Abstract: Many healthcare professions students are unaware of their own ethnocentrism, and movement along the continuum of cultural competence may not be possible until the students encounter individuals whose cultural beliefs, values, and needs differ significantly from their own. This project was an example of an international community service immersion experience in Nicaragua that led to increased cultural competency of five physical therapy students. Through immersion, the students progressed from cultural blindness to cultural precompetence. To further foster student cultural competence, the conceptual framework needs to reflect the multiple facets of an individual's identity and influences on behavior change.

Key Words: Cultural Competency, International Service, Physical Therapy, Physical Therapy Students

DEVELOPMENT OF PHYSICAL THERAPY STUDENT CULTURAL COMPETENCY THROUGH INTERNATIONAL COMMUNITY SERVICE

The United States (U.S.) is steadily increasing in racial and ethnic diversity (U.S. Census Bureau, 2000). Consequently, providing quality healthcare requires practitioners to have knowledge and respect for their patients' cultural point of reference, especially their patients' beliefs and attitudes toward health and illness. When life roles, value systems, and family expectations of patients in our care are incorporated into practice, patient outcomes are enhanced (Black & Purnell, 2002). Since competency to treat individuals from other cultures is essential, it is the responsibility of academic and clinical educators to develop successful strategies for preparing students for this challenge.

The purpose of this paper is to describe the development of student cultural competency through participation in an international community service course. Following a discussion of cultural competency in healthcare, Cross, Bazron, Dennis, and Isaacs' (1992) continuum of cultural competency was employed as a conceptual framework to elucidate the progress of five physical therapy students during an immersion community service experience in a small Nicaraguan village. The paper concludes with recommendations to improve future studies.

DEFINITION OF CULTURE AND CULTURAL COMPETENCY

Culture is a system of learned patterns of behavior that are shared by members of a given group (Lynch & Hanson, 1992). Children learn about their culture through a process of enculturation in which their parents and other older members of the group guide the younger generation in adopting the culture's ways of thinking and behaving. Each culture provides a flexible framework for members of the group to interact with each other and the environment, and an individual's culture also prescribes meaning for abstract concepts and symbolism (e.g., beauty or the colors for purity or death). Only when evaluated within the context of the individual's culture can behaviors be viewed as...
adaptive or maladaptive. Not everyone, however, within a culture should be expected to think and behave the same.

Culture is a multi-dimensional construct with influences occurring at regional, community, family, and individual levels (Black & Purnell, 2002; Purnell & Paulanka, 2003). Spoken language including dialect and common phases and idioms, materials produced, and diet are cultural influences occurring at the regional level. At the community level, examples of cultural influences are socioeconomic background and type of housing. For example, it is common in an ethnic, lower socioeconomic neighborhood with multifamily homes for residents to know each other well and shop at the same local market. In contrast, in an upper middle class neighborhood with single-family homes situated on large plots of land, neighbors more often may not know each other or may not move beyond acquaintance. In addition, purchases are more often made from a wide variety of supermarkets and malls. At the family level, culture is reflected in the family power structure, religious or spiritual worship, and the ways that stress is manifested. For example, for families who follow traditional gender role models, the father typically has final authority and is viewed as the "bread winner". In contrast, whether or not the mother works outside the home, she is responsible for child rearing and the family's social activities. For families with nontraditional gender roles, both parents may be viewed as sharing the financial and child rearing responsibilities. At the individual level, cultural influences include socialization, coping methods, and hobbies.

The delivery of culturally competent healthcare requires more than knowledge of lists of cultural traits for each ethnic group. Rather, it is the ability of the practitioner to think and behave in ways that support effective interactions with members of other cultures (Cross et al., 1992). To demonstrate cultural competency, the practitioner must understand his/her own cultural values and those of other cultures; accept cultural differences in communication, thought processes, and behaviors; and grasp how an individual's culture impacts on his/her health beliefs and actions (Campinha-Bacote, 2003; Dillard et al., 1992). For optimal care, the culturally competent healthcare provider must adapt his/her care to the patient's cultural beliefs and behaviors. Failure to develop cultural competence can result in practitioner-client miscommunication, which can lead to inaccurate patient history or informed consent, decreased patient satisfaction with care, and patient nonadherence with home programs (Campbell & Wilmelm, 1991; Flores, 2000; Leavitt, 2003). For example, to develop a successful health promotion program for an individual from another culture with Type II diabetes and obesity, the clinician, at minimum, must understand the diet and preferred foods and image of beauty in the client's culture as well as the roles and responsibilities expected of that client by her community and family.

Evaluation of Cultural Competence

According to Cross et al. (1992), cultural competency of an agency or company develops in stages along a continuum from cultural destructiveness, a stage where the agency's behaviors are detrimental to those of another culture, to cultural competence, where the agency adapts care based on acceptance and respect of cultural differences. The highest stage on the continuum is cultural proficiency. At this stage, the members of the agency practice evidence-based healthcare. Interventions are based on the best research evidence available and the clinician's experience and are individually tailored to match the client's culture-specific background and preferences.

Although Cross et al.'s (1992) stages were originally developed to categorize an agency's stage of cultural competence, they have been extrapolated to identify the cultural competence stage of individual healthcare professionals. To elucidate the potential impact of prejudice and bias at the individual level, Table 1 provides descriptions of behaviors and attitudes for each of Cross et al.'s stages. Leavitt (2002, 2003) used Cross et al.'s stages within an American Physical Therapy Association (APTA) home study course entitled Developing Cultural Competence in a Multicultural World. This course was designed for physical therapists to learn and assess cultural competency. In a qualitative pilot study, Velde and Wittman (2001) assessed the cultural competence of three occupational therapy faculty members and eight occupational therapy students after immersion in a community program serving elderly African American citizens. Self-assessments, utilizing Cross et al.'s (1992) cultural competence continuum, were completed at the end of the program only. Through triangulation using observations, journals, and interviews, the authors reported that Cross et al.'s Continuum for Cultural Competence was an effective self-assessment tool.

Challenges for Academic Educators

Accreditation standards for most healthcare academic and clinical education programs require inclusion of material relevant to cultural diversity and competence; however, specific guidelines are often not prescribed (American Physical Therapy Association [APTA], 2004). Healthcare educators are, therefore, faced with the challenge of developing curricula that enhance students' knowledge, beliefs, and attitudes toward acceptance and respect of cultural differences. One teaching approach commonly used by allied health programs is integration of cultural concepts as threads throughout the curriculum (Black, 2001). Another common approach is to provide seminars or modules related to culture, and a third frequent approach is to provide a specific course, either discipline specific or interdisciplinary, on cultural considerations in healthcare.

Black (2001) reviewed the literature on curricular inclusion of culture and diversity in physical therapy, social work, and nursing programs. Comparatively, this author found a paucity of published literature for physical therapy and interpreted this finding as evidence that physical therapy lagged behind the other two disciplines. Black noted that physical therapy educators generally recognized the importance of cultural competency but were only at the beginning stages of the continuum.
Table 1. Stages of Cultural Competency

<table>
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<tr>
<th>Stage</th>
<th>Name</th>
<th>Definition</th>
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| 1     | Cultural Destructiveness | • Purposefully destructs culture  
• Dehumanizes or sub-humanizes minority clients                                                                                                                                                                                                                                                                                                                                                                  |
| 2     | Cultural Incapacity    | • Holds paternal posture toward “lesser” races  
• Believes in the supremacy of the dominant culture  
• Beliefs that helping approaches traditionally used by the dominant culture are universally applicable  
• Behaviors reflect a well-intended liberal philosophy  
• Ignores cultural strengths, encourages assimilation, and blames the victim for their problems  
• Views differences from the cultural deprivation model which asserts that problems are the result of inadequate cultural resources                                                                                                                                                                                                                     |
| 3     | Cultural Blindness     | • Precompetence  
• Realizes own weakness in serving minorities and attempts to improve some aspect of service  
• Desires to deliver quality services by asking “What can we do?”  
• Has begun the process of becoming culturally competent but lacks information on what is possible and how to proceed  
• Has a false sense of accomplishment or of failure that prevents the person from moving forward along the continuum  
• Engages in continuous self-assessment  
• Focuses attention on the dynamics of difference, continuously increases cultural knowledge, and implements a variety of adaptations to service models  
• Holds culture in high esteem  
• Conducts research, develops new therapeutic approaches, publishes, and disseminates                                                                                                                                                                                                                       |
| 4     | Cultural Proficiency   | • Engages in continuous self-assessment  
• Focuses attention on the dynamics of difference, continuously increases cultural knowledge, and implements a variety of adaptations to service models  
• Views differences from the cultural deprivation model which asserts that problems are the result of inadequate cultural resources  
• Holds culture in high esteem  
• Conducts research, develops new therapeutic approaches, publishes, and disseminates                                                                                                                                                                                                                                          |

Note: Adapted from Cross et al. (1992).

While most healthcare students receive education on culture and developing cultural competency, application of this knowledge in practice may be lacking. Fitzgerald, Williamson, and Mullavey-O'Byrne (1998) investigated cultural competency of two groups, students and therapists, from three allied health professions: occupational therapy, diversional therapy, and physical therapy. The students were asked to define culture, and the therapists were not only asked to define culture but (also) to provide examples from their clinical experiences. The researchers found that both groups expressed a limited understanding of culture. The students and therapists often used words in association with ethnicity and race to describe a materialistic or an outward manifestation of culture. Few words that reflected ideas, morals, or perceptions were used in their definitions, which indicated a limited understanding of how culture produces these manifestations. In other words, students and therapists treated culture as a concrete concept rather than as an abstract one with concrete consequences. When therapists used terms that indicated values, attitudes, and beliefs in their definition, the investigators upon further questioning found that these were the therapists' ethnocentric interpretations and not a true reflection of the clients' attitudes and beliefs.

**Cultural Encounters and Immersion**

Cultural encounters have been reported to enhance the development of cultural competency (Black, 2002; Campbell & Wilhelm, 1991; Pope-Davis, Prieto, Whittaker, & Pope-Davis, 1993; Utsey & Graham, 2001). Many health professionals are unaware of their own ethnocentrism (i.e., false assumptions about the ways of others or erroneous judgments based only on one’s own cultural perspective). Professionals may not even recognize their prejudices until their awareness is raised through
encounters with individuals whose values differ significantly from their own (Tabi & Mukherjee, 2003).

Thus, experience with individuals of different cultures is a key educational component to bring students to a level of cultural competency. Heuer and Bengamin (2001) found improved cultural awareness of seven nursing students after spending 2 weeks in Moscow, Russia. Supporting these findings, Pope-Davis, Eliason, and Ottavi (1994) reported that nursing students with work experience in a setting with diverse patient populations scored higher on a scale of multicultural sensitivity and knowledge than nursing students without such work experience. In another study with occupational therapists, Pope-Davis et al. (1993) reported that working with patients from varied ethnic minorities was a stronger contributor to developing cultural competence than attending cultural sensitivity courses or workshops. In addition, acceptance and respect of cultural differences was reported by Black (2002) when physical therapy students were immersed in a clinical experience at a local homeless shelter. Using a qualitative design, Black employed triangulation and based conclusions on data collected through observation, journal entries, and interviews which were recorded during and after the clinical experience. This finding was further supported by Utsey and Graham (2001) who, using a similar methodology, reported that physical therapists who participated in a community-based medical mission trip moved to higher levels of cultural sensitivity.

Immersion, through living in a culture different from one’s own, provides the potency of experiencing real-life challenges on a first-hand basis (Leonard & Plotnikoff, 2000). The purpose of this project, therefore, was to promote the development of cultural competence for physical therapy students who participated in an international community service course. As indicated previously, many health professionals are unaware of their own ethnocentrism, and movement along the continuum of cultural competence is not possible until the individual is personally faced with providing healthcare for individuals whose cultural beliefs, attitudes, values, and needs differ significantly from their own. With knowledge gained from this project, educational experiences to enhance student cultural competency can be developed and empirically tested.

METHODS

Course

All entry-level professional doctorate in physical therapy (DPT) students at Simmons College are required to complete one-credit of community service. Community service provides an opportunity for students to learn through active participation in organized activities that meet the needs of the community. The most crucial part of this framework is immersion in the community. One community service opportunity at Simmons College includes international travel and immersion in the Nicaraguan healthcare system. During winter break, physical therapy students, accompanied by a physical therapy faculty member and other members of the Simmons community, spend two weeks in San Juan del Sur, Nicaragua serving clients with physical therapy needs.

This international immersion course provides the students with real-life situations that provoke self-awareness of the students’ own beliefs, increase knowledge of the culture through personal exposure, and provide opportunities for students to observe modeling of culturally competent care by their professor and practice culturally competent healthcare.

Cultural competency objectives for this international community service course are to (a) demonstrate an understanding of the differences among individuals and cultures; (b) display sensitivity by considering differences in race, creed, color, gender, age, national or ethnic origin, sexual orientation, and disability or health status in making clinical decisions; (c) recognize aspects of behavior and care affected by individual needs and cultural differences; (d) discover, respect, and value individual differences within and among cultures; and (e) individually tailor therapeutic programs and delivery of healthcare based on the client’s impairments, functional limitations, cultural background, roles and responsibilities, and preferences. At present, these objectives are not measured on a standardized scale. Rather, the topics are addressed through required readings and class group discussions prior to travel to Nicaragua as well as daily group discussions, observations by the physical therapy faculty member, and student self-reflection through journaling during the stay in Nicaragua.

Description of Site

San Juan del Sur is a Pacific Coast port in southern Nicaragua, not far from the boarder of Costa Rica. About 10,000 people live in town, and another 10,000 live in the 250 square miles of countryside (referred to as campos) that comprise most of the municipal district. Fishing, farming, and tourism are the mainstays of the economy. There are two health clinics in town (i.e., one public, one private) and several smaller health clinics in the countryside. In town clinics, there is only one physical therapist on staff, and space consists of two plints (e.g., treatment tables), a hot plate with a pot for hot packs, and some posters on health and exercise. The smaller clinics are occupied by staff only one to two times per month when the roads are passable in the dry season. These clinics lack diagnostic equipment, such as x-ray or ultrasound machines.

Participants

All six of the Simmons College physical therapy students who registered for the International Community Service course between 2002 and 2004 volunteered to participate in the project, which was approved by the Simmons College Institutional Review Board. All of the students were in their second year of the physical therapy curriculum. At this point in their education, they have completed the foundational and clinical science courses for the cardiological/my system and the musculoskeletal system and a 14-week clinical rotation in either an outpatient or acute care setting. Ability to speak Spanish is required for participation in the course, but only one of the six students was fluent. Data from five of the six students are presented in this paper, because one student did not submit questionnaires.
Table 2. Pre- and Posttrip Questionnaires

The following questions were asked before the trip:

1. What do you know about the Nicaraguan culture’s:
   a. Medical beliefs?
   b. Religious beliefs?
   c. Economic status?
   d. Level of education?
   e. Parenting approaches?
   f. Definition of disability?

2. What do you hope to accomplish in Nicaragua?

3. What do you think are going to be your biggest barriers to us providing healthcare in Nicaragua?

The following questions were asked after the trip:

1. Now that you have worked for two weeks in Nicaragua, what do you know about the Nicaraguan culture’s:
   a. Medical beliefs?
   b. Religious beliefs?
   c. Economic status?
   d. Level of education?
   e. Parenting approaches?
   f. Definition of disability?

2. What did you learn that you didn’t know before and you don’t think you would have learned from reading?

3. What was your biggest accomplishment?

4. After spending time in Nicaragua and learning more about the culture, did you adjust your treatment approach, and if so, how?

5. Which experiences were particularly frustrating? Why do you think they frustrated you? What could be done to make it different?

6. Which experiences were particularly rewarding?

7. In your opinion, was the language barrier a problem for you?

Survey Instrument

Table 2 presents both pre- and posttrip questions used to gather information on the students’ beliefs, knowledge, and experiences. The questionnaires were designed by the researchers, based on the writings of Leavitt (2001) and Lynch and Hanson (1992). Open-ended questions were employed to avoid biasing the students and allow the students to elaborate their responses.

Before the trip, the students were asked to describe their knowledge of Nicaraguan culture related to medical beliefs, religious beliefs, economic status, level of education, parenting approaches, and definition of disability. In addition, students were asked to identify the goals they hoped to accomplish through this course and the barriers to providing healthcare that they expected to encounter. After the trip, questions related to knowledge were repeated. In addition, students were asked to share (a) what they thought they learned from the immersion experience that they would not have learned in a traditional class, (b) their accomplishments in Nicaragua, (c) how they adjusted healthcare practice in this setting, (d) experiences that were particularly frustrating and those that were particularly rewarding, and (e) whether or or they perceived that their level of fluency in Spanish was a barrier.

Procedure

On the flight to Nicaragua, students were asked to volunteer to participate in the study. Volunteers were required to sign an informed consent form and then complete the pretrip questionnaire. Posttrip questionnaires were completed on the flight home.

In Nicaragua, under direct supervision, opportunities were provided for students to volunteer in the local health clinics, both in town and in the countryside (campo), and provide home visits for patients who were unable to attend the government run clinic. In addition to professional activities, the students shared their meals and lived with a local host family as part of the immersion experience. Students were required to meet daily with their instructor to reflect on their experiences and to discuss assigned readings on Nicaragua as well as their personal observations in the field. Additionally, they were required to keep a journal for personal reflection.

Analysis and Data Coding

For each question on the pre- and posttrip questionnaires, the first step in data coding was to underline the phrases that best conveyed the participant’s knowledge, perception, or opinion. Second, a chart was made with each student’s answers. Third, a tally sheet was
developed by grouping similar answers into thematic categories. For each theme, the number of students with similar answers was tallied. In this way, generalized patterns of responses were made evident.

To determine pre- and posttrip Continuum of Cultural Competence stages, each student's underlined phrases and identified themes were compared and contrasted to Cross et al.'s (1992) stage descriptions. Using this process, the stage or stages that reflected similar behaviors, beliefs, and attitudes were identified, and each student was categorized into a stage.

RESULTS
Pretrip Findings
Before the trip, students had limited knowledge of a general nature. When asked about the Nicaraguan medical or health beliefs, all five students responded “I don’t know”. For the question on religious belief, all of the students identified that most Nicaraguans had strong Catholic beliefs. When asked to give information on the economic situation in Nicaragua, students responded that it was “poor”, “poverty by the United States standards”, “third world with limited resources”, and “the poorest nation in the Western hemisphere”. Educational level was defined as less than 6th grade by three students; two students responded “I don’t know”.

Responses to questions on parenting and the definition of disability varied across the five students. Two students stated they did not know the typical Nicaraguan approach to parenting. One student was not sure and questioned if the Nicaraguan people had close family ties. Another student expressed that parenting was very family oriented, and in contrast, the fifth student expressed that Nicaraguan parenting was a maternal responsibility. For the definition of disability, two students responded “I don’t know”, one student described Nicaraguan definition of disability in terms of limitations in and individual’s quality of life, and two students defined disability from the perspective of the individual as a nonproductive member of society.

When asked to identify their goals, all of the students documented that they hoped to learn about a new culture. Other goals included to improve communication skills, to improve physical therapy skills, and to help people. The students identified that the biggest anticipated barriers to providing healthcare services were limited language fluency, limited resources for treatment, not knowing or understanding the culture, and encountering unfamiliar conditions.

Pretrip questionnaire responses for all five students matched four of the five descriptive criteria of Cross et al.'s (1992) Stage 3: Cultural Blindness. These included beliefs that traditional helping approaches are universally applicable, a well intended liberal philosophy, ignorance of strengths in Nicaraguan culture, and view of Nicaraguan culture from a deprivation model (i.e., problems result from inadequate resources).

Posttrip Findings
At the completion of the immersion experience, students' responses regarding Nicaraguan culture were more developed and refined. Descriptions of Nicaraguan medical beliefs included “limited understanding/education on pathology or causes of most illnesses”; “blend of scientific, spiritual, naturalistic, and folklore beliefs”; “belief that God will help”; and “very trusting of medical personnel with the expectation for a quick fix”.

All of the students responded that Roman Catholicism was the most prevalent religion and that Nicaraguans are very religious. One student, however, also acknowledged that there were “more Protestants and Evangelists than expected”. One student indicated that Nicaraguan people had a strong faith in God and held the belief that God will always help. Another student noted stated that the Nicaraguans demonstrated their religious devotion by displaying many statues and symbols.

With respect to economic status, in addition to still describing most Nicaraguan citizens as poor, the students noted that there was an economic class system in Nicaragua. The students also identified that many Nicaraguan men had to leave their hometowns or villages to find work in the city; however, due to the corruption within the government, Nicaraguans with the greatest wealth were generally politicians. Despite the poverty that was observed on a first-hand basis, one student reported that most Nicaraguan citizens were “o.k.” with their economic status and adapted to the status quo.

On the question related to educational status, although all of the students again reported that most citizens of Nicaragua had little formal education (i.e., equal or less than 6th grade) and limited reading abilities, they also noted that there were emerging educational opportunities for children. The students knew that secondary education was now available to Nicaraguan youth in larger, more populated towns like San Juan del Sur than in rural areas, and one student made the connection between economic status and education by identifying the opportunity for students to obtain a college education in the capital of Managua if families could afford to pay.

Through living with their host families, the students observed the influences of an extended family of grandparents, aunts, and uncles living in the same home and sharing the responsibilities of raising the children. A collectivist perspective, in which the family is viewed as a whole, was developed by all five students. The members of the family were not viewed as individuals as much as working as a whole and representing family in society. The students, however, observed and described the relative inequality between the sexes. They reported that Nicaraguan men worked outside the home, whereas women typically stayed in the home to care for the children and the elderly family members.

A collectivist perspective was also reflected in four of the five students' responses to the question on the definition of disability. Except for one student who stated that she did not know how the Nicaraguan people defined disability, other students relayed that in the small villages they encountered families that considered a child or an adult with a disability as nonproductive. The students observed that these families perceived having
a family member with a disability as being “shameful” and hid the individual from the community.

When asked what they learned from the immersion experience that they did not think they would have learned from reading, one student indicated that “being there helped me understand the culture more than any book could”. Four students reported that they learned that communication, both verbal and nonverbal, was the key to understanding the Nicaraguan way of life. One student also reported the value of learning to be “comfortable with the unknown”. Another student highlighted a better understanding of the “strong political beliefs and opinions” of the Nicaraguan people. All students identified that their biggest accomplishment was adapting physical therapy so that the goals were important and meaningful in the Nicaraguan culture and that the interventions were practical in this village setting. Students commented on the challenge of “picking PT treatment outcomes that are important to them [Nicaraguans]” which were, at times, different from optimal outcomes that were learned in school.

When asked about the experiences that were particularly frustrating, all five students reported being frustrated by the lack of medical care for the Nicaraguans, especially for Nicaraguans who could not afford services. They were also frustrated that they were not able to provide more or better care given the limited resources. One student reported that, “when I couldn’t help, it felt like the energy was being drained out of me emotionally”. Many students also reported that limited fluency in Spanish was a significant barrier to understanding the Nicaraguan people and their culture.

Analysis and coding of posttrip responses indicated that all five students met descriptive criteria of Cross et al.’s (1992) Stage 4: Cultural Precompetence. These characteristics included self-awareness of weakness in the ability to serve individuals of another culture but intention to improve, the desire to deliver quality care, a lack of information on what is possible and how to proceed, and a false (i.e., inaccurate, incomplete) sense of accomplishment or failure.

DISCUSSION

Race, ethnicity, and culture are powerful influences that affect an individual’s personal identity and how that individual thinks, feels, and behaves. This includes how individuals perceive health, illness, and participate in their own healthcare. Cultural competency in the delivery of healthcare services is an important key to successful patient outcomes, and immersion in a different culture has been shown to enhance cultural sensitivity. This project is an example of an international community service immersion experience in Nicaragua that led to increased cultural competency of professional doctorate in physical therapy (DPT) students.

Prior to the immersion experience, all of the students were categorized as being in Cross et al.’s (1992) Stage 3: Cultural Blindness. They had little to no factual understanding of the Nicaraguan culture, and ethnocentrism was reflected in their description of the Nicaraguan culture through a comparison to their own. For example, they described the Nicaraguan economy by comparing it to U.S. standards. The student’s decision to participate in this international community service course, however, revealed their desire to learn about another culture and a different way of life.

Cultural shock describes the anxiety produced when an individual is immersed in a completely different environment from his or her own (Leavitt, 1999). For three of the five students, this immersion trip was their first time outside of the United States. Being in a foreign country and living with a Nicaraguan family was a cultural shock for them.

At the beginning, ethnocentrism was demonstrated as the students observed their surroundings: they did not accept and respect the differences. Instead, they saw only what they perceived to be lacking in the Nicaraguan culture. They talked about how “messed up” the Nicaraguan healthcare system was with its poor accessibility and limited resources (e.g., medications, diagnostic equipment). They discussed the profound poverty they encountered in the campo. They saw that many standard procedures (e.g., surgery for a hip fracture) could not be provided, and they viewed poverty as limiting all aspects of the Nicaraguan people’s lives. The students also viewed the low educational level of their Nicaraguan clients as a limiting factor to providing healthcare.

Early on, the students focused on the outward manifestations of the Nicaraguan culture rather than examine how these outward manifestations reflected the underlying beliefs and values of the people. In addition, their perceptions were unidimensional. For example, they expressed their knowledge of Nicaraguan religious beliefs as “Catholicism”, economic status as “poverty”, and level of education as “less than 6th grade”. These responses are similar to previously reported findings. Fitzgerald et al. (1998) found that physical therapy students treated culture as a concrete concept rather than an abstract one with concrete consequences.

Although the students in our project anticipated that their limited knowledge about the Nicaraguan culture would be a barrier, they thought that Western helping approaches would be applicable in Nicaragua. When the students first started providing physical therapy services, they prescribed exercises based on protocols with which they were familiar. Frequently, the students blamed the patients for their problems, stating, “They (the Nicaraguans) don’t want to learn about physical therapy and exercise. They just want a quick fix.”

After a week of immersion in Nicaragua, the students became aware of the need to modify and adapt their interventions and programs to better match the limited resources and limited time in their clients’ days to exercise. The students became more realistic and provided more ecologically valid programs and functional solutions to each patient’s individual needs.

Often, however, the students lacked therapeutic knowledge of what was possible and how to proceed in the Nicaraguan culture. With instructor modeling, mentoring, and guided questions, the students learned to use tape to adapt a pencil for a child with cerebral palsy; constructed a ladder from an old pipe and rope purchased at the local market to serve as an over head
trapeze for a elderly man who was bedridden after a stroke and hip fracture, and collaborated with a local carpenter to construct a standing frame for a child with a movement disorder.

By the end of the two weeks, all students had progressed to the next stage in Cross et al.'s (1992) continuum, Stage 4: Cultural Precompetence. While the students recognized the weaknesses of the Nicaraguan healthcare system, they also better understood their own culture and the Nicaraguan culture. During discussions with their instructor, the students identified two factors that greatly influenced their overall development of cultural competency. The first was the ability to speak the client’s language. Speaking Spanish allowed the students to explore the Nicaraguan customs and health practices. While all of the students improved in their communication skills and fluency, the language barrier continued to be the biggest challenge in the provision of physical therapy services.

The second factor was the students' raised awareness that they could learn from "the locals". Before they left the U.S., all of the students believed that they were going to be the expert, helping professionals (e.g., "I am going to teach them everything I know."). Instead, they found that learning could and should be a two-way street. One example was when the students met a Nicaraguan man who had had a left-sided stroke and a right shoulder injury resulting in partial paralysis affecting both sides of his body. The students and instructor were awed with this man’s independence with dressing and functional mobility despite significant motor and sensory impairments. He exercised every day pushing a homemade wooden wheelbarrow up and down the unpaved streets despite his significant impairments. The students saw how a wheelbarrow could substitute for a walker; it was, in fact, more functional than a rolling walker given the cobblestone and dirt roads and the capacity of the wheelbarrow to transport large items.

Although not identified by the students, two additional influences fostered cultural competency: (a) multiple role relationships the students developed by living with host families, and (b) the clients' perceptions that the students possessed a high level of expertise. The students gained the affection and trust of the families through living in their homes and sharing daily life. In addition, the students were viewed as credible based on their U.S. nationality and training, and the Nicaraguans who received healthcare services made no overt differentiation between the students and the instructor. These factors have been shown to enhance help seeking and therapeutic effectiveness, respectively (Sue, 2001).

CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH

This project is an example of an international community service immersion experience in Nicaragua that led to increased cultural competency of the participants. Cross et al.'s (1992) continuum of cultural competency was employed to assess the physical therapy students’ progress, which advanced from cultural blindness to cultural precompetence. Cross et al.'s model provided our conceptual framework for evaluating cultural competency; however, the criteria for the stages were extrapolated from descriptions of institutional cultural competency. Also, the stages do not explicitly identify the three domains of cultural competency (i.e., beliefs, knowledge, and skill) adopted by the counseling professions (Sue, 2001). In addition, measures adapted from the model need further testing of validity and reliability. Another limitation of this project was that the questionnaires focused on knowledge about Nicaraguan culture and did not address the influences of other group references, such as age, gender, marital status, or geographic location. Furthermore, this study did not explore how each student’s cultural background or identity or other demographic variables interact with the development of cultural competency.

Immersion is a potent force that perturbs the status quo and facilitates self-awareness and culturally competent behaviors. To further foster development of student cultural competence, our conceptual framework needs to be expanded to reflect the multiple facets of an individual’s identity and the influences on behavior change. Then, the framework needs to be empirically tested with larger samples in varied settings. In addition, as healthcare providers, we function within organizational and societal contexts. Therefore, when healthcare professions students return to their native country, the ability to maintain and transfer beliefs, knowledge, and skills learned through immersion experiences needs to be examined.

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