Integrating Cultural Competence and Core Values: An International Service-Learning Model

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Background and Purpose. Cultural competence is a criterion contained in many of the American Physical Therapy Association's (APTA) core documents. The globalization of society challenges physical therapist educators to design pedagogy that prepares students for rendering culturally competent care. The purpose of this article is to describe an innovative educational model grounded in the literature and designed to facilitate cultural competence and core values development in Doctor of Physical Therapy (DPT) degree students.

Method/Model Description and Evaluation. The innovative model consisted of a 2-semester capstone course designed to integrate culturally competent care with hands-on experience. Over 2 years, the course enabled 28 DPT students to prepare academically, learn the Spanish language, and participate in an international service- learning (ISL) experience. The cultural competence frameworks developed by Purnell and Campinha-Bacote informed the model. Academic preparation included research on the Ecuadorian culture, cultural awareness activities, reflective journaling, and completion of an evidenced-based practice report using the "Patient, Intervention, Comparison, and Outcomes" format. The For His Children orphanage, located in Quito, Ecuador, served as the ISL site. Evaluation of the model was accomplished using the Professionalism in Physical Therapy Core Values (PPTCV) survey, the Cross Cultural Adaptability Inventory (CCAI), and reflective papers completed pre and post ISL. **Outcomes.** PPTCV scores were significantly higher post ISL ($P < .05$) for those students who completed the PPTCV process. CCAI scores revealed a higher score ($P = .045$) for emotional resilience post ISL for 14 students. Qualitative analysis of reflective papers resulted in 4 themes: professional role formation, career development, cultural readiness, and collaboration. **Discussion and Conclusion**. Our model enabled students to be immersed within a culture, realize the core values in action, develop cultural competence, and solidify their interest in working with pediatrics and internationally with underserved populations. Curricular models that provide meaningful connections between the classroom and the real world are important for cultural competence and core values development in DPT students. Culturally sensitive care is a prerequisite for decreasing disparity between patients and providers.

Key Words: Core values, Cultural competence, International service learning, Physical therapist education, Reflection.

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BACKGROUND AND PURPOSE

In 2002, the Institute of Medicine (IOM) issued the report, "Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care," which documented that racial and ethnic minorities in the US experience a lower quality of care, more undesirable procedures, and inequalities in routine medical services.[1] A recent Health Resources and Services Administration (HRSA) curriculum development manuscript, "Transforming the Face of Health Professions Through Cultural and Linguistic Competence Education," recommended that all health care professionals receive cultural competence and linguistic training.[2] Competence in both areas is key for developing patient-centered care that is culturally focused. These findings are of special relevance in health care, where regard for individual patient differences combined with compassion, effective communication and accountability are quintessential for attaining positive health outcomes.

Concern regarding the cross-cultural disparity that exists between physical therapists and the clients they serve is well documented.[3-8] Cross-cultural disparity will intensify as the ethnic and racial diversity our nation continues to grow. As of 2007, approximately 34% of the US population was composed of minority groups: African American, 12.8%; Hispanic/Latino, 15.1%; Asian, 4.4%; and Native American/Alaskan 1.2%.[9] However, by 2025, the population of minorities is projected to increase to 37.8%.[10]

Despite gains over the last decade, the ethnic and racial composition of the allied health workforce, including the profession of physical therapy, has not changed commensurate with the demographic shift occurring in the US.[11] The ethnic and racial composition of licensed physical therapists in the nation reveals that 84.2% are Caucasian.[12] As of May 2009, minorities represented only 13.01% of the national American Physical Therapy Association (APTA) membership, which includes more than 70,000 physical therapists, physical therapist assistants, and students.[13] Among physical therapist student APTA members, 12.26% are from minority groups.[13] While there are many proposed reasons for minority underrepresentation in the physical therapy profession, the most cited barriers include: inadequate academic preparedness, insufficient financial resources,

lack of awareness regarding the profession as a career option, few clinical or academic role models, and limited minority recruitment efforts and/or or recruitment efforts that have limited success.[8,14]

The existing cultural disparity underscores the need to promote cultural competence in Doctor of Physical Therapy (DPT) degree students. Increasing diversity within the physical therapy profession is a goal of APTA.[15] Cultural competence is important because a successful patient provider interaction may be impeded when the respective parties are from different ethnic or cultural (cross-cultural) backgrounds.[2,5,16] Effective care requires an understanding of the patient's values, family structure, life roles, and culture.[3,4] Providers without the skills for working in cross-cultural situations may experience difficulty communicating effectively with either patients or family members, which may result in improper management of the diseases or conditions characteristic of a particular population.[5] Consequently, the need to increase diversity through minority recruitment and retention strategies and educate physical therapist students to be culturally competent is a concern for the profession.[3-5,13-20]

APTA has responded to the need to promote cultural competence and increase minority representation in both practicing professionals and students. Many of the profession's core documents have been modified to address the domain of culturally competent care.[21] Professional practice expectations related to individual and cultural differences are described in *A Normative Model of Physical Therapist Professional Education*.[22] Two of the goals of APTA's Department of Minority Affairs are to increase minority representation in the field of physical therapy and integrate cultural competence through the education of stakeholders, including practitioners and students.[23] To assist with the latter goal, a blueprint for teaching cultural competence was placed on the APTA's Minority Affairs Web site.

Concomitantly, APTA also has sought to integrate cultural competence within the role of the practicing physical therapist professional. In 2003, APTA embraced the *Professionalism in Physical Therapy: Core Values*[24] document as the definition of professionalism for physical therapy practice, education, and research. The core values self-assessment instrument includes reference to a provision of care that is culturally competent, responsive to client needs, and addresses the needs of underserved populations.[5,18,24] Research supports the need for "teaching cultural competence in a way that is sensitive to the core values, beliefs, and attitudes of health care professionals."[25(p25)]

Physical therapist educators need to design pedagogy that fosters clinical excellence as well as the professional competence required to interact with people of diverse backgrounds, disabilities, and generations.[5-7,19,26-29] While a number of publications document the inclusion of cultural diversity in DPT curricula,[3,4,26,28,29] cultural problems in health care persist.[16,30,31]

For this article and model description, several terms require operational definition (Table 1).

The purpose of this work is to describe an innovative educational model that is theoretically based and facilitates cultural competence and core values development in DPT students. The model is comprised of a capstone course that includes academic preparation, Spanish-language instruction, and a short-term international service-learning (ISL) experience. Inclusion of ISL is predicated on research that supports the combination of academic course work with ISL experiences to promote cultural competence in college students.[30,32]

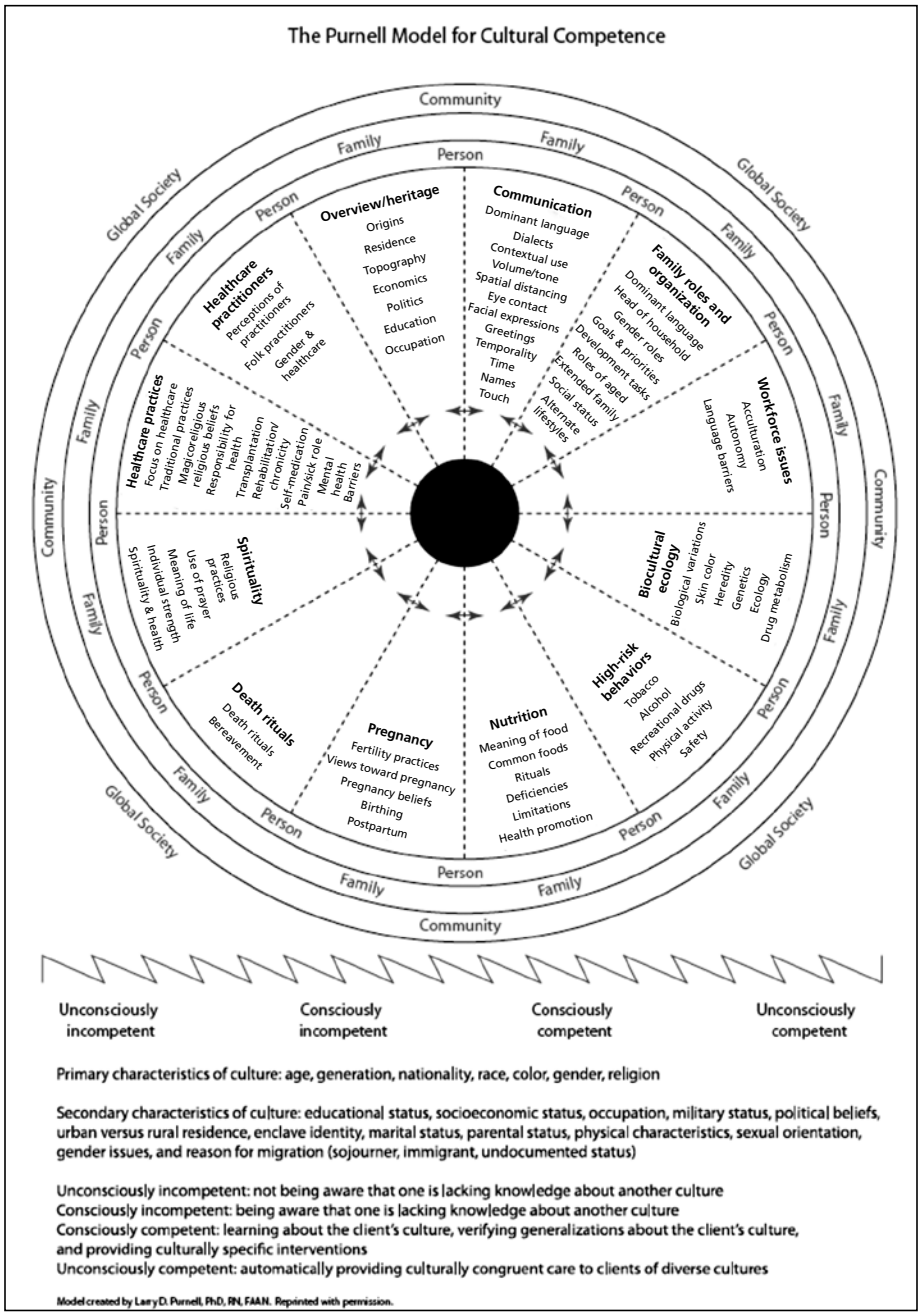
Model Foundational Framework

The theoretical framework for our educational model is a blend of the Purnell Model for Cultural Competence (Figure 1)[40] and Campinha-Bacote's[41] Process of Cultural Competence in the Delivery of Health Services. The blended model guided the academic preparation of the DPT students participating in the ISL experience. An overarching idea that informed our model is Purnell's tenet that "cultural competence [i]s a [conscious] process, not an endpoint."[40(p9)] In addition, we also relied on Campinha-Bacote's wisdom that learning about a culture is a continual process that develops using multiple strategies including cultural exposure. Campinha-Bacote's main theory integrates 5 constructs: "cultural desire, cultural awareness, cultural knowledge, cultural encounters, and cultural

Table 1. Operational Definitions

Term	Operational Definition
Culture	"The totality of socially transmitted behavioral patterns, arts, beliefs, values, customs, lifeways and all other products of human work and thought characteristic of a population of people that guide their worldview and decision making."[33 (p2)]
Subcultures	"Cultures that exist within a larger culture . . . .They are closely related to their dominant culture but do not necessarily hold to the same values."[33(p4)]
Ethnocentrism	"Occurs when individuals view the world through their own cultural lens and believe their way of thinking, acting, and behaving are the "right and only way."[34(p3)]
Ethnorelativism	"Occurs when people consciously realize that"all behavior exists in a cultural context, including their own . . . and seek out cultural differences as a way of enriching their own experience of reality and as means to understand others."[35(p.10)]
Cultural competence	"[A]cceptance and respect for difference, continuing self-assessment regarding culture, vigilance towards the dynamics of differences, ongoing expansion of cultural knowledge and resources, and adaptations to services."[35(p13)]
Service learning (SL)	An experiential learning pedagogy in which students participate in activities that address a defined community based need. Academic credit is given for achievement of course learning objectives. SL is characterized by reciprocal benefit for the student and community partner and includes reflection, both written and through collective discussion, about the community based experiences, knowledge, and learning realized by the students.[36] Effective SL contains: collaboration, meaningful service, response to community needs, reflection, and institutional commitment.[37]
International service learning (ISL)	"A service opportunity that occur[s] outside of the country where the physical therapist educational program is located."[38(p73)]

Figure 1. The Purnell Model



skill."[41(p181)] For our blended model, Purnell's Model was interfaced with the Campinha-Bacote to supplement and expand the "cultural knowledge" construct (Figure 2). The rationale for the blended model is that while both Purnell and Campinha- Bacote's stress the continual process of cultural competence, the Purnell model provided a strong framework for where to focus research on cultural knowledge development. Our blended model represents an iterative cycle for the process of cultural competence. Theoretically, for each cultural encounter, an individual would pass through the stages of the model while becoming more consciously culturally competent.

The following schematic (Table 2) illustrates the blending of the 2 models that is described in Figure 2. The first 2 rows of the schematic denote the stage within the Campinha-Bacote/Purnell model and the purpose of each stage. The final row provides an example of student action at each stage during the process of becoming culturally competent (Table 2).

DESCRIPTION AND EVALUATION

Educational Context

The context for the project is a large urban institution whose educational philosophy embraces practical, experience-based learning. Central to the philosophy is cooperative education (co-op), in which a student alternates periods of classroom study with full-time employment related to career or personal interests.

The DPT curriculum is a 6½-year program. Each class within the program contains 80-120 students. DPT students are required to complete 2 six-month co-op terms, 1 in the third year and 1 in the fourth year. Students on co-op are typically employed full-time as physical therapist aides. DPT students also participate in a short-term opportunity for service learning within the local community in their third year. Sixth-year students engage in a 3-phase, 30-week (8 weeks/10 weeks/12 weeks) clinical education component. The ISL project occurs in the fifth year for a cohort of 14 students prior to the sixth-year clinical education experience.

Participants

The participants consisted of 28 (24 female, 4 male, average age of 22 years) fifth-year DPT students. Of the 28 students, 4 represented an ethnicity/minority group other than Caucasian. The participants represented 2 academic years, Group 1: 2008–2009 and Group 2: 2009–2010, and 2 separate trips to the same ISL site. The Office of Institutional Compliance reviewed the project and classified it as exempt because it was conducted in an established educational setting and examined the impact of an instructional technique.

International Service-Learning Setting

The ISL experience provided physical therapy services to children living at the For His Children (FHC) orphanage located in Quito, Ecuador.[44] For His Children was chosen for our ISL experience because approximately 35% of the 60 children living there have moderate to severe special needs and would benefit from weekly or daily physical therapy.

At FHC, the children range in age from infants to 15 years and live in 3 separate buildings: Infant House (0–2 year olds); Toddler House (2–5 year olds); and Faith House (5 years and older). Also, a small therapeutic pool and preschool exist onsite. The caregivers, or "Tias," take care of the children in 24-hour shifts. Additional health care personnel included a psychologist, a part-time speech language pathologist, and a part- time physical therapist.

The Model

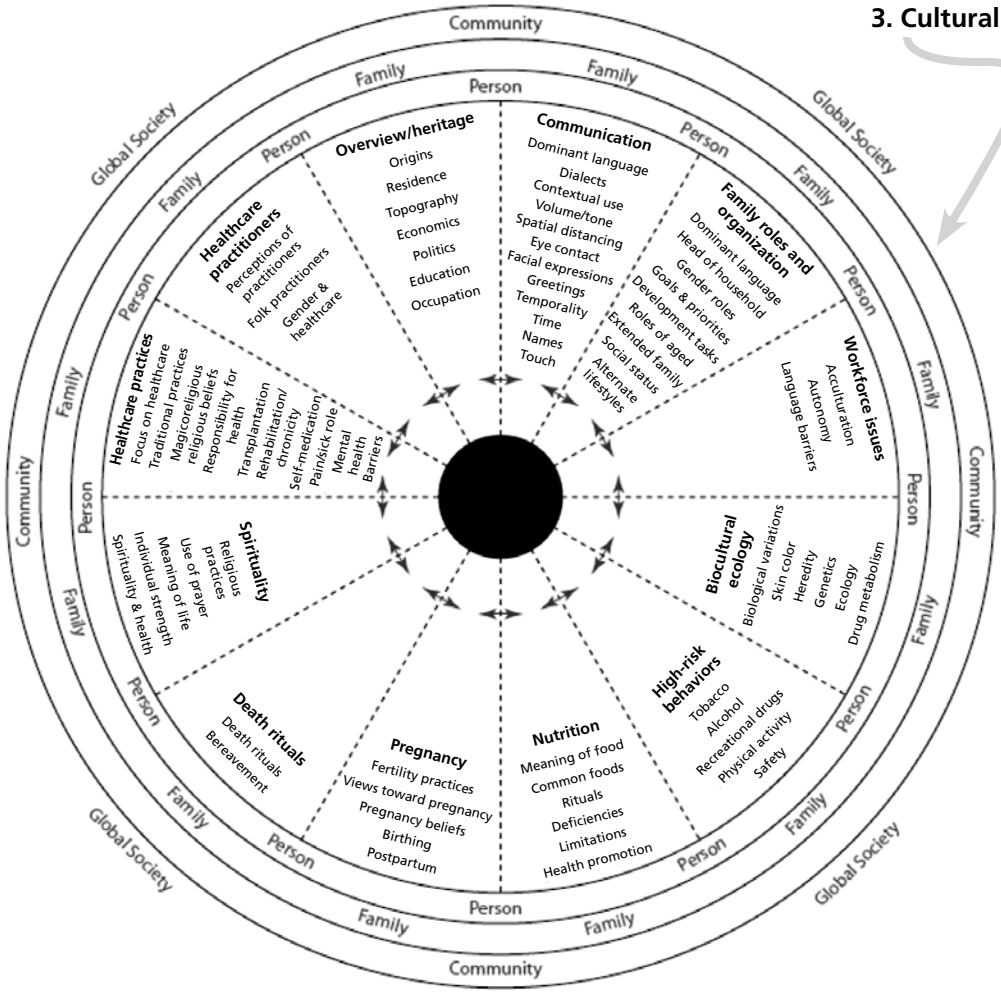
Our blended model incorporated a 3-pronged approach that included: academic study about Ecuador and pediatric physical therapy, Spanish-language instruction, and an ISL experience. Our overarching educational goal was to promote cultural competence and core

Figure 2. Blended Model Campinha-Bacota-Purnell

5. Cultural Skill

4. Cultural Exposure

3. Cultural Knowledge



1. Cultural Desire

2. Cultural Awareness

Primary characteristics of culture: age, generation, nationality, race, color, gender, religion

Secondary characteristics of culture: educational status, socioeconomic status, occupation, military status, political beliefs, urban versus rural residence, enclave identity, marital status, parental status, physical characteristics, sexual orientation, gender issues, and reason for migration (sojourner, immigrant, undocumented status)

Unconsciously incompetent: not being aware that one is lacking knowledge about another culture
Consciously incompetent: being aware that one is lacking knowledge about another culture
Consciously competent: learning about the client's culture, verifying generalizations about the client's culture, and providing culturally specific interventions
Unconsciously competent: automatically providing culturally congruent care to clients of diverse cultures

Model created by Larry D. Purnell, PhD, RN, FAAN. Reprinted with permission.

Table 2. Blended Model Schematic

Model	Stage 1: Cultural Desire	Stage 2: Cultural Awareness	Stage 3: Cultural Knowledge	Stage 4: Cultural Encounters	Stage 5: Cultural Skill
Purpose	Starting point for developing cultural competence. Demonstrates intrinsic motivation for the process.[41,42]	Illuminate one's own cultural believes, values and perception.	Gather knowledge about a culture using Purnell's[33] organizational framework-12 domains of culture. Cultural knowledge will assist health care practitioners with the provision of culturally competent care.	Travel to a location where the people are ethnically/culturally different from oneself.	Cultural assessment by "gathering culturally relevant information about a client's health, and then interpret[ing] these for the purpose of culturally congruent interventions."[41(p4)]
Student Action	Student enrolls in an ISL project with the intention of studying abroad.	Self-exploration of one's culture. One could take a cultural inventory such as Cross Cultural Adaptability Inventory and identify strengths and weaknesses.	Conduct research about a culture using one of Purnell's[33] domains such as Nutrition. Student could write a paper about the nutrition habits within a particular culture and the impact on health.	Participate in a faculty led short-term study abroad program with the intention of providing physical therapy services to clients in need.	Work under professional supervision to provide physical therapy services to clients in a culture different from one's own. Examine one's experiences using the process of reflection.

values development in DPT students. The model is unique in that it (1) is theoretically based; (2) uses teaching methods and assignments that increase student awareness for cultural diversity and the APTA core values; (3) incorporates 3 methods of assessment; (4) immerses faculty and students in a culturally diverse environment; and (5) incorporates reflection on and discussion about cultural experience (Figure 2). The model was incorporated into a 2-semester capstone course titled, "Physical Therapy Project I and II (PT Project)," designed for fifth-year DPT students.[26] PT Project is a required course that provides students with an opportunity to work with faculty on scholarship activities related to research, education, or service.

The authors created an "Ecuador PT Project" and selected 14 fifth-year DPT student participants based on applicant-expressed interest, or "cultural desire,"[41-43] for working with children, learning Spanish, and traveling abroad. The FHC site can only lodge 16 volunteers at a time; limiting the number of participants to14 students and 2 faculty members.

The authors used the blended model to guide cultural competence and academic preparation for the ISL experience (Figure 2). One author (LH) developed learning objectives for both on-campus studies and for the ISL experience (Appendix 1). During both semesters, the students met bi-monthly with the authors for a total of 3 hours.

To promote the development of "cultural awareness" throughout the entire academic year, both groups of students took turns posting a "reflective question of the week" on the course's Blackboard[45] Web site (Appendix 2). Questions were related to professionalism, cultural concerns, and personal goals for the ISL experience. Before, during, and after travel, all students and faculty kept written journals to personally reflect upon their learning.[25] Two class meetings were devoted to cultural-competency activities. For both academic years, students participated in a cultural awareness activity titled, "Cultural Awareness and Early Childhood."[46] This self-assessment activity allows an individual to examine the elements of cultural identity and communication styles.

For students in Group 2 (2009–2010 academic year), the authors added a second activity for promoting cultural awareness: self-examination of cultural competency using the Cross Cultural Adaptability Inventory (CCAI).[47]

The students in each academic year self-selected into small groups to develop "cultural knowledge" about Ecuador. "Reading on relevant topics" was a focus in 8 of Purnell's 12 domains of culture: overview/heritage; health care practitioners; health care practices; spirituality; nutrition; high-risk behaviors; family roles and organization; and communication.[40] A needs assessment was conducted remotely by one author (LH) to guide student reading regarding the impairments suffered by the children. Students explored feeding of infants and toddlers who were both normal and developmentally challenged, common pediatric neurological and orthopedic diagnoses, stages of normal infant development, aquatic therapy, and hippotherapy techniques. Aquatic physical therapy is provided in FHC's onsite therapeutic pool. Hippotherapy was available at a local riding center. FHC supports the use of hippotherapy

for management of tone, sensory concerns, and promotion of normal movement patterns in children with developmental delay.

An evidenced-based approach was employed to assist with the design of physical therapy interventions for an array of developmental, neurological, and orthopedic conditions. Each academic year groups (2008–2009 and 2009–2010) wrote 4 grant proposals, which resulted in $4,000 from the university's Provost Fund. The funds were used to purchase supplies to address the identified equipment needs. Through a combination of individual fundraising and grants sponsored by 2 religious affiliations, the authors secured an additional $3,000.

Because only 3 of the 28 students were conversant in Spanish, education was provided in the form of a 1-credit Spanish-language course for medical professionals during the spring semester.[18,48] The course was developed specifically for our students who were split into "beginner" and "intermediate levels." Spanish competency at each level was determined by completion of the course assignments with achievement of a "B" grade or better.

During 2 spring semesters, 14 students and 2 faculty members spent the week of spring break in Ecuador for a "cultural encounter" and "cultural skill" experience.[26,30] The 14 students and 2 faculty members lived together in housing located on the FHC campus.

During a typical day, a student could assist with infant feeding, shadow/participate in patient evaluations, perform hippo or aquatic therapy, and instruct the "tias" in home exercise programs. Each night, the entire group of 14 students and 2 faculty members reflected collectively on the experiences of the day. Cultural events were integrated and included a hospital tour, attendance at a church service, travel to the Otavalo market, and a visit to the equator. In summary, the model incorporated the desired principles of service learning: a strong connection between course work and the service experience, 20 or more hours of service, discussions about the service-learning experiences, and training and supervision of students.[26,49]

Student attainment of course objectives was evidenced through the production of a comprehensive written report documenting their "cultural knowledge" research, successful completion of the ISL experience, and Spanish language instruction. Upon return to the US, the students were also required to submit an evidence based practice report. Searchable clinical questions pertaining to the diagnoses encountered at FHC were developed using the Patient, Intervention, Comparisons and Outcome (PICO) question format. [50,51]

Table 3. Mean (SD) for Pre- and Post-ISL Scores on the PPTCV

Core Value	Pre SD	Post SD	*P* value
Aggregate	3.81 (0.67)	4.35 (0.46)	.000[a]
Accountability	3.9 (0.51)	4.3 (0.41)	.000[a]
Altruism	3.5 (0.79)	4.96 (0.51)	.000[a]
Compassion	4.22 (0.66)	4.66 (0.40)	.001[a]
Excellence	3.77 (0.85)	4.3 (0.51)	.000[a]
Integrity	4.15 (0.71)	4.52 (0.50)	.003[a]
Professional Duty	4.08 (0.66)	4.46 (0.46)	.004[a]
Social Responsibility	3.01 (0.94)	3.89 (0.83)	.000[a]

[a]*P* < .05.

Instruments/Methods Used to Assess the Model

At 2 points, before and after the ISL experience, students self-assessed their professional skills using the Professionalism in Physical Therapy: Core Values (PPTCV) survey.[24] In 2003, the APTA adopted the PPTCV as a core document to foster awareness of the 7 core values that define the DPT professional: accountability, altruism, compassion and caring, excellence, integrity, professional duty, and social responsibility. For each core value, sample indicators are provided that describe physical therapy practice, education, and research. The self-assessment instrument enables an individual to identify personal strengths and/or areas for growth within the core values. The PPTCV contains 68 questions and uses a 5-point Likert scale: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Frequently, 5 = Always.[24]

Students (n = 14) in their second academic year (2009–2010) also self-assessed their cultural competence pre and post the ISL experience using the CCAI. The CCAI is a reliable 50-item, 6-point Likert-scale, pencil-and-paper instrument. The values range from "Definitely True" to "Definitely Not True," with 9 items reverse scored. The CCAI measures an individual's cross-cultural effectiveness in 4 skill areas: emotional resilience (ER), flexibility and openness (FO), perceptual acuity (PAC), and personal autonomy (PA).[19,47]

Student participants were asked to provide 2 reflective papers: 1 pre-ISL and 1 post. All 28 students completed both assignments and responded to 4 open-ended questions (Appendix 3).

OUTCOMES

Of the 14 students from the first academic year, 8 (1 male) completed both the pre- and post-ISL PPTCV. All 14 of the second group completed the pre- and post-ISL PPTCV. A total of 22 (3 male) students completed both surveys. The better return rate for the second group was attributed to faculty collection of the post surveys at a final meeting time. Twenty-eight students (100%) completed the ISL experience and pre- and post-reflective papers. All 14 students in the second academic group completed the CCAI.

Physical Therapy: Core Values (PPTCV)

To assess pre- versus post-ISL comparisons, paired *t* tests were run for aggregate data and for each of the 7 sections of the PPTCV, $\alpha = .05$.[52] Comparisons were run for Group 1 and 2 combined (N = 22), and all revealed a statistically significant higher posttest score. These results support a change in the positive direction for students' professional skill awareness (Table 3).

Cultural Competence

Paired *t* tests were run for aggregate data and

for each of the 4 sections of the CCAI for students in Group 2 (N = 14), α = .05.[52] CCAI revealed a statistically significant post-intervention score for "Emotional Resilience," *P* =.045 (Table 4).

Table 4. Cross-Cultural Adaptability Inventory Pre- Versus Post-ISL

Core Value	Pre SD	Post SD	*P* value
Aggregate	59.2 (3.31)	61.4 (4.7)	.133
Emotional Resilience	83.7 (4.8)	88.0 (7.7)	.045[a]
Flexibility and Openness	69.8 (5.49)	72.46 (6.88)	.246
Perceptual Acuity	48.3 (4.11)	50.0 (4.7)	.242
Personal Autonomy	34.9 (3.2)	35.23 (3.2)	.737

[a]α = .05
Abbreviations: SD, standard deviation.

Student Reflective Papers

Reflective papers were examined using a qualitative process of content analysis to categorize and identify principle patterns.[53] Four dominant categories emerged from the papers: professional role formation, career development, cultural readiness, and collaboration. An example student quote will be provided for each theme, additional quotes are located in Appendix 4.

Professional role formation. During both pre and post ISL, 90% of the 28 students articulated a feeling of necessity for helping others in need. They documented that preparation for the ISL experience forced them to understand the role of a PT as it relates to the core values. Understanding the core values better enabled them to describe what a PT does.

> One aspect that the preparation has impacted is professional duty and social responsibility because we must explain to others and the community the need for PT and how we can help the children in order to get funding and donations. The role of PT must be understood by the community.

Post-reflective papers documented that the ISL experience allowed visualization of the core values in action. While some students indicated that the trip promoted all 7 of the core values; the most cited were professional duty, social responsibility, and compassion and caring.

> The Ecuador trip impacted my professional role formation on each of the 7 PT core values. I believe it initiated a new social responsibility in me that I never had before, the trip left me wanting to do more, and not just in other countries . . . .The whole experience increased my compassion and caring to new levels that I never thought imaginable, and this felt really good.

Career development. Of the 28 students, 90% indicated that the ISL prompted them to consider a career direction to pediatrics, neurological, or orthopedic rehabilitation. In addition, many students articulated the desire to work internationally, conduct other volunteer or pro bono work, and treat the underserved.

> Not only did this trip completely ensure my passion for the field of physical therapy, especially pediatric neurological PT, but it opened my eyes to a new culture . . . .During some personal reflection time that I took for myself, I realized how grateful I am for everything I have here in this country and this has furthered my passion to work with populations that are underserved.

Four of our 28 students were born in other countries. After the ISL experience, 3 indicated that they would like to continue with international physical therapy work in their country of origin.

> This trip has given me ideas of doing more similar work. I would love to go to my own home country and work with the underserved children. I feel that it is my obligation to do that because I speak the language and am one of the very few people that also have the PT skills needed to help children.

Cultural readiness. By participating in the ISL experience, all 28 students demonstrated a desire for learning about and experiencing a new culture. Of the students, 93% articulated an aspiration for cultural knowledge, cultural experience, and an understanding of cultural differences. In addition, students expressed interest in developing cultural skills to better relate to their patients. Evidence of cultural readiness was articulated in the following pre-trip reflections.

> We are researching many aspects of this [Ecuadorian] culture and how health care is provided in other cultures. I don't think that PT programs incorporate cultural differences in health care as much as they should. . . .I also want to be part of another culture and see what their health care system offers. I want a real everyday look into the lives of the people of Ecuador, I don't want the glamorous resort style experience.

Being immersed in a culture exposed the students to the health challenges experienced by people living in third-world cultures and the barriers encountered when seeking medical care.

> [H]aving the opportunity to be immersed in the Ecuadorian culture for a week helped to foster social responsibility as it opened my eyes to health care in 3rd world countries and the barriers that individuals face in the community in terms of seeking necessary medical care.

Collaboration. All 28 students expressed interest in applying the knowledge gained from research they conducted prior to travel. In addition, they also shared their knowledge with the group.

> The research that I did prior to the trip on feeding contributed a great deal to the group. On the first day of volunteering at For His Children I went to the House of Faith and applied my knowledge. I fed Carlitos and utilized the techniques I had researched and was pleasantly surprised when I discovered that they were helping him eat more efficiently. That day and throughout the trip I started sharing the techniques with the other students because the techniques could be applied to many of the children of all different ages.

The students were eager to apply new

knowledge and work as a team to reach a common goal. For the purpose of this paper, the word *team* refers to the group of students and faculty collaborating to treat the children during the ISL experience. The students became a community of practice committed to learning from each other and growing as individuals and professionals. Promoting excellent team dynamics was an expected behavior during the week-long stay at FHC.

> The team dynamics were perfect and I don't think it could've been any better. Everyone in the group had something to offer and different experiences to share. We were all there for the same reasons, to learn and grow as professionals.

DISCUSSION

Preliminary outcomes support the use of our model to promote awareness of the physical therapy professional core values, show the values in action, and generate cultural competence in students of physical therapy. We believe that the outcomes were realized because the model relied on a theoretical framework and included experiential learning (ISL), Spanish-language instruction, and 3 opportunities for reflection: before, during, and after the ISL experience.

Regarding core values awareness, a statistically significant change was demonstrated in a positive direction for both the aggregate score and in all 7 individual sections of the PPTCV post-ISL intervention (for the 22 students who completed both surveys). In addition, 90% of the 28 students expressed an appreciation for the core values in their reflective papers, with an overall emphasis on professional duty, social responsibility, and compassion and caring. Documentation of an increased appreciation for the core values does not necessarily result in the demonstration of a different level of professionalism; however, recognition and articulation of the core values may be a catalyst for action. These findings may have been influenced by requesting students to reflect on their experiences, which may have heightened their awareness of the core values. Reflection is critical for examining and generating meaning from experience and for self-directed professional development.[54,55] The physical therapy profession supports the provision of opportunities for students to reflect. [56-59] An alternative explanation is that experiential learning in the form of a "cultural encounter" provided an opportunity for the development and application of knowledge, skills, and professional behavior in a realistic setting.[26,30,41,58-60] Students were motivated to learn and apply classroom learning to real-world problems[27,49] within the Ecuadorian community.[36] Our model connected the classroom with an international location that contained real-world problems related to the provision of physical therapy services to orphans living in Ecuador. Our students could advocate for the childrens' therapeutic needs and develop compassion for them. Research supports the cultivation of the core values of social responsibility, altruism, and advocacy through domestic service-learning experiences.[7,27,30]

Another outcome demonstrated was an influence of the model on "career clarification." As a result of the ISL experience, 93% of our students documented in their post-reflective papers the desire to pursue a career working with children and patients with either neurological or orthopedic conditions. In addition, many students expressed interest for working internationally with the underserved. Three of our students, born outside of the US, mentioned working with the underserved in their countries of origin. Since our students were in the fifth of a 6-year curriculum, these findings are relevant with respect to potential early career decisions. While our students could have considered the possibility of an international career prior to the ISL experience, research has demonstrated the power of service learning to shape students' career decisions.[49]

Regarding cultural competency, our blended model (Figure 2) represents an iterative and ongoing process for developing cultural competence.[26,41,42] Our students demonstrated "cultural desire" by their motivation and commitment to learn about Ecuadorian culture in preparation for an ISL experience. Cultural desire is a necessary first step in the life-long, conscious process of becoming culturally competent.[41,42]

We facilitated "cultural awareness" through pre-trip discussion, completion of the CCAI, the culture coach activity, and reflective journaling (Appendix 2).[26] Pre-ISL reflective comments indicated an expectation for an increased appreciation of cultural differences post ISL. Also, the students predicted that the ISL experience would improve their ability to relate to Latino patients. Post-trip reflective papers documented student appreciation for the struggles Ecuadorians face when attempting to obtain health care services similar to those available in the US. More work is needed to promote and measure changes in cultural awareness due to our blended model. Our modeled enabled students to develop "cultural knowledge" about Ecuador. Reflective papers related to cultural knowledge resulted in a theme of "Collaboration." The students documented strides in personal knowledge related to feeding techniques and the use of orthotics, for example. Their willingness to share their knowledge with their peers was a prominent and interesting finding. We maintain that through their collaborative efforts to gain cultural knowledge, our students became a learning community and then a community of practice.[60] A *learning community* is a group of individuals who collectively dialogue, share experiences, and learn about topics of interest.[61] Learning communities become *communities of practice* when members are interconnected by a future-oriented, shared learning goal. Our students spent 6 months preparing as a learning community for their ISL experience. They became a "community of practice" while working toward the common goal of learning about and providing physical therapy services to children at FHC. In their reflective papers, the students expressed their commitment to each other, the value of the team dynamics, and how the "group grew together clinically and emotionally" during the ISL experience. The benefits of collaboration realized during service-learning experiences were supported by our reflective data.[7,27,39,49]

Our students' "cultural encounter" took the form of living and working in an unfamiliar environment, with exposure to language, living space, work environment, and customs that challenged their personal cultural frame of reference. The statistically significant change for 14 students in the CCAI score of "Emotional Resilience" post ISL is an interesting finding. According to Kelly and Meyers,[47] emotional resilience is important for dealing with the stress of culture shock. Emotional resilience is shown by an ability to overcome frustration, persevering to successfully interact with a new environment, and having self-confidence to deal with ambiguity. Our students gained a new respect and a greater understanding of the Latino people and their cultural beliefs. The students indicated that this new learning might enable them to better able to relate to future Latino patients. Exposure to culture before one enters the clinic can be beneficial for students.[19,26]

Limitations

Our model may be useful for faculty members interested in leading students on ISL experiences. However, our evaluation of the model has several limitations. One of the main limitations is that we did not explore in depth individual beliefs, values, bias, and the development of cultural competence due to the ISL experience. Also, we did not employ a quantitative instrument for assessing change in cultural competency for the first academic

year. In addition, the model was implemented with 28 DPT students at a single university who visited 1 international service site. The small number of students, the 1 site, and the 75% return rate on the PPTCV surveys limits the generalizability of the results. In addition, we did not assess the impact of participating in Spanish-language instruction on cultural competence and patient care. Future research studies could be designed to quantitatively measure change in cultural competency with larger numbers of programs and participants in ISL experiences. In addition, studies that examine the feasibility for incorporating the model within other DPT programs may be indicated. A goal for continuing this work is to assess student cultural competency using the Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Student Version.[62]

CONCLUSION

Development of pedagogy that provides cultural exposure and ISL experiences for PT students is in alignment with the *Normative Model of Physical Therapist Professional Education*[22] and other core APTA documents.[21,23,24] Combining core values assessment and cultural competency measures is appropriate as the core values "reflect the value of cultural competency in the areas of excellence, professional duty, and social responsibility."[18(p4)] Educational models that enable students to research a country in depth and participate in ISL experiences are critical for visualization of the repercussions of economic, political, and cultural elements on population-based health care concerns. More work is needed to devise and assess innovative educational models that promote cultural competence and core values development in DPT students.

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Appendix 1. Learning Objectives

A. On-campus learning objectives:

(1) Identify a topic related to the culture of Ecuador and begin its investigation for a scholarly project:
- Role and training of a pediatric physical therapist in Ecuador.
- Population specific health care concerns of Ecuador.
- Health care insurance format of Ecuador.
- Ecuadorian culture.
- Spanish language and local vernacular of the indigenous population.
- Ecuadorian social structure.
- Political structure of Ecuador.
- Religions of Ecuador.
- Economy of Ecuador.

(2) Create a physical therapy educational intervention to address the identified FHC[44] client physical therapy problems.
(3) Utilize effective strategies for conducting a literature search.
(4) Demonstrate effective writing skills.
(5) Demonstrate effective oral communication skills in both Spanish and English language.
(6) Work collaboratively with faculty and peers.
(7) Disseminate project through peer-review publication or presentation.
(8) Exhibit professionalism in interactions with students, faculty, and community (inside and outside the educational institution).
(9) Reflect on experience.
(10) Demonstrate effective use of PICO Model.[51]

B. Off-campus learning objectives

(1) Demonstrate effective oral communication skills: English and Spanish.
(2) Work collaboratively with faculty and peers.
(3) Exhibit professionalism in interactions with students, faculty, and community (inside and outside the institution). Cultural sensitivity will be expected.
(4) Demonstrate effective interactions with the clients at FHC orphanage.
(5) Reflect on experience.

Appendix 2. Example of Student-Generated Reflective Journal Questions

Reflective Question #1:
What are your personal and professional goals for this educational experience?

Reflective Question #2:
How do you think this experience will help mold your professional values as you transition from students to practicing physical therapists?

Reflective Question #3:
What do you foresee as the largest obstacles you will encounter on this trip both professionally and personally? How do you plan to tackle these obstacles?

Reflective Question #4:
How has the research on the culture of Ecuador that you have done shaped your views for travel to the FHC site?

Reflective Question #5:
Do you think that the actual time spent in Ecuador is sufficient to make an impact on the lives of the children?

Reflective Question #6:
Do have any friends/family members who have been adopted? What has their experience been and do you notice any difference in their behavioral/emotional needs?

Appendix 3. Instructor-Generated Reflective Questions

Instructor-Generated Reflective Questions (Pre-Trip)

How might your preparation for the trip to Ecuador impact your professional role formation? In particular, think about the 7 PT core values (accountability, altruism, compassion and caring, excellence, integrity, professional duty, social responsibility)

(1) What do you perceive to be your role in the group of 14 students who are traveling to Ecuador? How do you see yourself and your special gifts contributing to the success of the group?

(2) Why did you decide to travel to Ecuador? Do you have any cultural biases about Ecuador pre travel? What do you expect to gain from the cultural experience?

(3) How might your work in Ecuador impact your future as a physical therapist?

Instructor-Generated Reflective Questions (Post-Trip)

1. How did your preparation for the trip to Ecuador impact your professional role formation? In particular, think about the 7 PT core values (accountability, altruism, compassion and caring, excellence, integrity, professional duty, and social responsibility)
2. What was your role in the group of 14 students who are traveling to Ecuador? How did you contribute to the success of the group?
3. What did you gain from the cultural experience? Did any of your cultural bias change based on your experience?
4. How do you think your work in Ecuador will impact your future as a physical therapist?

Appendix 4. Comments From Student Reflective Papers Based on Themes

Theme	Professional Role Formation	Career Development	Cultural Readiness	Collaboration
Pre-ISL Experience	"In classes the core values have been stressed and are definitely developing. However, with this [ISL] experience, I think it will be amazing to see how much these core values improve in one week. Especially, social responsibility . . . ."		"Experiencing another culture first hand will give me a greater appreciation of cultural differences, both socially and in terms of a healthcare approach. I feel I will be better able to relate to future Latino patients and have a greater understanding of where they came from and their cultural beliefs."	
Post-ISL Experience	"The trip to Ecuador had a tremendous contributing impact on my professional role formation. I believe that everybody pursuing a career in healthcare demonstrates a great deal of compassion and caring, but for me this trip has only magnified these qualities on a personal and professional level. During the 9-day experience, I really bonded with some of the children at the orphanage and in turn made me advocate for their needs and ensure that they received as much attention and therapeutic treatments as possible during the trip. In accordance [with] professional duty, I put the needs of these 'patients' above all else." "This trip embodied the 7 PT core values. It was vital to the success of the trip that each member of the group exercised these core values. Being immersed in a culture that is lacking so many of the basic necessities that we have in the [U]nited [S]tates heightened the group's awareness to the importance of the 7 PT core values."	"After this trip I know for sure that I would like to be a neurological pediatric physical therapist following graduation. I have also been interested in learning Spanish…and working in Latin America . . . ."	"I have gained so much from this experience, in particular a new found respect for what I have; as we traveled around I was exposed to how people with very little in comparison to us could live and be happy with little to no luxuries by appreciating the people and things around them. I gained a greater appreciation of Latin American culture and also working with children with disabilities."	"My individual role in the group, if I had to pinpoint, was to handle the orthotics along with [xxx] and the other group members interested in fitting the orthotics. Overall, I think we were all part of a combined effort and had differing roles but all worked towards the overall goal of making a change for the better for all the children at FHC." "The group dynamics were fantastic. The cohesive unit that we became almost immediately was exciting and so wonderful. The team was patient with each other through trying emotional and exhausting experiences. The group grew together both clinically and emotionally."