

The impact of physical activities in a short-term study abroad program: A case
study of Dive Belize

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Abstract

The purpose of this case study research is to investigate the impact of physical activities on student experience on a short-term study abroad program. While there is plentiful research on the benefits and student experience of study abroad (both long and short-term), there is limited research focusing on the impact of physical activity as an integral component of a study abroad program. In order to observe and investigate the impact of physical activity in a short-term study abroad program, I accompanied a two-week study abroad program to Belize in January 2013 with undergraduate and graduate students from the University of Minnesota – Twin Cities. Along with participant observations, in-depth interviews with participants were also conducted to assess the impact that the physical components of the program had on the students. I found that the physical activities in the program impacted the students connection to the course content, forced the students to overcome obstacles and face fears, made the students seek out other similar study abroad programs for the future, and proved to be the favorite feature of the program. However, I found that the physical activities of the program had little impact on the student's connection and learning of the local culture, and were not reported to be the most meaningful components of the program. Data collected from this study can contribute to the literature on the diverse field of study abroad, and possibly influence future programming of short-term study abroad.



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Chapter 1: Introduction

The number of students participating on study abroad programs is growing every year, and there is extensive literature investigating the student experiences on these programs and how they influence education and personal development. However, there have been few investigations of the influence of physical activities embedded in short-term study abroad programs on student experience. The purpose of this research is to fill this gap in the literature. This case study explores the student experiences of students participating on a short-term program to Belize and will focus on how the physical activities embedded in the program affect overall student experience while abroad as well as impact after the program.

Background

Participation in study abroad among students from the United States has more than tripled over the past two decades, and in the 2009/10 academic year over 270,000 students studied abroad (IIE, 2011). Of the students that participated on a study abroad program in 2009/10, over 54% chose a short-term program. Short-term programs are defined as any international experience with duration of eight weeks or less. The increasing popularity of studying abroad has led researchers to examine the impact of studying abroad on a variety of areas.

Research investigating the impact of study abroad finds students that study abroad nurtures their identity as a global citizen, improve their functional knowledge, increase their intercultural development and awareness, improve language learning, and political and geographic knowledge (Sutton, 2004).

Short-term study abroad programs also impact students in very specific ways. Anderson, Lawton, Rexesisen and Hubbard (2005) state that despite concerns about the duration of a short-term program and its ability to have a meaningful impact on student experience, students who participate on short-term programs have been found to improve language learning, increase their cultural awareness as shown by progressing on the IDI (Intercultural Development Inventory), acquire global awareness, and personal transformations (Berg, Connor-Linton & Paige, 2009). To deepen understanding about the impact of short-term programs, this thesis examines the impact on student participants of Dive Belize, a short-term program available at the University of Minnesota. Unlike traditional short-term study abroad programs where students primarily spend their time in a classroom and excursions are optional, Dive Belize requires students to take part in physical activities such as hiking, SCUBA diving, snorkeling and kayaking. This case study seeks to elaborate on the existing literature by examining the impact of physical activities on the student experience of the Dive Belize program.

Research Questions

This study seeks to answer the following research questions:

1. How were the physical activities of the program received by the students?
2. What are the advantages of incorporating physical activities into a short-term study abroad program?
3. What are the disadvantages of incorporating physical activities into a short-term study abroad program?

Key Terms

1. Short-term study abroad is defined as a study abroad program with duration of eight weeks or less. These programs are generally between two and eight weeks long (IIE, 2011).

2. Physical activity is defined as any body movement that works your muscles and requires more energy than resting according to the National Heart Lung and Blood Institute. The physical activities included in the Dive Belize program include SCUBA diving, snorkeling, hiking, zip-lining and kayaking.

Rationale for Case Selection

This thesis is a case study of the Dive Belize program offered through the College of Education and Human Development at the University of Minnesota – Twin Cities. I chose to perform a case study because I wanted to explore a program in depth through a constructivist worldview and ethnographic design. As in all case study research, I used a variety of data collection procedures over an extended period of time (Creswell, 2009). Case study research was appropriate because this study seeks to answer the “how” and “why” research questions, does not require control of behavioral events and focuses on contemporary events (Yin, 2012).

I chose this program because it is a unique program in that there is no traditional classroom component. It has an experiential learning approach, in addition to several physical activities embedded in the program. There are few programs offered in this format. I also chose this program because I was able to travel with the group and observe and participate in the program first-hand.

Methods

This study used two methods for collecting data to answer the research questions: First, I participated in all the activities on the programs, and collected data through naturalistic observation. The close relationships I formed with the students are an important benefit of participant observation research. The conversations between the students and myself allow me to understand how the experience influenced them. Being a participant researcher allowed me to understand what the students went through during the program and to corroborate what they say in the interviews.

Also, I conducted in-depth interviews after the students have returned from Belize. These interviews and observations seek to answer the research questions and better understand the student experience of the Dive Belize program.

Significance of Study

The existing research sufficiently investigates the student experience and influence of both study abroad programs and specifically short-term study abroad. However, the literature fails to examine the influence of physical activities on student experience while on a short-term study abroad program. This case study hopes to contribute valuable data to the field that may be considered in future planning of study abroad programs.

Outline

The next chapter outlines the gaps in the research of short-term study abroad and the impact of physical activity in an extensive literature review. Then I explain the methods of the case study research, present the data collected, examine the data and

discuss the implications of the findings. I also present several suggestions for further research to further explore the impact of physical activities on study abroad programs.

Chapter 2: Literature Review

The following literature review analyzes the impact of study abroad programs in general and specifically the impact of short-term programs. Next, I identify the gaps in the research and explain how this case study will seek to present meaningful additions to the field and research.

Impacts of Study Abroad: Global Citizenship and Intercultural Development

The demand for measurable learning outcomes from study abroad programs has inspired several research initiatives. The GLOSSARI project investigates the learning outcomes of study abroad programs. Through the analysis of student surveys, it finds that students who study abroad scored higher than students who did not study abroad in the areas of functional knowledge, knowledge of world geography, cultural relativism, and the knowledge of global interdependence (Sutton & Rublin, 2004). The GLOSSARI project also found that four year graduation rates of students who studied abroad were higher than students that did not (49.6% vs 42.1%), and that the effect held across various subgroups of students divided by gender, race, and SAT score. Four year graduation rates for African-American students who had studied abroad were 31% higher than for African-American students in the control group (did not study abroad). The GLOSSARI project also found that for students who studied abroad, their mean GPA increased after returning from study abroad. Researchers found a particularly pronounced study abroad effect on academic performance among students who entered college with low SAT scores.

Students in the GLOSSARI project surpassed non-study abroad participants in knowledge of cultural practices such as the ability to say what is funny in another culture

or understanding transportation systems (Sutton & Rublin, 2004). Wynveen, Kyle and Tarrant (2011), Chieffo and Griffiths (2004) and Sutton and Rublin (2004) all found that students who participate on a study abroad program report a higher level of functional knowledge than their peers who did not study abroad. This functional knowledge allows students to navigate daily routines in new environments efficiently.

The SAGE project examined the long-term personal, professional, and global engagement outcomes associated with study abroad experiences. Preliminary results revealed that study abroad has had an impact on five dimensions of global engagement including civil engagement, knowledge production, philanthropy, social entrepreneurship and voluntary simplicity (Paige, Fry & Stallman, 2009). In a separate study, Sutton and Rublin (2004) found that students who participate on a study abroad program also report increased political knowledge and awareness, as well as their knowledge of world geography. Wynvenn et al. (2011) supports these claims of increased global engagement in an environmental context. He observed students in a study abroad program building a strong sense of responsibility for the environment while on the program that continued after their re-entry. For some students, this experience impacted their previous values and attitudes regarding environmental responsibility. These students claimed to feel a personal obligation to reduce their negative impacts on the environment after the program.

In addition to increased sense of global engagement, the SAGE study finds that students report the impact a study abroad experience can have on subsequent educational and career choices (Paige et al., 2009). This highlights the lasting and longevity of the impact of study abroad. In a CIEE study, Fry, Paige, Jon, Dillow and Nam (2009) found

that study abroad does have short and long-term impacts on participants. In a study of over 600 individuals that participated on study abroad programs, 15.5% of the respondents said that studying abroad led them to change their academic majors. 63.3% of the 428 respondents who had already graduated said that they were planning on attending (or already enrolled in) graduate degree programs, which is close to double the national average. They also found that students that participate on multiple study abroad programs have a compounded impact. The “1+1=3” model describes how the impact of study abroad experiences is greater with multiple experiences, and in addition is more impactful each time a student participates (Paige, Fry et. al, 2009).

When asked about the most important impact of their study abroad experience, the top five themes mentioned were language fluency, appreciation of other cultures, broadening one’s perspective, gaining a better understanding of other countries and the experience itself. The study also found that the most important characteristics of the programs according to the students participated were interactions with host nationals, experiencing cultural differences, homestay experiences, immersive language learning and personal trips. The students in this study were participating in programs anywhere from less than a month to over a year, however the majority of the participants were going on semester programs. This study examines several different study abroad populations, however it does not explicitly study short-term faculty led study abroad programs with physical activity components. While about 26% of the programs were considered “field experiences”, there is no indication that the programs included physical activities as part of the program (Fry et al., 2009).

With the support of several studies, it is not surprising that students who study abroad increase their progression along the IDI (Intercultural Development Inventory). However, Berg et al. (2009) investigated the lasting impact of study abroad and intercultural development. He found that students who study abroad not only score higher on the IDI than students who did not study abroad, but they also maintain that development along the continuum of intercultural development for several months after their return. This suggests that this intercultural competency and development is not acquired and then forgotten, but remains as a part of the student identity long after returning back to their home country.

Impacts of Short-term Study Abroad

The previous literature highlights the impact of study abroad of any duration. However, over half of the students studying abroad in the 2009/2010 school year chose a short-term program (IEE, 2011). The most common study abroad program model often renders the most controversy, and its validity is questioned constantly. The main arguments questioning the validity of short-term study abroad programs are centered on the duration of the program. Critics ask how impactful an experience can be in as little as two weeks, especially in comparison to semester or academic year programs. However, several researchers have found meaningful consequences for students participating in short-term study abroad.

Short-term programs are generally significantly less expensive than semester and academic year programs and therefore are accessible for more students. Olson and Lalley (2012) found that first-year undergraduate students that participated on a short-term program reported interested in participating on more than one program due to positive

experiences. Students were also more likely to continue language study after participating on a short-term program and showed improved scores of teamwork, cultural sensitivity and ability to interact with others compared to their pre-trip results. This may be linked to intercultural development that occurred while studying abroad.

Another common argument against short-term programs is whether there can be any language development or proficiency gained in under two months. However, students on short-term programs are able to improve their language proficiency (Berg et al., 2009). Students improved their grammatical and technical language skills along with their conversational oral skills. Llanes and Munoz (2009) found that short-term study abroad produced significant gains on most measures of morphological, syntactic, lexical and uncovered errors.

Similar to students studying in semester or academic year programs, students studying abroad for short-terms were able to acquire global awareness more so than their peers in the same class who did not travel abroad as found by Chieffo and Griffiths' study (2004). They found that students who studied abroad increased their intercultural awareness and functional knowledge even in the short-term setting.

Byram and Feng (2006) did a case study of twelve graduate students from Hong Kong who traveled to the United Kingdom on a three-week study abroad program. For many students it was their first international experience. The students experience initial culture shock especially regarding the diet change. However, students self-reported that during the program they began to feel a heightened sense of curiosity about life and general openness that they did not feel before traveling to the U.K. These students described the personal transformation they felt they went through while abroad, such as

the feeling of opening their eyes to a new way of the world and the desire to try new things.

Impact of Physical Activity

The current literature on study abroad does not consider how the physical activities that are part of the program may affect what students are able to gain from their experiences. To do that, it is important to recognize and analyze the benefits of physical activity in general. The physical health benefits of incorporating physical activity into a daily routine are widely known and accepted. Recent literature highlights the mental health benefits of physical activity as well.

Penedo and Dahn (2005) investigated the impact of physical and exercise activity on two groups of college aged students. The control group lacking physical and exercise activities in their daily routine scored lower on desirable health outcome tests, both physical and mental. This is relevant because this case study will be investigating college aged students.

Physical activity has also proven to serve as a coping technique for stress. Edwards (2006) examined the psychological well-being and the impact of exercise. In his research on adults in South Africa, he found that exercise helped his subjects deal with stressful life situations. Self-reports from the participants who started a routine of daily exercise reported that exercise served as an outlet for anger and hostility, a form of moving meditation, enhanced their feelings of self-esteem and self-efficacy, and improved their sleep and rest. Terjestam, Jouper, and Johansson (2010) found similar results while investigating the impact of adding a martial arts exercise class to secondary student's school schedule in Sweden. They found that the pupils reported higher senses

of overall well-being and improved self-image after the program. They also reported reduced amounts of stress and psychological distress after the program that was not found in the control group that did not incorporate the activity. These results have not yet been tested in a study abroad setting, and this thesis seeks to fill that gap in the literature.

Murphy (1992) investigated the connection between physical activity (specifically exercise and sport) and the function of the human mind. Through his research, he claimed that,

“Athletes and adventurers, moreover, often experience paranormal events, altered states, and ecstatic moments bordering on the mystical. That such experience comes unbidden into the lives of many sportspeople, affecting them deeply and challenging their beliefs about themselves, dramatize the fact that flesh and consciousness tend to coevolve during the practice of strenuous disciplines. The fact that spiritual moods occur simultaneously in many athletes indicates that disciplines for the body sometimes catalyze depths of the mind, even in people who have little or no understanding of such experience.” (p. 415)

He believes that the mind opens in sport and physical activity, and in addition to physical benefits, the mind benefits greatly from physical activity. In his research, he discovers several different beneficial physical changes produced by exercise such as enlarged and strengthened heart muscle, lower resting heart rate, improved circulation, decreased blood pressure and body fat, improved reaction time, greater bone mass, and improved mobilization of lactic acid. Along with all of these benefits, Murphy also mentions some of the negative physical, mental and emotional outcomes of exercise and physical activity including excessive fatigue, over competitiveness unwholesome preoccupation with diet, obsession with body image and physical injuries (Murphy, 1992).

In addition to all of the beneficial physical changes produced by exercise, Murphy (1992) found that exercise and physical activity could improve mental functioning and psychological health. He found that exercise can relieve mild to moderate depression and anxiety, promote self-confidence, and stimulate a general sense of well-being. He then discussed how sport and physical activity can be a transformative practice, which manifests in several different ways. He compared the “zone” that some athletes describe as an especially concentrated state of mind to a religious experience. He says that, “the spatial and temporal boundedness of sport helps order and sublimate our energies, focus our minds, and release extraordinary capacities.” (p. 447).

Stubbe, de Moor, Boomsma, and de Gues (2007) investigated exercise participation and well-being in twins in the Netherlands. He found that participants between the age of 18 and 65 found exercise participation is associated with higher levels of life satisfaction and happiness. All of these studies highlight the positive benefits of participating in exercise and physical activity. Many of the benefits of physical activity are the same or similar to those of positive study abroad program experiences.

Gaps in the Research and Contributions of Dive Belize Case Study

There is sufficient research highlighting the impact of study abroad in general as well as short-term study abroad. However, there is no research that investigates the impact of physical activity embedded in a study abroad program.

Byram and Feng (2006) highlighted the transformative experiences students can have while studying abroad. These experiences often come as a result of being in a new environment and doing things that one would not do in their everyday life. On the other hand, Murphy (1992) highlighted transformative experiences of the mind and body

through physical activity and sport. This case study seeks to fill the gap in this literature and combining these two findings by studying a study abroad program that contains several physical activities in which all students will participate. The goal of the research is to see what impact this program had on the students that participated, and specifically how the physical activities impacted their study abroad experience including the advantages and disadvantages.

Chapter 3: Methods

Research Design

Presented in this chapter is the research design of the case study of the Dive Belize program. I used qualitative methods to investigate the student experiences. Data were collected in a natural setting rather than a lab, and I will be acting as a key instrument and component of the data. Data were collected through multiple sources including naturalistic observation and interviews. An indicative data analysis method was used.

I decided to perform this research as a case study because it is focusing only on the student experience of the student's on the Dive Belize program in January 2013. This program is worthy to be studied because of its unique program structure. It is a non-traditional study abroad option with no traditional classroom learning and the entire academic content is presented through experiential learning and field study. It is also a desirable program because of the accessibility of the faculty member and participants. This is the first year the Dive Belize program will be run. However, programs with similar structure (and including physical activities) run by the same faculty member have filled extremely quickly. I followed the student experience throughout the entire program and will participate in all activities with the students, and used data collected to evaluate the impact of the educational program.

Research Site

We traveled throughout the country of Belize by bus and boat while on the program. The group stayed in a remote village in southern Belize called Hopkins, at a hostel-like accommodation called Jungle Jeannie's for six nights. Students and the

faculty member stayed in beachside cabanas with anywhere from 1-4 students per cabana. The SCUBA dive took place on the Mesoamerican Barrier Reef. The hikes and zip-line took place at Cockscomb Wildlife Sanctuary and the Bocawina National Park. The kayaking trip was on the Sittie River. The program ran from January 8th-19th, 2013 and I conducted naturalistic observation throughout that time. The in-depth interviews took place in Minneapolis within a few weeks upon return from the program.

Physical Activities on Dive Belize

1. SCUBA – one day of training in a pool, and one day of diving in open water on the barrier reef with two separate 20-40 minute dives
2. Snorkel – three days of intense snorkeling along the reef for hours at a time
3. Kayaking – one day for a few hours
4. Hiking – two days of challenging hikes in national parks and preserves
5. Zip-lining – one day

Participants

Table A: Participant Information¹

Gender	Year in School	Major
Female	Junior	Rec Park & Leisure Services
Female	Senior	Rec Park & Leisure Services
Male	Junior	Rec Park & Leisure Services
Male	Senior	Marketing
Female	Junior	Rec Park & Leisure Services
Female	Junior	Rec Park & Leisure Services
Male	Senior	Rec Park & Leisure Services
Male	Senior	Rec Park & Leisure Services
Female	Junior	Biology and the Environment
Female	Senior	Rec Park & Leisure Services

¹ Throughout this paper all student names have been changed to maintain confidentiality

There was no formal recruitment for participation in this research. Students enrolled for this program by their own free will and for their own reasons, and it will not be required for them to participate in the research. All of the students and faculty participant have been notified that a researcher will be observing the program along with participating, and I obtained permission from all other participants and the faculty member to do so. I interviewed as many participants as possible after the program, but only with participants who agreed to being interviewed.

The Dive Belize program is a four credit Recreation, Park and Leisure Studies class (REC 5301) open to all University of Minnesota undergraduate and graduate students in the Fall 2013 semester. Ten undergraduate students and one graduate student (myself) participated on the Dive Belize program. Eight of the undergraduate students were Recreation, Park and Leisure Studies majors, one was a biology and the environment major and one was a marketing major. I am a Comparative and International Development Education master's student. This class fulfills an "environment" liberal education requirement that must be met by all University of Minnesota undergraduate students. The faculty leader for this program is a faculty member in the Recreation, Park and Leisure Services Department in the College of Education and Human Education.

Methods

The data collected for this qualitative case study were obtained through naturalistic observation and in-depth interviews.

I participated in all of the activities with the students during the program in a participant as observer approach. This includes all travel time, excursions, classes, small

and large group activities, leisure time, and all physical and recreational activities. I recorded field notes throughout the program and create a coding system to track the trends in student experiences.

All students were approached and asked if they would like to participate in one-on-one in-depth interviews to discuss their experiences on the Dive Belize program. The students were not be required to participate in these interviews, and if they are uncomfortable with being audio-recorded they will not be recorded. The interviews will be approximately one hour in length and semi-structured in order to best understand the impact of the Dive Belize program on each individual student. This research is intended to be interpretive and through deductive reasoning themes and noteworthy pieces of data will be identified.

Validity and Reliability

The nature of qualitative case study research presents various threats to the validity of the research. I am in close contact with all of the students and faculty member for the entirety of the Dive Belize program. I have formed close relationships with the other participants and this may cause them to alter their behavior. However, these close relationships will also help to better understand the actions of each participant and help to understand the responses in their interviews.

I combated validity threats by collected rich and detailed data from both the interviews and the observation. In addition, I conducted member checking in which the findings were shared with the interview participants to ensure I have an accurate understanding of the interview content and has capture accurately the views of the

students. Triangulation of the interview and observation data was also used to increase the validity of the research.

Chapter 4: Findings and Results

Participant travel/study abroad background

Ten undergraduate students and one graduate student (myself) participated on the Dive Belize program. Four of the participants have traveled abroad several times (two have traveled abroad on solo trips and two have participated on study abroad programs). Four of the participants have been abroad with their family members. For three of the students the Dive Belize program was their first time traveling outside of the United States. Seven of the students participated in interviews after returning from Belize.

1. Overcoming Fears and Getting Outside of Comfort Zones

All interview participants reported that while in Belize they were constantly overcoming obstacles and pushing outside of their comfort zone in various ways that were often directly related to the physical activities on the program. Ben, Chris, Kevin, Emma, Margaret and Molly were all scared of SCUBA. Ben said that completing the dive was a huge accomplishment for him and that he had to push through his fears of the activity. Molly was scared to SCUBA because of previous experiences with claustrophobia, and even though it was “horribly scary!” it ended up being her favorite activity. Margaret was especially scared of the night snorkel, but said she was glad she overcame her fears.

In regards to her experience hiking Ben’s Bluff Margaret said,

“I was super struggling, it was really hot and I didn’t think I would make it. I felt like I was overcoming this huge challenge and it was really cool to get to the top and everyone was cheering for me!”.

She described how that encouragement made her feel really good and supported by her classmates. Emma had never been out of the country before without her parents and

described feeling a lot of anxiety about the trip leading up to our departure, especially the night before. When describing her anxiety and fears she said,

“[Belize] got me out of my comfort zone in a lot of ways, like I had to push myself physically and mentally in a lot of the stuff we did and it was scary. I’ve always been so dependent on my parents and stuff and I’ve never done anything like this, as lame as it sounds, I’ve never been away for my parents for that long and I like did this for myself and ever aspect of the trip I just loved! ... ”

Margaret discussed how the Dive Belize program has influenced her decision to look for a summer job outside of Minnesota. For the past several years, she has worked as a camp counselor at a camp in Minnesota a few hours from her home. Before she was a counselor, she was a camper at the same camp for several years. She described the job as “very comfortable and easy”. However, after returning from Belize she reported that,

“Something totally changed. I wanted to find something that was less comfortable instead of going back to my safety net. I decided to look for camp counselor positions out of state, and now I’m going to California [to work at a camp] for the summer!”

Margaret talked about wanting to challenge herself, and is excited to see more of the world and continue to push herself outside of her comfort zones.

2. Seeking Similar Travel

The faculty leader in Belize runs the REC 5301 two-week study abroad class every January. In 2014 it will take place in Tanzania and the class will climb Mount Kilimanjaro for the majority of the program. The faculty member made it very clear that students would need to be in peak physical condition to participate on this program, and a training schedule will be provided for students accepted into the program. The Tanzania program was a large topic of conversation throughout the Belize program, and in the interview process six students reported seriously considering signing up for the program.

Margaret, Ben, Linda and Chris have already been accepted into the program for 2014, and they all say that the main draw to the program is the chance to climb Kilimanjaro.

Ben and Linda will both be delaying their graduation to participate on the Tanzania program, and Ben already delayed his graduation once to participate on the Belize program. He also participated in the Costa Rica program in 2012 that was the same class taught by the Dive Belize faculty member. Linda and Ben both reported that the fact that this particular faculty member is teaching the course makes the trip even more desirable because they know they will learn so much and they like the way she structures her trips. Ben admits that he is not yet in Kilimanjaro shape saying,

“I will have to change my lifestyle for this and it’s going to be really hard but I want to go out and see what there is to experience, when else will I be able to go to Africa and climb a mountain? I need to take advantage of this opportunity.”

He also admits that he never thought he would ever want to go to Africa, but he knows how much he has enjoyed Belize and Costa Rica and is now looking for the next adventure. He also says that his next goal is to go shark diving.

Emma talked about how staying on Tobacco Caye opened her eyes to a whole new way to travel. She did not think that kind of travel was accessible to her, in regards to the accommodations on the caye and activities and resources available in such a remote location. She said that in future travel, she would prefer to stay in places like Tobacco Caye rather than large cities, but she did not know it was an option until the Dive Belize program.

3. Connection to Academics and Coursework

Many of the students expressed that they felt more connected to the coursework on the trip and their academics by participating on the physical activities while abroad.

Each student (or group of students) chose a topic connected to adventure tourism in Belize to create a video presentation on. Linda chose to do her presentation on the preservation of the national animal of Belize, the tapir, which is also endangered. She was constantly looking for tapirs, making tapir calls, and sharing tapir trivia to the group on our hikes. She shared that she did not think she would be so interested and invested in learning about the tapirs if she did not have a chance to see them in their natural habitat. Margaret, Chris and Emma were similarly invested in their projects. Molly studied the mangroves and spoke about how it was “like meeting a celebrity!” when she snorkeled through the mangroves. She was also constantly sharing fun facts about mangroves with the group throughout the trip because she investigated them so thoroughly. She says that she usually hates science, but while studying the reef before and while snorkeling on Carie Bow Caye she understood it and it made sense. Margaret and Chris studied the conservation of the reef and said they feel personally connected to the preservation of the reef after learning about it on Tobacco Caye and snorkeling and diving throughout the reef.

Emma, Molly and Margaret all discussed how after visiting the reef and learning about the impact of tourism on the reef they have changed their habits and mindset in regards to trash from the United States. Molly said,

“Traveling to Tobacco Caye to learn about reef conservation and ecosystems of the reef made me change my habits...seeing all of the trash, it was ours not theirs. Decisions we make here affect everyone else in the world and we need to be aware of that.”

Margaret says she feels a connection to the reef and what it does to the community and the world. Emma has decided to pursue an additional certificate in sustainable tourism, and she credits it to her experience in Belize.

Linda is considering a career in therapeutic recreation and says her experience in Belize made her think about how people with disabilities would be able to participate on the trip, especially all of the activities. She previously took a course on campus studying people with disabilities and recreation, but says,

“It was eye opening to look at it from this [Belize] perspective. Can someone who has a handicap do these activities? Can they navigate Belize? I mean there are dirt roads everywhere. Can they even go SCUBA diving?”

Ben stated that he likes and is used to experiential learning because that is how the Recreation, Park and Leisure Services major classes are taught on campus. He said the classes are set up so that students have to “go out and experience it” in the form of off-site learning and internships, in addition to traditional classroom learning. These examples support Fry’s et al. (2009) research that found study abroad experiences influencing educational, occupational and life style choice changes.

4. Connection to Culture

The students described the ways and environments in which they felt they learned about and experienced the Belizean culture. Ben, Emma and Margaret stated that they learned the most about Belize culture by living in Hopkins and staying at Jungle Jeannie’s. Hopkins is a very small village in a rural part of southern Belize. The group often had meals at local restaurants. Kevin said that he learned the most about the Garifuna culture by eating the traditional foods.

The Garifuna people are descendants of West African that have settled throughout Central America, including Belize. Throughout the trip the group was given opportunities to try traditional Garifuna food and see traditional Garifuna clothing, dancing and drumming.

Emma said that she learned the most about the culture by seeing the housing for people who live in rural Belize and how different it is from housing that she sees in the twin cities. While the group stayed at Jungle Jeannie's they slept in beachside cabanas with limited electricity. The group formed close relationships with Jeannie and her husband (who run the business), and Nikki a local woman who lives in Hopkins and works as a cook at Jeannie's. Several students formed a special relationship with Nikki and observed her interactions with her friends and family. Margaret watched Nikki send a text to one of her friends discussing their plans for that night, and Margaret noticed that Nikki was texting in broken English and she could not understand what she was saying. Margaret asked Nikki what she was texting and why it did not make sense to her. Margaret said she felt like that was one of the most genuine cultural experiences she had throughout the whole trip, and it took place while hanging out at Jeannie's during their free time. Linda also had a bonding experience with Nikki when Nikki offered to braid her hair as she would for her own daughter.

5. Favorite Activities vs. Most Meaningful Activities

In the interviews the students were asked what their favorite activities on the trip were, and also what the most meaningful experiences were. The students were assured that there is no right answer and their answer may very well be the same activity. The results are shown in Table B.

Table B: Favorite Experiences vs. Meaningful Experiences

Participant	Favorite Experience	Most Meaningful Experience
Ben	SCUBA	Living in Hopkins
Linda	SCUBA and hiking	Hiking and watching peers overcome SCUBA fears
Emma	SCUBA and snorkeling	All activities, getting outside of comfort zone
Margaret	SCUBA	Hiking Ben's Bluff
Molly	SCUBA	Garifuna drumming
Chris	SCUBA	Jungle Jeannie's
Kevin	SCUBA and snorkeling	Garifuna food

The table shows that all students that participated in the interviews claimed that the SCUBA (or SCUBA paired with another activity) was their favorite experience. However, it is noteworthy to mention that there was a wide range of variety in the most meaningful activities. Some were physical activities, but others were living situations, food, and cultural events. These answers mirror observations I made while in Belize. The SCUBA day was the most talked about event of the trip. The participants and faculty member rehashed the events of the day, what fish they saw, how each participant felt, and reflected on their experience with SCUBA for the rest of the trip. Several people commented on the boat trip back to Jungle Jeannie's after the dive that SCUBA was the reason they chose this program, and this has been something they have wanted to do again, or for the first time. Others claimed that SCUBA was definitely not the reason they chose the program, and was not something on their bucket list. However, after the

experience everyone was talking about how glad they are that they did it and, for some, how glad they are that they overcame fears to complete the dive.

Chapter 5: Conclusions and Discussion

1. Overcoming fears

Several students experienced situations in Belize where they had to overcome a fear and push themselves outside of their comfort zones. Almost every fearful situation was somehow related to one of the physical activities. Several students were fearful of the SCUBA dive and snorkeling. Some expressed claustrophobia, fear of sea animals, and overall anxiety about the activities. Other students were uncomfortable for the physicality required to complete the hikes in the program. However, every student on the program tried all of the activities in the program, even if they were unable to complete them fully. In addition, every student interviewed and observed throughout the program expressed how overcoming their fears and pushing their limits made the program more fun, memorable and meaningful. The most talked about activities throughout the program were those that were difficult and scary at times. Not one student commented or expressed regret in overcoming a fear or participating in an activity that they were anxious about. After the SCUBA dive, Margaret stated that she “couldn’t believe she did it!” with a sense of pride and accomplishment. Ben, who was unable to complete the first dive due to ear troubles, said [of the second dive, which he did complete],

“The first attempt was a huge fail and I was like, I don’t want to do the second dive my ears hurt so much. But I’m here, and I have to do it. And I did it and it was amazing. I’m so glad I did, it really made the program.”

Students not only benefited from overcoming their own fears, but from their peers overcoming their fears as well. Linda described my SCUBA experience as one of the most meaningful experiences of the Dive Belize program for her. I was extremely anxious about the SCUBA, but was also excited to do it and overcome my fears. She was

unable to complete the first dive and had an underwater panic attack. However, after encouragement from the staff and her peers she was able to complete the second dive. Linda, along with the rest of the group, was encouraging and helped build up my confidence to try again, and this experience was meaningful and transformative for both Linda and me. The physical activities that elicited fear, anxiety or obstacles also caused the participants of the program to bond and create teambuilding environments. When members of the group were scared of the SCUBA and snorkeling, the rest of the group came together to encourage and support. When Margaret was having a difficult time with the hike, the entire group encouraged her and helped her complete the hike. This display of teamwork reflects the findings of Olson (2012) who found students scoring higher in areas of ability to work well with others and teamwork after returning from a study abroad program. Fry et al. (2009) also found that students who participated on short term programs allowed for them to live with peers from their own institution and that enabled them to learn how to live with different people from the U.S., and build positive relationships in an intensive setting. The anxiety and fears that the Dive Belize students faced led them to grow as a team and build positive relationships in an intensive setting as well. The physical activities included in the Dive Belize program forced students to overcome fears and push outside of their comfort zone, and this enhanced the program and the student experiences on the program.

Edwards (2006) found that exercise helped his subjects deal with stressful life situations, and create coping techniques for stress and anxiety. It is noteworthy that the Dive Belize students used physical activity to overcome fear and anxiety as well, although it was not voluntary and was directly related to the stress and anxiety.

2. Catching the “physical activity travel bug”

Several students who participated on the Dive Belize program have already applied for the Tanzania study abroad program in January 2014 (run by the same faculty member) that includes a hike of Mt Kilimanjaro. They are seeking more short-term study abroad opportunities like the Dive Belize program. Olson (2012) argued the increased accessibility of short-term study abroad programs, and the participants of the Dive Belize program support those findings as so many students have participated on several other short-term programs in the past, and plan to in the future as well.

Students not only want to participate on more study abroad programs, but they want to participate on more programs that have a similar structure as the Dive Belize program. They are seeking more challenging physical activities in their next study abroad experience. All five students enrolled in the Tanzania program claimed that the Kilimanjaro climb is the main incentive for the program. This is incredibly physically demanding, requires training, and is thought to be more challenging than any activity on the Belize program by the interview participants. Several students talked about having to change their lifestyle to participate on this program. Ben stated that he feels better about himself when he is physically active on these programs, and Margaret talked about how completing the Ben’s Bluff hike gave her a large sense of accomplishment. These findings support the claim that physical activity can increase sense of overall wellbeing and improved self-image (Terjestam and Johansson, 2010). The findings suggest that the Dive Belize students were impacted by the study abroad experience itself, but that impact was increased because they were physically active on the program. This research supports the claim that the physical activities have their own benefits that enhance the

already discovered impact of study abroad. In other words, all benefits and impacts of study abroad are increased and enhanced when physical activities are also incorporated. Fry's (et al., 2009) model of "1+1=3" describes the distinctive impact of multiple study abroad experiences. Multiple experiences seem to have more than increased linear impact, but exponential influence in what the SAGE study described as the 1+1=3 model. This case study suggests the following variation of this model to describe the results from the Dive Belize case study:

$$1(\text{Physical Activity}) + 1(\text{Physical Activity}) = 5$$

In this model, "Physical Activity" can refer to specific activities on one study abroad program, or multiple study abroad programs that incorporate physical activities into the program. For example, this model suggests a program such as Dive Belize has increased linear impact and exponential influence because it incorporates several different physical activities. This model can also be applied to impact of a student who participates on several programs that have physical activities built into them. For example, a student that participated on Dive Belize as well as the Tanzania program will be impacted exponentially more than a student that participates on just one of the programs.

3. Connection to culture through physical activities

In the interviews, the students revealed that they learned the most about the Belize and Garifuna culture through living in Hopkins, discussions with their faculty member and as a group, staying at Jungle Jeannie's, trying native food, experiencing cultural events such as the drumming, and forming relationships with native Belizeans. It is noteworthy that none of these activities were directly related to any of the physical

activities of the program. I hypothesized that because several of the physical activities were run by native Belizeans, the students would feel a connection to the culture or experience culture learning while participating in these activities. All but two of the SCUBA instructors were Belize men, a Belize woman snorkeled with the group, both of the zip-line guides were Belize men, the guide on the Ben's Bluff hike was a native Garifuna man. However, even with all of these interactions none of the students mentioned the physical activities when asked about their experience learning about and experiencing Belize culture. These findings suggest that although there are several benefits to incorporating physical activities into a short-term study abroad program, in this case culture learning is not one of them. Fortunately, the students connected to and learned about the local culture by other means throughout the program.

4. Connection to academics through physical activities

The students described feeling more connected and invested in their academics and career aspirations through the physical activities on the Dive Belize program. The students were more invested in their projects because of the physical activities that related to them. Linda described enthusiasm for learning about tapirs because she knew she would be able to be in an environment to potentially see them. She talked about tapirs throughout the hikes, taught the rest of the class how to do a tapir call, and shared fun facts. Molly studied mangroves for her project, and talked about how snorkeling through the mangroves was a highlight of her experience. She also shared information about the mangroves with the class, and was visibly excited and invested in her project. Margaret and Chris both commented on the benefits of spending so much time snorkeling

and diving on the reef talking to experts about conservation, and how it enhanced their project.

The group spent a significant amount of time snorkeling and diving on the Mesoamerican barrier reef, and a large part of the academic content was learning about conservation, ecotourism and the reef. Emma and Molly both commented about how spending so much time on the reef made them feel a personal connection with the reef, and consequently they have changed their lifestyle regarding trash. The group saw firsthand the wearing down on the reef due to tourism, as well as the trash build up on the beaches. They described being more conscious of their own trash back in the United States because they see how it affects the coastline and environment in Belize. These findings support Fry et al. (2009) in that their lifestyle has been influenced and changed due to a study abroad experience. This also supports the finding that study abroad increases global engagement in an environmental context and causes students to feel a personal obligation to reduce negative impacts on the environment (Wynvenn, 2011).

Linda is considering working in therapeutic recreation and after experiencing all of the activities in Belize it influenced how she thinks about that career. She questioned whether or not people with disabilities would be able to participate on all of the activities. She was considering this profession before going to Belize, but after doing all of the activities in Belize it has changed her perception of the career and made her think about it in different ways. This supports the finding by Fry et al. (2009) that study abroad experiences can significantly influence career development.

Emma decided to add a sustainable tourism minor to her degree, and says that it is because of her experiences on the Dive Belize program. She was greatly influenced by

the deterioration of the Mesoamerican reef, and without seeing that first hand through the SCUBA and snorkeling, she may not have felt so passionate and connected to it. As Fry et al. (2009) found in their study, Emma's academic goals and degree planning were greatly affected by her study abroad experience and more specifically, by the physical activities she participated in on the program.

5. Favorite Activities vs. Most Meaningful Activities

It is noteworthy that all students who were interviewed reported that a physical activity (specifically the SCUBA and the snorkel) was his or her favorite activity on the program. These results show that the physical activities were well received by students, and in fact were their favorite portion of the program. My observation on the program supports these data. However, it is also noteworthy that none of the students specifically identified a physical activity as the most meaningful experience on the program. This suggests that while the physical activities were fun, they were not as meaningful (and possibly not as impactful) as some of the other experiences, such as living in Hopkins or the Garifuna culture. However, this research finds that the physical activities are meaningful in several ways, and greatly influences the students in terms of connection to academic content, overcoming fears and obstacles, and aspirations for future travel and study abroad. The students may be unaware of how meaningful these physical activities really are, and how great an impact they can have.

Holistic Education and Physical Activity

This case study reflects the benefits of a holistic approach to study abroad and education that incorporates the mind, body, and heart. The following figure illustrates this idea.

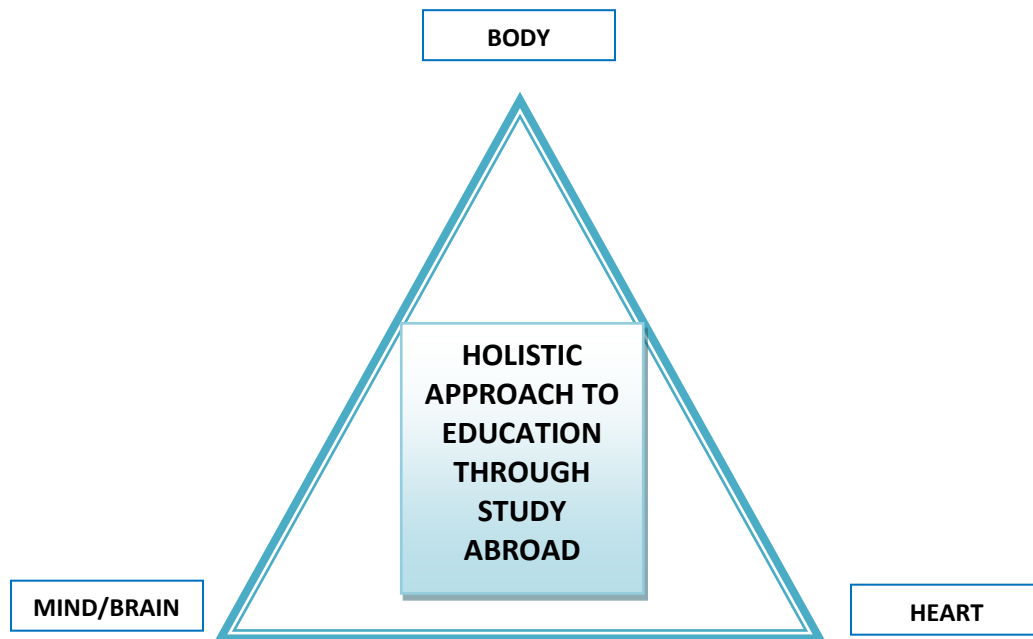


Figure 1. Holistic Approach to Education through Study Abroad

Mind/Brain: This section of the model represents the traditional academic focus of education and study abroad. The students learn through assignments, readings, lectures, reasoning, comprehension, discussion and challenging ideas. In the Dive Belize case study, this is represented by the projects on which the students worked. They were able to connect to the academic material through these projects that they would not have otherwise.

Heart: This section of the model represents the emotional component of learning. This can be displayed by students building character and integrity, personal growth and development, and building relationships with their peers and with new people. The Dive Belize students formed close relationships with each other and learned through those

relationships. They also discussed the personal growth they felt by participating on the program, whether it is facing fears, traveling abroad for the first time, or reconsidering academic and career choices due to their recent experiences.

Body: The impact of physical activity and the body on education and study abroad is often overlooked. This study found that through physical activity students were able to connect to the academic components of their program, overcome fears, led them to seek out other similar study abroad programs, and pushed them to their limits not only physically but also mentally and emotionally. This model recognizes the equal importance of all three factors necessary for students to benefit the most from their international education experiences.

Limitations

Due to time and resource constraints, I was not able to conduct in-depth interviews with all participants of the program. Interviewing all of the students would have contributed more information and testimonies, which would have enhanced the study.

Conclusions and Suggestions for Future Research

While this study has filled gaps in the current literature, I propose the following topics to be investigated to contribute to the knowledge on the impact of physical activity on study abroad programs. This thesis would be greatly enhanced if the upcoming Tanzania short-term program led by the same faculty member could have been included in the study. This would have allowed the two programs to be compared and deciphered if themes were similar in both. For example, it would be helpful to see if the students feel the same connection to the academic content, academics and aspirations for future travel

as they did after and during the Dive Belize program. This would also be an opportunity to apply the “1 (Physical Activity) +1 (Physical Activity) = 5” model. With this model, the Dive Belize participants on the Tanzania program should be impacted exponentially greater than students that did not.

The Dive Belize program did not include any structured self-reflection or journaling for the participants. It would be helpful to see how including that would affect the impact of physical activities in short-term study abroad. Perhaps if the students had a structured venue for self-reflection they would recognize that the physical activities were more meaningful than the Dive Belize students did.

The Dive Belize participants were mainly Recreation, Park and Leisure Services majors. It would be beneficial to perform a similar study on students that were studying something completely different, such as a STEM major, to see if similar results are found among different major populations. One criticism of this study might be that these students were already prone to the impact that they experienced because of their interests personally and academically. Further research with different student populations would be able to address that criticism.

It would be beneficial for future research to focus on the connection between physical activities on study abroad and cultural interactions and learning. Why do the physical activities help students connect to the academic content but not to the local culture? Is this true for all short-term study abroad programs with these kinds of activities, or is there something that the Dive Belize program could have done differently?

Finally, the research questions in this study focus on student experience and the impact of physical activity in the short-term. Future research may compare the long-term influences a short-term study abroad program with and without physical activity components. This research may investigate the impact these programs have had on individual development, education or professional goals or intercultural sensitivity.

This study successfully addressed the research questions in the following ways: The study found that the physical activities in the Dive Belize program were positively received by the students, and in fact identified as the favorite activity. They were not however, identified to be the most meaningful activity by the students, but were found to be meaningful through further data collection. The advantages of incorporating physical activities into short-term study abroad programs as supported by the data collected are that students are challenged and forced to face fears and overcome obstacles, they are more connected to the academic content and career goals, and they seek out other similar international experiences. The disadvantages are that there is no clear connection between physical activities in study abroad programs and cultural learning and experiences. However, the students did experience culture learning through other means and activities throughout the program.

As a final reflection, and the most powerful finding, the physical activities included in the Dive Belize study abroad program were in fact meaningful and more than just fun additions to the program. These types of study abroad programs are often perceived as “vacations” that are only peripherally educational. However, this study demonstrates the many meaningful impacts of including activities such as SCUBA diving, snorkeling, kayaking and hiking into a study abroad program. After investigating

and participating on the Dive Belize program, I can confidently state that the most enjoyable activities can also be the most impactful. The physical activities in Dive Belize were an integral component to the success of the program.

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Appendix A

Dive Belize Post-trip Interview Questions

1. What is your student status at the University of Minnesota?
2. What is your major?
3. Is REC 5301 Wilderness and Adventure Education a requirement for your program?
4. What was the main reason you decided to participate in the Dive Belize program?
5. Was this your first study abroad experience? If no, describe the other program.
6. Describe your favorite activity in Belize. What did you like about it?
7. Describe your most meaningful experience in Belize – what made it meaningful?
8. What was the least meaningful experience in Belize – what made it not meaningful?
9. Which activity, if any, do you wish you had spent more time doing?
10. Are there any activities you would have eliminated from the program? If so, which ones?
11. What would you change about the program for next year?
12. How would you describe this program to someone interested in study abroad?

Appendix B.

Dive Belize! Itinerary REC 5301 Wilderness and Adventure Education January 8-17, 2013

Day One: Fly to Belize City where you travel by van to the Garifuna village of Hopkins on the Caribbean coast. Check into your cabana and enjoy a walk along the beach, relax in a hammock, and get settled in for the next several days. Dinner and an orientation will be in the dining palapa.

Day Two: After a hearty breakfast, head to Hopkins Underwater Adventures to begin your Discover SCUBA course. You will first view an instructional video followed by a pool lesson to understand the equipment, signals, and details of the dives. The afternoon is free for some beach time or a walk into town for shopping and exploring. We will try some Belizian cuisine in a local restaurant in town tonight.

Day Three: Board the dive boat as we head out to South Water Caye for a day of diving! We will be completing two dives with our dive instructors at a depth of up to 40 feet! We will lunch out at the reef and return mid-afternoon for some relaxing hammock and beach time.

Day Four: Today we travel to Cockscomb Wildlife Sanctuary and Jaguar Preserve run by the Belize Audubon Society. We will grab inner tubes and hike into the jungle to the river where we will take a lazy float through this National Park looking for birds and other wildlife. We'll take a short hike up to a small waterfall with a cool, clear pool for a refreshing dip! Those wishing to be more adventurous can continue on the trail to Ben's Bluff for a magnificent view of Victoria Peak, the highest in the country.

Day Five: A thrilling adventure awaits you today with a trip to the Mayflower Bocawina National Park and a zip line across the jungle canopy! With 12 platforms high in the treetops to zip between, there is plenty of time for viewing this beautiful park. Enjoy the longest zip line in the county at 2300 ft (almost a half mile long!)

Day Six: Grab a paddle as we head to the Sittie River for a paddle along this wildlife hotspot with excellent birding, crocodiles and turtles basking along the riverbanks. Experience the Garifuna culture as we enjoy some traditional drumming and dancing on the beach tonight!

Day Seven: Leaving the town of Hopkins, we head to nearby Dangringa where we will board a boat taking us to Tobacco Caye Marine Station located on a very small caye (island) directly over the barrier reef. We will be staying on the caye for three nights as we learn more about the preservation and challenges facing the reef. This afternoon you will have your first snorkel experience into the crystal clear water with plenty to see right off the beach. Those wishing to may participate in a nighttime snorkel as you step off the dock and in to a nocturnal world of cephalopods, moray eels,

arthropods, and echinoderms. Underwater lights are provided, but they must be shut off to enjoy the phosphorescent dinoflagellates.

Day Eight: Spend the entire day exploring the South Water Caye Marine Reserve including a visit to the Smithsonian Institute's CCRE Facility at Carrie Bow Caye, Man 'O War Caye Bird Sanctuary, Tobacco Range Mangroves and other protected areas to examine these unique marine ecosystems.

Day Nine: Travel by boat across the Caribbean Sea for 15 miles for a full day trip to the nearby Glover's Reef Atoll, one of only four atolls in the Atlantic Ocean. After passing over the ringing coral you will be surrounded by the exquisite turquoise waters and lush patch reefs. We will explore the fore reef that falls over the edge of this plateau before it drops off into the abyss.

Day Ten: Rise early and travel back to land and to the airport for your flight home.

**Note: Trip itinerary is subject to change without notice.