9:83-108.
29. Hall ET. *The hidden dimension*. Garden City (NY): Doubleday; 1966.
30. Rings L. Cultural meaning in German verbal and nonverbal behavior and the teaching of German: a progress report. *Unterrichtspraxis* 1992;25(1):15-21.
31. Earley PC. Intercultural training for managers: a comparison of documentary and interpersonal methods. *The Academy of Management Journal* 1987;30(4):685-98.
32. Sadri HA, Flammia M. *Intercultural communication: a new approach to international relations and global challenges*. London: The Continuum International Publishing Group; 2011.
33. Garau M, Slater M, Bee S, et al. The impact of eye gaze on communication using humanoid avatars. *SIGCHI'01* 2001;3(1):309-16.
34. Henley NM. Status and sex: some touching observations. *Bulletin of the Psychonomic Society* 1973;2:91-3.
35. Hayakawa H. *Laughter in Japanese communication* [PhD dissertation]. University of Sydney (Australia); 2003.
36. Wierzbicka A. *Semantics, culture, and cognition: universal human concepts in culture-specific configurations*. New York: Oxford UP; 1992.
37. Wierzbicka A. *English: meaning and culture*. New York: Oxford UP; 2006.
38. Rosenberg CE, Golden J. *Framing disease: studies in cultural history*. Newark (NJ): Rutgers UP; 1992.
39. Austin JL. *How to do things with words: the William James lectures*. Oxford (England): Clarendon; 1962.

40. Rings L. [Beyond grammar and vocabulary: German and American differences in routine formulae and small talk]. *Unterrichtspraxis* 1994;27(2):23-8.
41. Scollon R, Scollon SW. *Intercultural communication: a discourse approach*. Cambridge (MA): Blackwell; 2001.
42. Byrnes H. Interactional style in German and American conversations. *Text* 1986;6(2): 189-206.
43. Watts RJ. Relevance and relational work: linguistic politeness as politic behavior. *Multilingua* 1989;8:131-66.
44. Wieland M. Turn-taking structure as a source of misunderstanding in French-American cross-cultural conversation. *Pragmatics and Language Learning Monograph Series* 1991;2:101-18.
45. Tannen D. When is an overlap not an interruption? One component of conversational style. In: Di Pietro RJ, Frawley W, Wedel A, editors. *The first Delaware symposium on language studies*. East Brunswick (NJ): Associated University Presses; 1983. p. 119-29.
46. Schank R, Abelson R. *Scripts, plans, goals, and understanding: an inquiry into human knowledge structure*. Hillsdale (NJ): Lawrence Erlbaum; 1977.
47. Marzorati G. Salman Rushdie: fiction's embattled infidel. *The New York Times*. January 29, 1989. Available at: <http://www.nytimes.com/1989/01/29/magazine/salman-rushdie-fiction-s-embattled-infidel.html>. Accessed January 18, 2012.
48. Hojat M, Nasca TJ, Cohen, MJ, et al. Attitudes toward physician-nurse collaboration: a cross-cultural study of male and female physicians and nurses in the United States and Mexico. *Nurs Res* 2001;50(2):123-8.
49. Lingard L, Reznick R, Espin S, et al. Team communications in the operating room: talk patterns, sites of tension, and implications for novices. *Acad Med* 2002;77:232-7.
50. Schroeder R. Social interaction in virtual environments: key issues, common themes, and a framework for research. In: Schroeder R, editor. *The social life of avatars: presence and interaction in shared virtual environments*. London: Springer-Verlag Limited; 2002. p. 1-18.
51. Lastowka G. User-generated content and virtual worlds. *Vanderbilt Journal of Entertainment and Technology Law* 2008;10(4):893-917.
52. Boulos MN, Hetherington L, Wheeler S. Second life: an overview of the potential of 3-D virtual worlds in medical and health education. *Health Info Libr J* 2007;24:233-45.
53. Thompson LA, Dawson K, Ferdig R, et al. The intersection of online social networking with medical professionalism. *J Gen Intern Med* 2008;23(7):954-7.
54. Barnes SB. A privacy paradox: social networking in the United States. *First Monday* 2006;11(9):11-5.
55. Cain J. Online social networking issues within academia and pharmacy education. *Am J Pharm Educ* 2008;72(1):10.
56. Rogers C. *Client-centered psychotherapy*. Boston: Houghton-Mifflin; 1951.
57. Rings L. The oral interview and cross-cultural understanding in the foreign language classroom. *Foreign Language Annals* 2006;39(1):43-53.
58. May SE. "Does your throat hurt more in the morning or throughout the day?" "Yes.": intercultural medical discourse [PhD dissertation]. Arlington (TX): University of Texas at Arlington; 2007. Available at: <http://hdl.handle.net/10106/764>. Accessed January 27, 2012.
59. Greenslade JH, Jimmieson NL. Organizational factors impacting on patient satisfaction: a cross sectional examination of service climate and linkages to nurses' effort and performance. *Int J Nurs Stud* 2011;48(10):1188-98