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# Effectiveness of Gaming in Creating Cultural Awareness

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**Abstract**

Despite the emphasis on cultural competency education in the United States for the past three decades, inequities and disparities in healthcare continue to persist, particularly among minority populations. With the current growing gap in provider and patient cultural congruence, how effectively we train students to work with diverse populations in healthcare settings warrants attention. This article presents the results of a qualitative study on the effectiveness of experiential learning, in the form of the game BaFa' BaFa,' in raising cultural awareness among students of health professions. Using thematic analysis, the authors analyzed written reflections from student participants. The findings support earlier studies, conducted mainly outside of healthcare, on the effectiveness of gaming in nurturing cultural awareness.

## 1.  Introduction

Cultural competency has been the emphasis in healthcare for more than a decade (The Joint Commission, 2010). Despite the emphasis, inequities and disparities in healthcare continue to persist, particularly among minority populations (Agency for Healthcare Research and Quality, 2013). With the current growing gap in provider and patient cultural congruence, how effectively we train students to work with diverse populations in healthcare settings warrants attention. Creative solutions to diversity training led us to employ BaFa' BaFa', a game used for decades mainly by other industries outside of healthcare, to develop cultural awareness among healthcare trainees as part of a training toolkit. There is a lack of quantitative studies on the effects of gaming in cultural awareness training (Chin, Dukes & Gamson, 2009; Hofstede, de Caluwé, & Peters, 2010) with only three studies completed in healthcare.

Using qualitative methodology, the purpose of our research was to describe the effectiveness of experiential learning, in the form of the game BaFa' BaFa,' in raising cultural awareness among students of health professions. BaFa' BaFa' is a form of low fidelity, non-computer based simulation. It is used as part of a larger training which incorporates culturally-focused readings and short videos; a short didactic session on the meaning of cultural dimensions and their application to daily life and healthcare; participation in the game; debriefing; and a written reflection exercise.  Using thematic analysis, the authors analyzed written reflections from student participants. The findings support earlier studies, conducted mainly outside of healthcare, on the effectiveness of gaming in nurturing cultural awareness.

## 2.  Background

2.1 Cultural Issues in Healthcare

Since the turn of the century, cultural competency has been given much attention in healthcare in the United States (U.S.). The Joint Commission (TJC) formally required cultural competency in 2010, providing a roadmap for all hospitals to meet patient or person-centered care (TJC, 2010). Similarly, in 2001, the Institute of Medicine (IOM) recommended rules for redesigning the U.S. healthcare system in which the patient is essentially the center of all care provision (IOM, 2001). While the IOM rules do not explicitly call for culturally competent care, three of the rules: care is based on continuous healing relationships; care is customized according to patient needs and values; and the patient is the source of control (IOM, 2001), implicate the importance of understanding and respecting each patient's culture. The emphasis is the patient; effective patient care must incorporate cultural needs and respect for patient wishes. Donald Berwick (2009) aptly summarizes patient-centered care to include "recognition, respect, dignity, and choice in all matters."

The matter of culturally competent care is all the more significant with the current growing gap in provider and patient cultural congruence. Reports from government and non-government agencies such as the Agency for Healthcare Research and Quality (AHRQ) point to poorer outcomes for blacks and Hispanics by ethnicity, transgender individuals, and those of lower socio-economic status when there is a lack of cultural congruence between providers and patients (AHRQ, 2013).

The persisting gaps in cultural congruent care brings to question the effectiveness of education and training programs on cultural competency in healthcare of the past two decades. Existing

literature demonstrates an emphasis on didactic approaches and training programs that have focused on standardized patients and stereotypical cultural practices (AHRQ, 2014). Among healthcare students, faculty, and professionals, self-report surveys on perceived cultural competency or multiple-choice testing on specific cultural characteristics have been used to measure cultural competency (Lotin, Hartin, Branson, & Reyes, 2013). Long (2012) describes this emphasis on "cultural competency" without addressing effective teaching strategies as offering problematic solutions that do not contribute to resolving the problem. These limited approaches may be a reflection of cultural competency being perceived as a "requirement" by industry leaders to comply to regulations, with training and measurements of competency given token consideration. There is little to no dialectic exchange on the meanings of culture or time given for critical reflection on the role of culture in society from sociological, historical, and political perspectives (Long, 2012).

Without critical reflection, the stages of learning leading to cultural competency are not given due consideration. Leading experts in the field of cultural competence including Campinha-Bacote, Hofstede, Papdopoulos, and Leininger, have identified that cultural awareness has to be awoken before cultural knowledge, sensitivity, skill, and competence can occur (Andrews, et al., 2010; Graham & Richardson, 2008; Koskinen, Abdelhamid, & Likitalo, 2008). Awareness occurs when persons become conscious of the self in relation to others, of attitudes, beliefs, and practices: "cultural awareness is… the process of identification of culture as a phenomenon, examination of one's own biases and emotions against cultural diversity, and exploration of one's own cultural and professional background" (Koskinen, et al., 2008, p. 56).

Immersion programs abroad, where students are immersed in cultures new to them and are guided in their interactions and experiences, are effective in creating cultural awareness (Ballestas & Roller 2013). However, immersion programs can require a large financial investment, which may be out of the reach to many students. With the understanding that cultural awareness is awoken when human interactions occur as exemplified in immersion programs, there is growing appreciation that simulation of human interactions, such as gaming, can be utilized to help healthcare providers and professionals develop awareness of themselves and others, helping to close the gap of cultural incongruence (Graham & Richardson, 2008; Roberts & Roberts, 2014).

2.2 Gaming and Cultural Awareness

Gaming in cultural awareness training, a form of low fidelity simulation has been utilized for decades in business, foreign affairs, and the military prior to the advent of digital gaming (Chin, Dukes & Gamson, 2009; Hofstede, de Caluwé, & Peters, 2010; Hofstede & Pederson, 1999; Hurn, 2011; Mills & Smith, 2004). Existing literature shows that group interactive gaming entails the use of cognitive, social, sensory, and emotional aspects of a person in the learning process, making a simulated situation a lived experience (Graham & Richardson, 2008; Roberts & Roberts, 2014). Two other advantages identified from gaming include the relatively low cost of materials, and the component of "fun" that comes from participation, a factor particularly helpful among students who learn better when anxiety is lower and from active participation.

Researchers, however, emphasize the importance of using gaming as part of a larger training program which should include reading and audio-visual assignments, short didactics sessions, journaling, and debriefing after the gaming exercise to allow for reflective learning (Hofstede, et al., 2010; Mills & Smith, 2004). A facilitator, versed in cultural diversity and the effects of gaming, is also emphasized as gaming brings an element of unpredictability due to the cultural differences

that are brought to the game by participants. The facilitator should be trained to lead the debriefing portion of the exercise since much of the student's learning in gaming comes from the debriefing process (Hofstede, et al., 2010; Mills & Smith, 2004).

Many games on learning cultural awareness exist, including Barnga (Thiagarajan, 1990); BaFa' BaFa' (Shirts, 1994); Naza NaZa which was adapted from BaFa' BaFa' (Newfields, 2001); Brief Encounters (Peace Corps, n.d.); and Albatross (Gochenour, 1993). This paper focuses on using BaFa' BaFa', developed in the 1970's for the U.S. Navy, as part of a cultural awareness education program. BaFa' BaFa' is an interactive game that divides participants into two culturally dichotomous tribes, allows them to interact while adhering to prescribed cultural rules for a true experiential gaming experience; details of the gaming procedures are described in the methods section (Shirts, 1974).

## 2.3 BaFa' BaFa' in Healthcare

A literature search on the use of BaFa' BaFa' in healthcare produced three articles: a short description of a training program by O'Connor, Rockney, and Alario (2002), and two studies by Koskinen, et al. (2008), and Kratzke and Bertolo (2013). All three articles reported that students who participated in the game found it effective in creating cultural awareness and sensitivity to others. O'Connor, et al. (2002) utilized the game among American medical students and trainees who reported that the experience made them more empathetic to others. They realized the difficulties in cross-cultural communication, and they were inclined to find "mutually acceptable solutions" (O'Connor, et al., p. 1102). Koskinen, et al. (2008), in Finland, corroborated these findings among nursing and dental hygienist students who reported an affirmation of understanding their own culture, an increase in cultural sensitivity and open-mindedness, and the appreciation of language in cross-cultural communication. Kratzke and Bertolo (2013) further validated these findings among undergraduate community health students in New Mexico.

Given these findings and the history of gaming outside of healthcare, there is sufficient evidence to suggest that gaming is a viable option for teaching cultural awareness to students in the health professions to facilitate the "awakening" of cultural awareness before they enter the workforce. The goal of the present study was to test the effectiveness of BaFa' BaFa' in creating cultural awareness among graduate students in nursing and clinical psychology.

## 3. Methods

### 3.1 Setting and Participants

Approval was obtained from the university Institutional Review Board for the Protection of Human Subjects (IRBPHS) to use the written reflections of the participating students in our analysis. Informed consent was obtained from 34 graduate nursing students and 11 doctoral clinical psychology students. The training was administered in the first semester of their respective programs with the intention of raising student awareness on cultural issues to facilitate the inclusion of cultural concerns in the rest of their academic career. Ages of the students ranged from 22 to 44 (overall $M = 27.7$; nursing students $M = 27.1$; psychology students $M = 28.3$) years. Among the nursing students, 5 of 33 were males, with one participant declining to share demographic information. The eleven psychology students included 4 males and 7 females.

3.2 Procedures

On the day of the exercise, students were given a brief introduction to BaFa' BaFa' with the emphasis to simply enjoy the game. They were divided into the two groups. In separate rooms, the two groups were given 15-20 minutes to learn the rules of their designated culture that corresponded with their tribe. Game pieces were given to the students (see Picture 1). One tribe's goal was to trade game cards and to obtain as many of these cards as possible using a language that is limited to 13 words. The second tribe speaks the language of the participants, in this case, English. However, their main focus was to socialize with the use of high context communication that included complex understanding of body language. Upon learning their separate cultures, members of each tribe took turns visiting the other tribe; after each interaction, each member of the respective tribe returned to their group to report on his/her experience. The visits are akin to interactions in real life when people from different cultures meet for the first time without prior awareness of cultural rules and norms.

After every member was given the opportunity to visit the other tribe, both tribes regrouped as one to debrief. In the first part of the debriefing session, the participants were asked to use adjectives to describe the opposing tribe, and to describe how they felt when visiting the other tribe (see Picture 2). A discussion followed on the meaning of the adjectives and perceptions of the words used in describing another culture. As noted in Picture 2, the adjectives used had negative connotations (e.g., scared, shunned), which is normal in the first stage of culture shock (Pederson 1994; Shirt, 1974). The debriefing continued with a discussion on the purpose of the game, cultural dimensions, and its implication in healthcare. After the debriefing, students were given 15 minutes to write reflections on how culture affects their daily lives. Specifically, they were asked to respond to two questions: What did you learn about culture from the exercise? And, how did what you learned make you feel?



Picture 1: BaFa' BaFa' game pieces
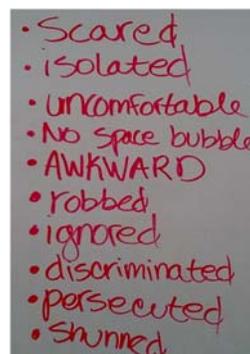


Picture 2: Examples of adjectives used

3.3 Data Analysis

The researchers used the guide to thematic analysis by Braun and Clarke (2006) as a foundation to their work. Braun and Clarke (2006) demarcate the meaning of conducting robust thematic analysis in qualitative studies. They provided six steps to give structure while allowing for flexibility for qualitative analysis without restraint by frameworks of grounded theory or interpretive phenomenological analysis. Accordingly, the students' reflections were transcribed individually without traceable identification. Two of the team members have expertise in qualitative methodology and assisted in training development and analysis. Together the team

members read and analyzed fifteen written transcribed reflections until thematic saturation was accomplished and the thematic codes and definitions were developed. The transcribed reflections were coded using NVivo software.

The team developed the following early themes reflecting Braun and Clarke's second step: adverse feelings; barriers; insider-outsider; importance of culture; and awareness of cultural differences. The iterative process of step three collated more themes: taking positive action; barriers with a sub-theme of language as a specific barrier; cultural humility with a sub-theme of empathy; awareness of cultural differences with sub-themes of adverse feelings and self-awareness; importance of training; judging others; patience; and respect.

Working in teams of two, the transcribed reflections were equally divided between the research members for coding; the principal investigator analyzed all 45 reflections. The team members coded each reflection separately and when coding discrepancies arose, a third person was used to make the final decision about the code. Upon completion, the members met to review the themes and coding of the data. Group analyses produced two distinct premises: effectiveness of utilizing gaming in developing cultural awareness, which this paper will address, and the students' experience of participating in the training. The steps to Braun and Clarke's approach are summarized in Table 1 (Appendix 1). The researchers agreed that four themes predominate the premise of effectiveness: importance of culture; insider-outsider; awareness of cultural differences with a sub-theme of self-awareness; and cultural humility with a sub-theme of empathy, described below with excerpts from student reflections to highlight the themes.

## 4. Results

4.1 Importance of Culture

The first indication of awareness among the students came in the form of acknowledging the importance of culture from their gaming experience and the role culture in their interactions with others. We defined the "Importance of Culture" as having awareness that culture has a strong influence on what we believe and think, and how we behave. The following participant explains how culture impacts our own level of comfort to deal with others that may not be from the same culture (Aydin, Krueger, Frey, Kastenmüller, & Fischer, 2014).

> *"Culture can easily influence how you feel, act and respond to situations and people that are not in your comfort zone. The exercise really revealed to me how easily I can get influenced by "my" culture and make sure that those who are part of my culture are safe and prepared to face the "other"."* (703-036)

Participant further explains how culture impacts our relationships with others, and how unfamiliar behaviors by others could just be an indication of norms of other cultures:

> *"It was very apparent that one's culture has potential to affect another person (or culture) in a large way. The knowledge and understanding impacts the relationship between others."*(652-019)

> *"This taught me to not project judgment when someone acts a certain way because for them it is probably normal."* (652-006)

The reflections indicate an acknowledgement that culture plays a critical role in human interactions. They also indicate that the awareness of the influence of culture is not in the immediate consciousness of human beings until put in situations where cross-cultural interactions are indicated. The above reflections further highlight the propensity of some to attribute pathology or abnormality to unfamiliar cultures. The reflections speak to the awareness that arose from making such assumptions.

4.2 Insider-Outsider

The previous reflections lead us the second significant theme from our analysis. The theme of "Insider/Outsider" was defined as an understanding that an inclusion/exclusion dichotomy exists of group membership in society. This theme highlights the societal vernacular used by the "us versus them" mentality. Many participants used language that denoted how one culture was wrong while another was correct or having the awareness of the dominant and non-dominant statuses prevalent in society.

*"I learned that culture can be both including and excluding."* (652-002)

*"I need to consider how the outsiders felt instead of just thinking that I was being attacked."* (652-013)

The next quote highlight student's ideas of "outsiders," experienced in the exercise as those outside of their cultural group. The quotes further highlight xenophobia and a real understanding of why people of the non-dominant group may go to great lengths to assimilate to the dominant culture.

*"People look at outsiders weird…. Most people will ignore you if you do not understand their culture. Outsiders will be angry and hateful towards an uninviting culture."* (652-026)

One participant reported, *"If you don't adapt, you will always be an outsider"* (652-033) which may speak to the notion of forced assimilation and abandonment of one's culture to fit into the dominant society. This speaks to the choices of either adapting or not adapting, and being an outsider who is marginalized and ostracized. The next quote illustrates the insider/outsider mentality and the dichotomous thinking that occurs when people perceive there is no middle ground:

*"I noticed how one group negatively critiqued the other. I feel confident it was not because they truly felt the other was bad, but rather because they were different. One might say, 'If what they are doing is right, then what we are doing is wrong.*
*Therefore, I must deem them wrong so that we can be right.' That type of black and white thinking is often what separates us and promotes unnecessary dislike of others."* (703-042)

4.3 Awareness of Cultural Differences and Self-Awareness

From the first two themes of the importance of culture and the dichotomous reality of being an insider or outside, we identified the following theme of "Awareness of Cultural Differences" which we defined as a basic understanding and acknowledgement that cultural differences exist. Several students emphasized the differences between cultures and how that affects meaning and reactions.

> *"I learned that culture means many different things to different people. I learned that there are many different types of cultures that incorporate groups or individuals, attitudes or norms, languages or gestures. I also learned that certain things have different meanings in certain cultures."* (652 010)

> *"A big takeaway I got from this experiment was how values in each culture may differ, which then affects their reactions to other cultures."* (703 041)

An acknowledgement that different meanings exist within cultures emphasizes the construct of culture as multi-faceted (Doyle & Hungerford, 2014). Several students identified an awareness of a broader perspective of culture, not necessarily defined based on ethnic backgrounds:

> *"I didn't know or realize the many different types of cultures besides the beliefs and traditions within ethnic backgrounds".* (652 012)

> *"Although we visually associate culture with ethnicity this exercise proved that culture can be a mixture of components. Such as ideas or beliefs or behaviors".* (652-027)

Demonstrating awareness of how cultural diversity evolves and exists, and of cultural influences on communication (Pekerti & David, 2015), one student states:

> *"I learned that every human being has common denominator of culture and life styles influenced by mass communication and various ways of interactions or exposures through travels, immigration, international studies, relocations of work, and other opportunities."* (703 038)

Awareness of cultural differences inevitably tied the students' awareness of their own culture. The "Self-Awareness" code, defined as knowing one's own feelings and actions, was thus a subtheme for "Awareness of Cultural Differences." The following participants explain their self-awareness and an understanding of the cultural imperialism that dominates U.S. society. Cultural imperialism assumes that what we, defined as the dominant culture in a society, do or think is normative or correct (Taylor, 2006).

> *"We need to start recognizing that we view everything through our own cultural filter and unconsciously place value automatically on what we experience."* (652-018)

> *"I noticed all of our tendency to become immediately ethnocentric, and this observation made me immensely uncomfortable. This experience emphasized the importance of self-awareness for me. As clinicians, if we are unaware of our worldviews, values, and perspectives, we cannot even begin to comprehend or identify with a foreign culture."* (703-043)

Similar to the previous student, the following quote highlights self-awareness and denotes self-reflection about this person's actions and beliefs about others.

> *"It makes me feel like I need to be more open-minded, accepting, and less judgmental. It also makes me think about how much my culture has really influenced me and the way think. I am now curious to know how everyone else thinks of me and my culture or thoughts."* (652-027)

The next participant explains how this experience impacted their cognition and awareness of past thoughts and actions. The use of the word "force" may indicate that this was something that could no longer be ignored and something that this participant had to face during the experiential exercise.

> *"It caused me to think about how I've been in the past and how I've been guilty of making judgments about cultures who acted differently than mine. It forced me to remember that everyone deserves the same respect and care, regardless of their beliefs and traditions."* (652-031)

The essence of knowing oneself in one's environment allows for the appreciation that cultural differences are normal and acceptable. Without critically examining one's own culture, with its historical, socio-economic, and political implications, a person is "blind" to the impact of culture on another.  Psychologists Christopher, Wendt, Marecek, & Goodman, (2014) emphasized the impact of dominant-culture blindness in healthcare, how good intentions can inadvertently do more harm when a lack of cultural awareness can lead to behaviors being labeled with negative implications or misconstrued as illness. Understanding where one stands in the context of a group or society allows for interactions from a place of curiosity instead of a position of judgment or defensiveness.

4.4 Cultural Humility and Empathy

The last theme to emerge from the students' reflections was the theme of "Cultural Humility," which we defined as awareness and self-reflection of the relative importance of culture and having a sense that one's cultural knowledge is limited:

> *"No matter how much you observe a culture you cannot fully understand it without asking and learning."* (652-026)

Cultural humility is tied to providing care, as the students address the importance of valuing other cultures in health care and how humility facilitates communication (Christopher, Wendt, Marecek, & Goodman, 2014).

> *"Being respectful, welcoming, and accepting of people is very important in any situation, and especially in the healthcare field. You cannot provide care if you don't value people (no matter who they are)."* (652-016)

*"It is valuable to remember that humility can go a long way to facilitating communication without placing a negative value on that transaction."* (652-018)

Cultural humility is a state of being that understands and promotes non-judgmental and respectful interactions among equals and not one from a position of superiority, particularly important in provider-patient relationships. We found from the students' reflections that empathy can only follow when another human being is seen as equal and deserving of respect. Thus the theme of "Empathy" is categorized as a subnode of cultural humility. It is defined as the ability to share the feelings of another person and the ability to understand another's lived experience and emotions. As one student puts it, to "*put myself in their situation*" and elaborates that

*"We must practice patience and understanding for the multitude of people we encounter and should put ourselves in their shoes to get an understanding of their feelings." (652-009)*

Ultimately, person-centered care should reflect culturally empathic care where the interaction between provider and patient is one of understanding and respect, moving away from judgment that may impede a patient's ability to trust a provider and a system, and the capacity to perceive hope from both sides of the relationship. This student summarizes the impact of the training:

*"The exercise was exhilarating and left me with a renewed sense of being mindful in every instant that I interact with another unique individual. Without awareness of each other and awareness of the self, we exist less connected and less mindful to each other and to ourselves. To exist in one's culture is to feel comfortable and safe; however, the discovery and adventure of knowing more outside of our own skin, to get to a place that feels uncomfortable, and to encounter this new information and this new reality with curiosity, openness and love informs our evolving psychological and spiritual growth."* (703-040)

## 5. Discussion

The student reflections from those who participated in the BaFa' BaFa' exercise were consistent in acknowledging the positivity of the exercise. The only negative context was captured in how they were made to feel as outsiders when visiting the other tribe. Only two students commented that the exercise was not particularly helpful to them as it confirmed what they already knew about culture; one of the students did elaborate that it was a healthy reminder particularly how the content was applied to healthcare.

The student reflections indicated an "awakening" of awareness to cultural differences between the two tribes. In fully immersing in a dichotomous cultural experience, the students understood how quickly they acculturated to their gaming tribe and became protective of their own culture and group affiliation. The students' experience parallels the five stages of culture shock as described by psychologist Paul Pederson (1994): in visiting each other, curiosity, excitement, and apprehension of the unknown quickly evolved as cultural differences became acute producing the uncomfortable sensations of being outsiders. The use of words such as "unwelcomed"; "judged"; "confused"; "alienated"; and "frustrated" in describing their experiences and feelings point to the real experiences and feelings of those entering new cultures for the first time.

An important component to this low fidelity simulation is the debriefing sessions when all the participants gathered to discuss their experiences to help participants reflect and learn from

feelings encountered in the simulation. Reflective learning does not automatically occur, particularly in processing negative feelings from cross-cultural interactions as exemplified in the reflections describing the feelings of being an outsider (Hofstede, et al., 2010; Hofstede and Pederson, 1999; Mills and Smith, 2004). Pederson (1994) emphasized this phenomenon in his book as the positive and educational aspects of culture shock where learning, adaptation, and acculturation can follow initial negative reactions.

The students' reflections from participating in the cross-cultural training utilizing BaFa' BaFa' support the premise presented by earlier studies that gaming is effective in creating cultural awareness. Exposure to cross-cultural interactions with guided reflection can lead to awareness of cultural differences, the first steps towards awakening curiosity before competency can transpire (Andrews, et al., 2010; Graham & Richardson, 2008; Koskinen, et al., 2008).  The students' reflections show that culture, imbedded in all of us, may not be an aspect of life people are conscious of even though it influences how we communicate, perceive messages and behaviors, and ultimately react (Hofstede, et al., 2010; Pekerti and David, 2015).  It is in acknowledging the existence of cultural differences, including being an insider or outsider, that the students became aware or more understanding of their own culture and the role it plays in daily life.  From experiencing cultural relativity, the students began to appreciate the importance of respecting others, that there is more to cultures than just their own. The reflections communicated the sense of cultural humility. In turn, this humility brought empathy where the students understood how it might feel to have one's culture or experience disregarded or dismissed.

In the context of healthcare, with the increasing diversity in society, it is imperative that the guided reflection is conducted in a safe environment before healthcare students are placed in settings where cross-cultural interactions occur. Presently, the practice of not preparing students for cross-interactions interactions is common, contributing to the continued cycles of dominant cultures making decisions and judgments within the clinical milieu affecting patient-provider, and provider-provider relationships (Hagiwara, et al., 2013; Havranek, et al., 2012), a phenomenon that crosses over to healthcare education where students and faculty are similarly affected (Blair, et al., 2013; Bleich, McWilliams & Schmidt, 2014). Conversely, the same researchers found cultural congruence to positively affect health outcomes, where healthcare providers perceived by their clients to have a strong sense of cultural humility were viewed to have a strong provider-client working alliance (Hook, Davis, Owen, Worthington & Utsey, 2013). Cultural respect among providers also contributes to better teamwork (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011), and critical cultural awareness affect safety (Starren, Luijters, Drupsteen, Vilkevicius, & Eeckelaert, 2013). Equally important may be the need to understand how culture influences research and science, and how evidence is viewed in the Eurocentric world (Christopher, et al., 2014; Harvey, 2013).

5.1 Limitations

A major limitation in our study is the lack of information on the students' prior exposure to cross-cultural interactions impacting the level of cultural awareness before their participation in the training. The depth of the reflections varied which could indicate that students came with different levels of cultural exposure and maturity. Student demographic information was not originally included in the study design and aims. The variation in the number of participants for the two student groups, nursing and psychology, could have also affected how participants perceived their experiences. With more visits to the opposite tribes and returns to report on their

findings, the nursing group could have had the opportunity to better process their reactions in the game, potentially affecting their perception of the opposite tribe facilitating acceptance, along the stages of culture shock, of the other tribe. This acceptance could have impacted their reflections, which appeared less critical and lack the depth of the psychology students. Similarly, due to time constraints in how classes were scheduled, the psychology students were given more time to write their reflections.

Another concern about gaming in cultural awareness training is that the approach is difficult to measure quantitatively. Through the lack of "measurable" data, it is argued that the effectiveness of the methodology is open to subjective interpretation (Chin, et al., 2009). Similarly, Chin, et al. and Mills and Smith (2004) addressed the question of whether gaming in cultural awareness training has long-term effects on participants. Mills and Smith (2004) repeated several surveys and interviews with participants 12 months after conducting the training; the results conveyed the training had the same impact on cultural awareness a year later.  Beyond the study conducted by Mills and Smith, there is no literature on long-term follow-up of participants. These limitations suggest that further research is warranted in order for us to gain further understanding on the impact gaming on increasing cultural awareness.

## 6. Conclusion and Future Implications

Despite the limitations, gaming in cultural awareness training has proven to be effective in many industries. It can be fun, and relatively economical to conduct. The few studies conducted in healthcare, including ours, support the findings that gaming does increase cultural awareness in several ways, that it raised self-awareness and awareness of others. Participants experienced heightened emotions, and with guided reflection, were able to empathize with others "different" from themselves, an indication of cultural humility. Healthcare providers of today, and certainly of tomorrow, need this sense of empathy and humility.

With the continuing challenges in providing care that is culturally sensitive and congruent, and health outcomes that reflect the disparities of an increasingly diverse society, the need for cultural awareness training persists. One could argue that healthcare's attention of the past two decades on cultural competency is relatively young, and the debates and discussions should continue on how best to improve a nation's obligation to meet the needs of its people. The prerequisite for cultural awareness, sensitivity, and humility among healthcare practitioners cannot be ignored if we are true to the call of meeting our patients at their level and to providing safe and quality care. Cultural competency training has to go beyond the mandatory and obligatory approach taken by the healthcare industry at the present time. Leaders in the industry and in healthcare education can contribute to the momentum of nurturing cultural sensitivity and inclusivity by investing in cultural competency training that is effective.

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The authors declare no conflict of interest.

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Appendix 1

| Braun and Clark's Six Steps to Thematic Analysis | Completed by researchers | Product |
|---|---|---|
| 1. Familiarizing to data | Transcription; reviews of data | 45 reflections: 34 from graduate nursing students; 11 from Doctorate of Psychology students |
| 2. Generating early codes | Saturation achieved; further analysis of all data | Adverse feelings; Barriers; Insider-outsider; Recognition of importance of culture; Awareness of cultural differences |
| 3. Collating codes into initial themes | | 1. Taking positive action;<br>2. Barriers with a sub-theme of language as a barrier;<br>3. Insider-outsider;<br>4. Cultural humility with a sub-theme of empathy;<br>5. Recognizing the importance of culture;<br>6. Awareness of cultural differences with sub-themes of adverse feelings and self-awareness;<br>7. Adverse feelings;<br>8. Importance of training;<br>9. Judging others;<br>10. Patience;<br>11. Respect. |
| 4. Reviewing relevancy of themes | | Agreement on relevancy of the above themes |
| 5. Developing definitions of themes | | Agreement on definitions for all 11 themes |
| 6. Producing the report | | Analysis produced two distinct premises: effectiveness of utilizing gaming in developing cultural awareness, and the students' experience of participating in the training |

Table 1: Summary of analysis process based on Braun and Clarke's (2006) approach