ATHLETIC TRAINING EDUCATION JOURNAL

www.natajournals.org
ISSN: 1947-380X
DOI: 10.4085/1404283

Globalization of Athletic Training & Therapy

COMMENTARY

Development of a Short-Term, Athletic Training and Public Health International Service-Learning Study Abroad Program to Nicaragua

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Context: Study abroad programs are a key educational opportunity for athletic training students to grow in cultural competence. Yet, there are few faculty-led, study abroad programs specifically designed for athletic training community engagement in low-income nations.

Objective: To describe the process of developing and implementing a short-term athletic training and public health service-learning study abroad program to Nicaragua.

Background: Partnerships with a Nicaraguan partner institution aimed at creating sustainable study abroad programs for students from a variety of disciplines were initially explored. A short-term, study abroad program with athletic training and public health faculty was established based on the opportunities and benefits that it would provide to students, interests of host staff, and the accessibility to a local community.

Synthesis: Nine athletic training and exercise science students, composed mostly of graduate students, participated in the program in Nicaragua. Students worked with local soccer coaches and their student-athletes. Curriculum for the coaches included basic athletic injury prevention and management techniques including the Fédération Internationale de Football Association 11+ injury prevention protocol, concussions and head injury, heat illness and hydration management, nutrition and performance, and basic first aid. With the student-athletes, the group implemented injury prevention skills including the Fédération Internationale de Football Association 11+, proper heading techniques, and teamwork drills.

Results: Working with the Nicaraguan soccer players and coaches provided students important lessons in cultural competence, interprofessional education, communication, and patient care.

Recommendation(s): As athletic training education shifts to a professional master's degree, it is important for educators to consider study abroad program length, structure, and student learning outcomes if they are interested in creating faculty-led programs.

Conclusion(s): Athletic training study abroad programs, which provide students with opportunities for direct interaction with coaches and student-athletes, can provide students with beneficial learning opportunities. This program can offer a framework for those interested in offering short-term programs abroad.

Key Words: Cultural competence, soccer, sports-medicine

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Full Citation:
Rosen AB, Center CC, Coleman JD. Development of a short-term, athletic training and public health international service-learning study abroad program to Nicaragua *Athl Train Educ J.* 2019;14(4):283–292.

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KEY POINTS

- Global experiences can enhance athletic training students' learning outcomes.
- Athletic training study abroad programs will need to provide opportunities designed specifically for graduate students as programs transition to the professional master's degree.
- Partnership development is key to allowing service-learning opportunities in international settings.

INTRODUCTION

Although participation in study abroad programs has recently increased, opportunities for students in health care professions to study abroad are limited due to a number of factors. In the 2015–2016 academic year, 325 399 US students studied abroad, representing an increase of 4% of US students compared to the previous academic year.[1] Majors in science, technology, engineering, and mathematics comprised 25% of all students studying abroad, while health professions represented only 7% of study abroad participants.[1] Research shows that studying abroad can foster both personal and developmental benefits, affect career direction, and improve chances at obtaining a first job.[2] As a result of their experience abroad, participants report improvements in maturity, communication and interpersonal skills, and teamwork and problem-solving skills.[2,3] Of particular importance, study abroad programs have demonstrated that students increase their cultural understanding, empathy, and intercultural competence.[3] Short-term study abroad programs (8 weeks or less) are increasingly popular, accounting for 63% of all programs, and may be a better option for students in professional programs.[1] While undergraduate students make up 88% of all students who study abroad, only 12% of graduate students participate in these programs.[1] As the professional degree for the athletic trainer elevates to the master's level, these short-term programs may be better suited for graduate students in athletic training programs, which have carefully prescribed curricula and allow little time for additional experiences.[4]

Study abroad programs are a key educational opportunity for athletic training students to grow in cultural competence, which is a prominent component of the Commission on Accreditation of Athletic Training Education (CAATE) standards (2020 standards: 56–59) and fundamental in providing quality patient care.[4,5] Due to the sequential academic structure of most athletic training curricula, students face challenges when seeking study abroad opportunities due to their effect on clinical experiences, the integration of the program with their prescribed sequence of course work, or both. Part of the emphasis on cultural competence is to improve patient care across diverse populations, particularly to improve cultural understanding, reduce biases, and improve communication.[5] These deficiencies are certainly not unique to athletic training, and also occur in other health care professions such as nursing and physical therapy.[7–10] For instance, when self-rating from *culturally incompetent, aware, safe,* and *competent*, 74% of recent nursing graduates were culturally aware, while the remaining 26% were culturally safe.[11] However, students involved in study abroad programs have consistently demonstrated improved cultural competence outcomes upon completion.[7–10] Specifically, benefits noted by study abroad programs include exposure to new practices and techniques and different health care systems, a deeper desire to change and improve one's own practice, and cultural sensitivity.[7–10]

While study abroad programs designed for athletic training students are few, a couple have reported successful outcomes.[12,13] Athletic training study abroad programs are typically offered in shortened formats.[12,13] The reported benefits for athletic training students for these programs typically are personal growth, improvements in understanding different cultures, curiosity, the gain of an alternate perspective, and an increased interest in the globalization of the profession.[13] However, prior athletic training study abroad programs have lacked key experiential learning components such as interactions with patient populations. Similarly, programs offered to athletic training students have traditionally been limited to well-developed nations such as Australia and China.[12,13] A study abroad program with patient interaction from a low-income nation may provide opportunities for culturally meaningful interactions, exposure to socioeconomic diversity, and navigation of resource-limited environments. The program described here was developed with these global outcomes in mind, and Nicaragua was chosen as a suitable destination.

Nicaragua, a Central American country, nestled between Costa Rica and Honduras, covers a slightly smaller area than the state of New York and has a population just over 6 million people.[7] It is the poorest country in Central America with high unemployment and 30% of its population living below its poverty line.[7] Spanish is spoken by 95.3% of the population, and the most practiced religion (50%) is Roman Catholic, which has a significant effect on the Nicaraguan sociopolitical systems.[7] Nicaragua has been a destination for many US students due to its recent history of relative stability and cost. Shupe[14] recently described a short-term, faculty-led, study abroad program for psychology students to Nicaragua. The purpose of the study abroad program described by Shupe[14] was to challenge students to reevaluate their own beliefs on poverty, to promote a sense of personal responsibility to help others, to grow to appreciate another culture, and to inspire students to participate in future cultural exchanges. Based on the results from Shupe,[14] the program to Nicaragua was successful in creating learning opportunities and challenging undergraduate students to think in different ways.

To our knowledge, there have been no previous athletic training study abroad programs to Nicaragua. Therefore, this manuscript describes the process of creating and implement-

Table 1. Demographic Data of Study Abroad Trip Participants

	Sex	Age	Year in School	Language Proficiency[a]
Students				
Athletic training professional undergraduate #1	F	22	Senior	Professional working
Athletic training professional graduate #1	F	29	2nd	None
Athletic training professional graduate #2	F	29	1st	None
Athletic training professional graduate #3	F	25	1st	Professional working
Athletic training professional graduate #4	F	25	1st	Limited proficiency
Athletic training professional graduate #5	F	24	1st	None
Exercise science undergraduate #1	F	22	Senior	Full professional proficiency
Exercise science undergraduate #2	F	23	Senior	Bilingual
Exercise science graduate #1 (athletic trainer)	M	26	2nd	None
Faculty				
Athletic training	M	33		Elementary
Public health	M	42		Elementary

Abbreviations: F, female; M, male.

[a] Based on the Interagency Language Proficiency Scale (self-reported): https://www.govtilr.org/Skills/ILRscale1.htm.

ing a short-term joint athletic training and public health international service-learning study abroad program to Nicaragua. Service learning is an experiential learning methodology that involves students interacting directly and assisting with specific needs in a community, and in this case, an international setting.[10,15] This unique study abroad program offered hands-on activities in the form of didactic and laboratory instruction as well as a sports clinic to Nicaraguan soccer coaches and their student-athletes.

University Partnership Development

In May 2017, a team from the University of Nebraska visited Nicaragua; this team included representatives of the Study Abroad Offices at the University of Nebraska at Omaha (UNO) and the University of Nebraska Medical Center, a professor of public health, and a professor of Spanish. The team visited multiple sites in Esteli, Leon, and Managua. A local health and medical education study abroad provider also collaborated with the Nebraska team. Site visits included both public and private universities, as well as local communities, medical facilities, and language schools. The overarching goal of this exploratory visit was to identify Nicaraguan partner institutions with which to create multiple, sustainable study abroad programs for UNO students from a variety of disciplines. The University of Nebraska already had a footprint in Nicaragua from long-standing programs in social work as well as special education and communication disorders; however, it sought to expand offerings for language and health programs.

One site visit was with the Universidad Americana of Managua (UAM) and included meetings with faculty from multiple disciplines including medicine and business, the rector (similar to a president or chancellor in the United States), and representatives from the International Studies Office. The Nebraska team noted that the campus had exceptional facilities for sports, specifically soccer. Upon return to Nebraska, the team decided to pursue a short-term, 10-day joint study abroad program over spring break between athletic training and public health with faculty from each of the UNO programs (A.B.R., J.D.C.). This selection was based on the opportunities and benefits that it would provide to both graduate and undergraduate students, facilities and interests of UAM staff, and the contribution to the local communities.

The resulting study abroad experience was led by 2 faculty members, the Athletic Training Program Director and Public Health Program Director. Nine total students studied abroad, including 5 graduate professional athletic training students, 1 undergraduate professional athletic training student who was also minoring in Spanish, 1 graduate exercise science student who was an athletic trainer, and 2 undergraduate exercise science students (Table 1). All students attended several pretrip and posttrip meetings. Premeetings involved more than simple pretrip planning; they included lectures on the history, governmental structure, public health, and clinical health care infrastructure of Nicaragua. During the study abroad trip, students met each evening with the faculty to have an approximately hour-long faculty-guided discussion on the day's events as well as how they related to the public health of Nicaragua's citizens. During the posttrip meeting, which occurred approximately a week and a half after return, students wrote a reflection on their trip and participated in a group discussion.

Students had the option of signing up for a 1-credit ($n = 6$) or a 3-credit course ($n = 3$). The 3 students who enrolled in the 3-credit course had a number of additional responsibilities working alongside faculty in greater capacities. The graduate student (studying exercise science) who was already a certified athletic trainer assisted in planning curricular content for the coaches before the trip and taught 1 of the days while on-site. Another graduate athletic training student, who was also a soccer coach, planned and coordinated all of the training days with the student-athletes, video-blogged the trip, and coauthored a study abroad manuscript. The last student, an undergraduate exercise science student and Spanish speaker, assisted with translations of all materials, course content, and communications.

Development of Educational Sessions for Coach and Student-Athletes

As part of the strategic planning of the trip, we worked with UAM to develop the educational sessions and identify the

Table 2. Daily Topics and Skills for the Coaches Education Sessions

Day	Monday	Tuesday
Morning excursion	(1) Tour national sporting venues (2) Campus tour	US Embassy
Morning excursion study abroad student learning objective(s)	To highlight the role of sports in Nicaraguan culture	(1) To illustrate the US-Nicaragua political relationship and its effect on the Nicaraguan people (2) To identify how the United States uses sports in diplomacy
Coaches educational session theme	Injury prevention	Head injuries
Coaches educational session learning objectives	(1) To understand the role of an athletic trainer and its equivalent in Nicaragua (2) To outline common soccer injuries (3) To explain the implementation and components of the FIFA 11+	(1) To identify "red flags" of head injuries and concussions (2) To illustrate and identify common signs and symptoms of concussion (3) To design age-appropriate and safe heading progressions
Coaches educational session laboratory skills and activities	FIFA 11+	(1) Basic concussion recognition (2) Heading ball progression for youth sports
Coaches educational session handouts/giveaways (in Spanish)	FIFA 11+ manual	(1) Centers for Disease Control HEADS UP concussion fact sheets

Abbreviations: CPR, cardiopulmonary resuscitation; FIFA, Fédération Internationale de Football Association.

community that would benefit the most from sports medicine–related content. Soccer is the second most popular sport in Nicaragua behind baseball, the national sport. In addition, UAM already had preexisting relationships and connections to the local high school–level soccer teams through the local coaching community, thus making it a natural fit to build the curriculum around soccer.

Once we established our audience, we determined the lesson plans with topics we believed most pertinent to soccer coaches, as well as considerations specifically designed for Nicaragua. Topic selection was done based on consultation with the Nicaraguan faculty and staff and on other factors, including availability of equipment, epidemiological data, and information found in the literature. Each day included a combination of didactic lectures with hands-on laboratory instruction with the coaches followed by applied learning with student-athletes (Table 2). Both the instructors and students were present for all didactic sessions and assisted with laboratory sessions to ensure hands-on skills were being performed correctly by the coaches. We developed 5 main topic areas that we believed would be of most interest and importance to the attendees, including injury prevention, concussion, heat illness and hydration, sports performance and nutrition, and basic principles of first aid.

Curriculum Implementation

Coaching educational sessions took place in an auditorium equipped with a projector and folding chairs. Educational sessions with the coaches on day 1 focused on injury prevention. The Fédération Internationale de Football Association (FIFA) 11+ protocol contributed substantially to the curriculum with coaches as they learned the evidence for and application to soccer. The FIFA 11+ protocol is a soccer-specific, effective injury prevention program.[16] As of 2013, over 5000 coaches from over 40 countries, not including Nicaragua, had been instructed in its implementation at various conferences and training sessions.[17] The FIFA 11+ is composed of 10 different exercises with progressive difficulty. The FIFA 11+ takes approximately 10 to 15 minutes to complete and is part of a warm-up protocol. Previous research has indicated the FIFA 11+ may be able to reduce the overall risk of musculoskeletal injuries by approximately 40%.[16] As part of the instruction, we printed and distributed pretranslated manuals to the coaches, as well as FIFA 11+ posters for both coaches and players.

On day 2 of the educational sessions for the coaches, we focused on concussions and head injuries. The session for the coaches included the definition of a concussion, immediate "red flags," signs and symptoms observed by coaches and parents, and basic assessment as well as return-to-play considerations. As part of the basic assessment, we demonstrated and discussed a Spanish-translated standardized assessment of concussion (Figure 1). After this lesson, we discussed in-depth purposeful heading in soccer, including proper training and coaching techniques. This session also included a discussion of progressions for teaching heading as well as neck and core strengthening exercises for soccer players. Preprinted handouts (in Spanish) for the day included pretranslated materials from the Centers for Disease Control's

Table 2. Extended

Wednesday	Thursday
(1) Masaya volcano (2) Local market To understand the daily life of the Nicaraguan people and the availability of food as it relates to nutrition	(1) Historical Center of Managua (2) The Old Cathedral of Managua (3) National Palace Museum To recognize the history of Nicaragua and how it affects current issues facing the country
Heat illness, hydration, and emergent care (1) To explain the different types of exertional heat illnesses (2) To discuss heat injury prevention and hydration techniques (3) To discuss the identification and basic first aid for emergent conditions including heart and breathing emergencies, stroke, and seizure (4) To review protocols for extreme weather conditions (heat and lightning)	Basic first aid, performance, and nutrition (1) To provide guidance for performance nutrition, including competition meals and multi-match weekends (2) To create programs to improve agility, strength, power, and flexibility in soccer athletes (3) To discuss hygiene and personal protection when performing basic first aid (4) To practice basic first aid skills including wound care, splinting, wrapping, and bracing
Hands-only CPR	(1) Glove use and removal (2) Wound care (3) Splinting (4) Ankle/shoulder wrapping
Laminated hydration chart	(1) MyPlate (2) First aid kit (3) Hot/cold pack (4) ACE wrap

HEADS UP program, accessed free from their Web site (https://www.cdc.gov/headsup/youthsports/index-esp.html).

The third day, we split into 2 educational sessions, the first being weather, particularly heat, hydration, and lightning, with emergent conditions in the second half. Nicaragua is a tropical climate with 2 main seasons, wet and dry. Due to these hot, humid conditions, heat stress and dehydration are a common issue for farm workers in Nicaragua.[18,19] Similarly, these weather conditions can have a significant negative effect on soccer players. Therefore, we discussed the various types of heat illnesses (eg, heat cramping, heat exhaustion, heatstroke) as well as their signs, symptoms, and first aid.[20] In addition, we provided tips for maintaining proper hydration, including prevention and recognition (Figure 2).[21] During the rainy season, thunderstorms are frequent and Nicaragua is among the top 25 countries in the world for lightning deaths.[22] Thus, we also provided information related to prevention and first aid considerations for lightning safety.[23]

In the emergent conditions session we discussed seizures, strokes, and cardiac and breathing emergencies due to the high prevalence of these conditions in Nicaragua.[24] According to data from the Institute for Health Metrics and Evaluation, among the leading causes of death in Nicaragua are cardiac and circulatory diseases.[24] In addition, poor diet, high blood pressure, alcohol use, and high body mass index are the top 4 risk factors for premature mortality.[24] During the lessons, we discussed the common signs of symptoms of each, as well as basic first aid and what to do if presented with an individual suffering from each condition.[25] In addition, for this session we instructed in and practiced with the coaches the performance of hands-only cardiopulmonary resuscitation (CPR). The American Heart Association recommends hands-only CPR for bystanders to improve prehospital care for those suffering from a cardiovascular emergency.[26] For this exercise, we brought our own CPR feedback mannequin, and UAM provided 2 nonfeedback mannequins. We thought this was a simple, effective, and important lesson, per the recommendation by the National Athletic Trainers' Association[27] for all coaches to have some level of training in first aid and CPR as there are no specific governing laws or guidelines for coaches in Nicaragua.

Due to scheduling issues related to the religious practices of the country, we had to condense the fourth and fifth days of lectures together for the coaches. In the first half of the educational session, we discussed nutrition and performance. We provided information on general nutrition practices, in relation to typical meals eaten in Nicaragua. Rice, eggs, beans, fresh fruit, and corn are common aspects of Nicaraguan diets. We described these foods in relation to MyPlate[28] in consultation with a local registered dietician, who also directed us to translated handouts from the US Department of Agriculture (https://www.choosemyplate.gov/multilanguage-spanish). For soccer, we specifically covered nutrition and hydration preparation for practices and competitions. Lastly, for athletic performance we discussed basic agility, strength, power, flexibility, and landing mechanics exercises aimed at reducing injury and increasing performance.

The last lecture and activities we provided included basic first aid techniques. We discussed personal protection via universal

Figure 1. Spanish version of a standardized assessment of concussion.

Evaluación estandarizada de la conmoción cerebral

Orientación

¿Qué mes es?	0 __	1__
¿Cual es la fecha?	0 __	1__
¿Que dia de la semana es?	0 __	1__
¿Que año es?	0 __	1__
¿Que momento del día es?	0 __	1__
	Total	___/5

Memoria Inmediata

A	B	C
Brazo	Papel	Mono
Manzana	Azúcar	Cobija
Puerta	Coche	Limón
Agua	Silla	Bebé
Fuego	Fruta	Luna

Memoria Inmediata

	1	2	3
Palabra 1	0 __ 1__	0 __ 1__	0 __ 1__
Palabra 2	0 __ 1__	0 __ 1__	0 __ 1__
Palabra 3	0 __ 1__	0 __ 1__	0 __ 1__
Palabra 4	0 __ 1__	0 __ 1__	0 __ 1__
Palabra 5	0 __ 1__	0 __ 1__	0 __ 1__
Total	___/5	___/5	___/5

Concentración (Números al revés)

A			
4-9-3	6-2-9	0 __	1__
3-8-1-4	3-2-7-9	0 __	1__
6-2-9-7-1	1-5-2-8-5	0 __	1__
7-1-8-4-6-2	5-3-9-1-4-8	0 __	1__
B			
5-2-6	4-1-5	0 __	1__
1-7-9-5	4-9-6-8	0 __	1__
4-8-5-2-7	6-1-8-4-3	0 __	1__
8-3-1-9-6-4	7-2-4-8-6-5	0 __	1__

Meses en reversa

Dic-Nov-Oct-Sep-Ago-Jul-Jun-May-Abr-Mar-Feb-Ene

Total ___/5

Memoria Retrasada

Palabra 1	0 __ 1__
Palabra 2	0 __ 1__
Palabra 3	0 __ 1__
Palabra 4	0 __ 1__
Palabra 5	0 __ 1__
Total	___/5

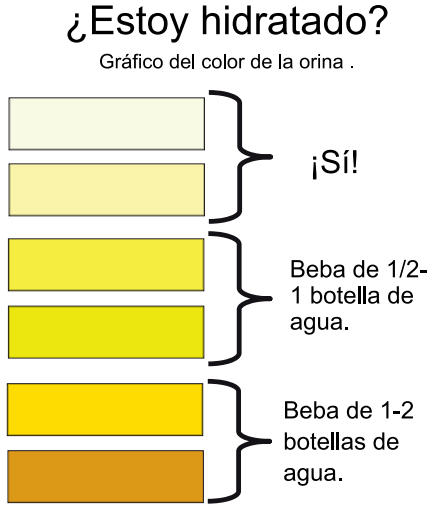
Total

Orientación	= ____/5
Memoria Inmediata	= ____/15
Concentración	= ____/5
Memoria Retrasada	= ____/5
Total	=____/30

precautions and basic hand washing techniques.[29] Next, we taught wound care techniques and provided gloves to practice proper glove removal and splinting for simple fractures. Lastly, we taught and practiced basic wrapping for ankle, knee, and shoulder injuries using an ACE wrap.[30]

Approximately 35 coaches attended all sessions. At the conclusion of the 4 days of training, they each received a "Certificate of Completion," a T-shirt, and a small first aid kit. In Nicaragua, the coaches within the school districts were required by the government to have a certain number of credits, similar to continuing education units, and this workshop fulfilled a portion of that obligation. All lectures were prepared in English, with Spanish terms throughout. Lectures were delivered in English by program faculty and students and were simultaneously translated. A translator from UAM was used for the first day; however, 1 of the UNO students provided translations for the remainder of the program because she was fluent in Spanish and had a much better grasp of the material being presented as an exercise science student. We were also fortunate that 4 of our 9 students were bilingual in English and Spanish. Therefore, when working with the coaches and student-athletes, 1 bilingual student was matched with a student who was an English-only speaker.

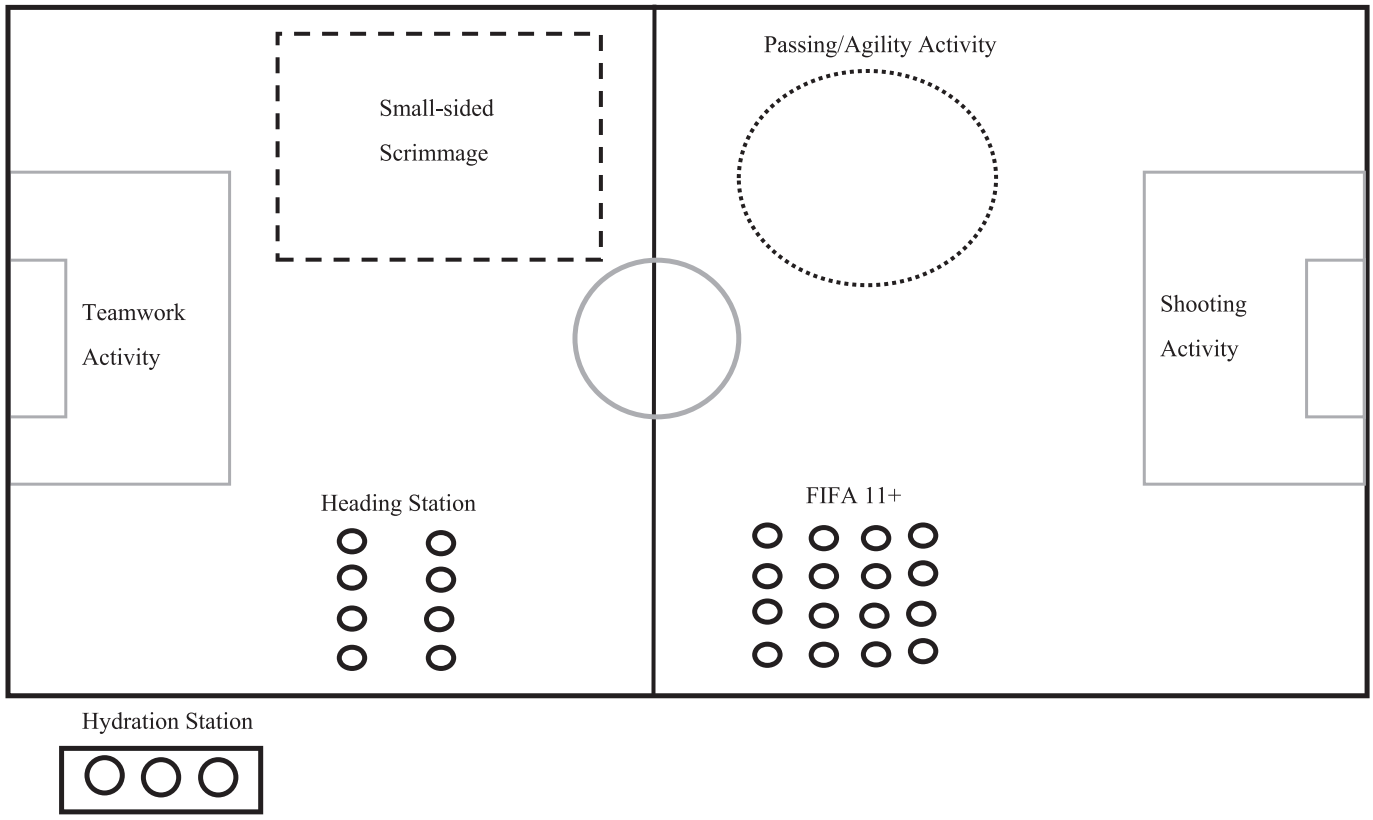
Figure 2. Spanish version of a urine hydration chart.



Curriculum with Student-Athletes

For the student-athlete curriculum, we originally believed we would have the same athletes every day and planned a different lesson for each day. However, due to a miscommunication, we had 17 high schools split among the 4 days, with approximately 250 student-athletes who attended throughout the week. We adjusted the original lesson plan to accommodate this change and taught similar concepts daily. In addition, a majority of the coaches from the earlier sessions

Figure 3. Schematic of field setup for athlete session. Abbreviation: FIFA, Fédération Internationale de Football Association.



stayed to watch and some participated daily. Student-athlete sessions took place on a soccer field located across the street from the building with the coaching session. Every day we started with the FIFA 11+ for approximately 20 to 30 minutes. We then had 4 or 5 stations depending on the day and the number of athletes (Figure 3). One station was a heading and concussion station, where we talked to the student-athletes briefly about the signs and symptoms of a concussion. We then worked on proper heading techniques, using principles from the US soccer coaches' association "Get aHEAD Safely in Soccer™" campaign.[31] Another station was a blindfolded teamwork activity aimed at improving on-field communication and was among the favorite stations of the student-athletes. A third station was a passing game involving some agility and backward movement. A fourth station was a shooting station that involved a brief competition and game involving choice-reaction tasks. The last station, if time allowed, consisted of a small-sided scrimmage.

Hydration breaks where we discussed the importance of hydration were taken frequently with the Nicaraguan student-athletes. We ended each day with static stretching techniques led by the students. Daily we provided handouts in Spanish on concussions from the Centers for Disease Control, FIFA 11+ protocols, and hydration charts for every student-athlete in attendance. We also provided giveaways that included Band-Aids, mini ice packs, and stretch out straps.

In addition, with 1 of the faculty leaders being the program director as well as the certified student being preceptor trained, students were able to gain clinical hours when involved with athlete and patient interactions. Student-athlete interactions involved care within the first domain, "Injury and Illness Prevention and Wellness Protection," as well as the potential for the third domain, "Immediate and Emergency Care," of the athletic training practice analysis if any injuries were reported during the sessions.[32]

Excursions

Aside from working with the coaches and student-athletes, the daily schedule was composed of a mixture of culturally significant excursions. The UNO faculty worked with the staff at UAM to assist in the creation of the schedule. We arrived in Nicaragua late Friday evening; Saturday and Sunday we were at the Apoyo resort, which is a volcanic lake and popular ecotourism venue. On Monday morning we toured national sporting venues, including Dennis Martinez National Stadium, Sports Center of Alexis Arguello, Michelle Richardson Pool Complex, and the Nicaragua National Football Stadium. On Tuesday, we went to the US Embassy in Managua to discuss diplomacy and relations with the US Ambassador to Nicaragua, On Wednesday morning, we visited an active volcano site and shopped in a local open-air market. Thursday morning, we learned about Nicaraguan history during visits to the famous Tiscapa Cathedral and National Museum Dioclesiano Chávez. In the evening after conducting the sessions, we were able to attend a FIFA International friendly soccer match, Nicaragua versus Cuba, at the Nicaragua National Football Stadium. On Friday evening, we attended a Nicaraguan Professional Baseball League game at Dennis Martinez National Stadium. We spent the last full day in the scenic and historically significant city of Granada and took a group boat tour of Lake Nicaragua.

DISCUSSION

The purpose of this manuscript was to present the process of developing and implementing a short-term, service-learning, study abroad program to Nicaragua. Nicaragua offered the perfect blend for institutional partnership development, opportunities for learning, and a culturally enriching yet challenging environment. This study abroad program could provide a framework for other graduate athletic training study abroad programs.

Across the United States, the primary target for study abroad programs is undergraduates since they more frequently enroll in study abroad programs compared to graduate students.[1] As the CAATE standards evolve with the transition to the master's level, study abroad programs for athletic training will also have to adapt.[4] For instance, short-term faculty-led programs are likely more realistic for graduate students due to a number of financial, familial, and logistical factors compared to whole semester or year-long programs.[33] In addition, the compressed and intense nature of athletic training graduate programs offers a challenge for both programs and students alike.

Cultural competence, interprofessional education, patient communication, and patient education, which are prominent within the 2020 CAATE standards (standards 20, 56–59, and 61), were hallmark features of this study abroad program.[4,5,34] Study abroad programs can assist in filling critical gaps in cultural competence, personal growth, and improving patient care in athletic training students.[33] Students were able to draw on their skills and knowledge to interact with, communicate with, and educate the Nicaraguan coaches and athletes. In addition, this study abroad program was designed as a joint athletic training and public health program with faculty members from both areas, which allowed interprofessional educational opportunities to develop organically. Our athletic training students gained a public health perspective working alongside the director of the public health program and students from other majors. Thus, additional learning opportunities through collaborative practice aimed at improving population-centered outcomes were provided.[35]

On this trip, students performed hands-on learning opportunities and patient care working with the Nicaraguan soccer coaches and their student-athletes. The first domain, "Injury and Illness Prevention and Wellness Protection," was featured prominently throughout this trip. The FIFA 11+ protocol, soccer heading techniques, and hydration, among others, were important lessons for our students to teach and implement daily. Previous athletic training study abroad programs described in the literature mainly discuss teaching through classroom activities as opposed to hands-on learning and clinical engagement.[12,13] In support of our didactic and clinical approach, students were able to gain clinical experience when involved with athlete and patient interactions. This clinical opportunity assisted the students if they were potentially missing time from their clinical assignments. However, this opportunity is difficult in most study abroad programs, due to both logistical (eg, access to patients) and credentialing issues across different countries. This feature is likely limited to faculty-led programs with 1 or more of the faculty as athletic trainers. However, to allow these service-learning opportunities, strong partnership development as described in this manuscript and other similar study abroad programs is necessary among domestic institutions, foreign institutions, and community entities.[10] For athletic training educators interested in planning service-learning study abroad programs, stakeholder involvement for global engagement is paramount.

The events that occurred in Nicaragua in the weeks after our departure also provided an interesting learning opportunity for those on the trip. We left Nicaragua on March 28, 2018, and approximately 3 weeks later, on April 18, protests broke out in Managua and rapidly spread countrywide. These protests stemmed from sudden changes in social security distributions by President Daniel Ortega. These sociopolitical protests quickly turned violent between protestors and government-backed forces, with 25 dead in the first week alone. On April 23, the US Embassy, where weeks before our students had had an enlightening meeting with the US Ambassador, was evacuated due to the escalating violence and threats. Almost immediately, our students who went on the trip were discussing the events and locations of places they had visited a month prior, with minimal US media airtime dedicated to the issue. Much of the discussion centered on doctors and student health care workers who were treating protestors in hiding because of the risk of government retaliation due to their care of the injured. One of the outcomes of this trip was that participants were more aware of an international event in which rights taken for granted in the United States were stripped by the local government. Students were able to empathize with citizens of a country in turmoil, which in turn may translate to patient care and everyday life in the United States. Those protests further intensified over the next few weeks with several violent clashes between the Nicaraguan government and its citizens. After 4 months of unrest, in early October 2018, political protests were deemed illegal by Ortega, and the number of fatalities numbered over 300 with thousands more injured. In addition, more than 20 000 citizens have fled the country seeking refuge and asylum from other countries, including the United States. Events like those in Nicaragua may have an effect on individuals studying abroad, as one of the most commonly cited concerns for study abroad is safety.[29] Therefore, safety challenges, particularly when traveling to an unstable region, may need to be addressed and discussed before departure from both a student and an institutional perspective.

LIMITATIONS

We acknowledge that there are several limitations with this manuscript and subsequent implementation of our abroad programs. We did not formally assess student learning outcomes specifically related to cultural competency and interprofessional education exposure. Future programs should include careful analysis of learning outcomes qualitatively and quantitatively using formal assessments. In addition, because the students came from a variety of educational backgrounds and levels, it was difficult to tie specific CAATE content and standards in to the student's prelearning experience. In the future, we will consider holding more formal and frequent meetings before the departure to ensure that all students have a similar content knowledge base. It was also fortunate that over half of the participants in the study abroad had some level of Spanish proficiency, which assisted with the effectiveness of the delivery of the program,

and may limit future applications of similar programs if fewer students have Spanish language capabilities. Similarly, several students noted it would have been helpful to offer a basic medical terminology course in Spanish to assist with communication while in the country.

CONCLUSIONS

The overall goal of this study abroad program was to bring basic principles and skills of sports medicine to a community of soccer players and coaches who lacked access to health care professionals. While it is difficult to assess and evaluate the overall, long-term effect of our program on the coaches and student-athletes, it was clear that the coaches were learning and implementing the training with students. On the last day of the soccer sessions, after observing the first few sessions of the week, the coaches present were encouraged to help lead the student-athletes in the FIFA 11+ with assistance from our students. Several volunteered and easily led the student-athletes through the progressions. In addition, several mentioned that they had already started implementing some of the techniques into their own practices that same week, which indicated that at a minimum, some of the skills taught transferred to the coaches.

For athletic training educators it is important that with the shift to a professional master's degree, study abroad programs will need to cater to graduate education and student learning outcomes.[4] In the past, study abroad programs have primarily attracted undergraduate student learners, particularly at UNO, as this was the first study program targeting graduate students. However, this program not only consisted of graduate students, but also was a mixed program with undergraduate students. This combination of students allowed additional opportunities for peer-to-peer and interprofessional learning, which is also an emphasis in the 2020 CAATE standards.[5,33]

Athletic training educators must consider the barriers for and needs of graduate students if they are interested in creating faculty-led programs. As programs transition to master's degrees, short-term study abroad programs, rather than semester and yearlong programs, may flourish as they seem better suited for graduate learners. Thus, creating programs specifically designed for graduate students will be paramount. This program to Nicaragua can offer a framework for other institutions interested in offering short-term programs abroad, particularly to non–English-speaking countries.

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