Secondary Agriculture, Food and Natural Resources Students' Study Abroad Experiences

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Introduction

Purdue University describes study abroad as "any number of arrangements by which students complete part of their degree program through educational activities outside the United States" (2021). During the 2018-19 academic year, 347,099 U.S. students studied abroad. This number is an increase of 1.6% over the previous academic year, and represents almost 250,000 more students than what were studying abroad in 1994 (Martel et al., 2020). With these data, it is no surprise that studying abroad has become very popular at universities across the nation. So much so that students of all majors are encouraged to participate. Many researchers have found that there are positive effects of studying abroad, including increased self confidence, commitment to foregin language study, understanding of other cultures, and more (Dwyer & Peters, 2004)

Although study abroad experiences and their benefits have been studied at the post-secondary level, there is very little research on the topic at the secondary school level. Within the context of Agriculture, Food and Natural Resources (AFNR) education, there are even fewer publications and studies completed that examine this topic. This deficiency in the literature however, is the fault of no one. Until recently, there have not been many study abroad programs available to secondary school students to participate in, especially those that cater to AFNR programs. In 2020 however, one of the largest study abroad companies for secondary education, Education First Tours (EF Tours), started a campaign catering specifically to AFNR programs and their students. EF Tours is currently marketing three trips that have an AFNR focus in the Dominican Republic, Italy, and Ireland (Fitzgerald, 2020). With these rising opportunities, it is critical now more than ever that we learn more about these experiences and how they may benefit students.

Literature Review

As mentioned previously, there are not many studies that have been completed in AFNR regarding study abroad. At this point in time there are none regarding secondary school education, only post-secondary or teacher education programs. These studies, however, have looked at everything from students' abilities to gain *cross cultural awareness* (Lokkesmore et al., 2016), *cultural competency* (Bunch et al., 2018), *global competencies* (Sankey et al., 2014), and *global citizenship* (Berg & Schwander, 2019). There are case studies as well that share student's feelings on the experiences. For example, students from Louisiana State shared how they felt "privileged" during their experience in Nicaragua and learned many things about the local culture and agriculture systems (O'Malley et al., 2019, p.199). These studies are alike in that

they had set expectations for the specific type of international knowledge and understanding that students would gain. Whether that was the most basic level of cultural awareness all the way up to cultural competence. It was clear however, after analyzing all of these sources together, that most students only gain cultural awareness and knowledge from their study abroad experiences. Very rarely do students, in a singular experience, obtain the level of impact needed to shift their mindset and change behaviors to truly be culturally competent and obtain global competencies.

In another study, AFNR industry professionals at a University of Florida career fair were interviewed about their opinion on hiring students who had undergone a study abroad experience during their undergraduate career. The majority of these professionals and employers responded positively, and were enthusiastic about hiring individuals with that experience (Harder et al., 2015). This type of extrinsic gain would be extremely valuable to secondary AFNR students and educators as the goal of all CTE programs is to provide students with more opportunities and skills to obtain hands-on careers. While the majority of the employers agreed that almost any study abroad experience was positive, a significant amount also touted that students needed to be able to truly comprehend their experience or gain some sort of awareness or competency that they could translate into their career (Harder et al., 2015).

What we still don't know from the literature is the types of study abroad experiences that secondary school students have and the implications of those experiences. Another area worth investigating in the literature, especially in the context of AFNR, is the effect of study abroad on academic success. There is some, but not much, information on this topic currently. For example, in a study from Old Dominion University that took place from 2000-2004, individuals from the freshman cohort who did and did not study abroad were compared by their general academic data (GPA, graduation time, SAT scores, etc.). They found that the students who studied abroad took more credit hours and had higher GPAs, as well as up to 23% more of them graduated compared to students that did not study abroad (Xu et al., 2013). However, it is difficult to tell if these academic successes were due to the study abroad experience or other factors in a students life (socioeconomic status, major, etc.) that could have led them to study abroad.

Theoretical Framework

For this study, the theoretical framework that we rooted our research in was Astin's input-environment-output (I-E-O) model (Astin, 1991). Using this model, we are able to identify students engaged in secondary AFNR education as the inputs and their study abroad experience (or lack thereof) as the environment. The outputs we wanted to identify and examine were students' sense of global competence, cultural awareness, self awareness, career determination, and empathy.

Purpose and Objectives

The purpose of our study is to explore former secondary agriculture, food, and natural resources students' study abroad experiences as they relate to career determination, self-awareness, empathy, cultural awareness, and global competence. We have broken this mission into three distinct objectives.

Objective 1: Describe the international travel experiences of students who participated in a study abroad experience through their AFNR programs and those of a comparison group.

Objective 2: Describe the educational outcomes (career determination, empathy, cultural awareness, and global competence) of students who participated in a study abroad experience through their AFNR programs and those of a comparison group.

Objective 3: Describe the relationship between the international travel experiences and educational outcomes for both groups of students.

Methods

Population, Sample, and Data Collection

There were two distinct populations that we collected data from. The Student Comparison group population consisted of undergraduate students at Michigan State University who are currently enrolled in Agriculture, Food and Natural Resources Education (AFNRE). Thirty-three email addresses were provided for this population. The second population was our AFNR Traveler group. We had three cooperative high schools who have taken their students on study abroad experiences while in high school as a part of their AFNR program that provided a list of 37 email addresses.

To collect our data, a Qualtrics survey was sent to the 67 unique email addresses in early February. Over the course of five weeks, six emails were sent to encourage and remind the individuals to participate in this survey. At the end of the five weeks, we received 33 survey responses, 32 of which were complete. Out of the 32 complete responses, 16 were from the AFNR Traveler group and 16 were from the Student Comparison group.

Instrumentation

The survey distributed to our participants first asked participants how many countries they have traveled to, then was structured so that each construct was measured individually. All of the constructs were measured on a five-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Examples of the questions and more information on where the questions were found can be found in Table 1 below.

Table 1

Description of Constructs

Construct	Items	Example Item	Original Construct Source	Reliability
Global Competence	11	I am knowledgeable of current world events	Foster et al. (2014) Table 3	0.91
Cultural Awareness	11	I like learning about different cultures.	Foster et al. (2014) Table 7	0.89
Empathy	16	When someone else is feeling excited, I tend to get excited too.	Spreng et al. (2009)	0.92
Career Determination	6	I have so many interests that it is hard to choose just one occupation.	Crites and Savickas (1996) Career Confidence	0.86

Validity and Reliability

The validity of the constructs used in this study was agreed upon by a panel of three professionals in agricultural education with expertise in social science research methods. To measure the reliability of the constructs, a *post-hoc* Chronbach's Alpha test was run. The results of this test and a description of each construct are listed in table one. Unfortunately, the construct of Self Awareness had a reliability score of 0.64. Therefore, we have chosen not to include it in the rest of the study.

Data Analysis

The data were retrieved from Qualtrics and then analyzed using SPSS. For our first objective, we calculated the mean number of countries visited by each group of students. For our second objective we calculated the average scores for each construct and compared those scores between each group of students. Our third objective was to describe the relationship between student's international travel experiences and the constructs. Therefore, we calculated a correlation between the variables.

Description of Respondents

The respondents of this survey all had previous experiences with secondary AFNR courses, 43.9% had completed at least four years worth. All of the respondents graduated high school between 2012 and 2020 and 62.5% maintained a GPA of 3.5-4.0. The respondents ranged in ages from 18-26.6 of the respondents identified as male, and 24 as female.

Findings

To address our first objective we compared how many different countries outside of the United States that each group had traveled to. Although the means between the two groups of respondents were similar, the student comparison group had a higher average.

Table 2

Average Number of Countries Visited by Group

Group	M	SD
Student Comparison	3.50	3.33
AFNR Travelers	3.38	1.59
Total	3.44	2.56

For our second objective, we wanted to address and describe each of the constructs for each group. In the table below, you can see that the average scores for Global Competence and Cultural Awareness were slightly higher for those students who studied abroad. Alternatively, the scores for the constructs of Empathy and Career Determination were higher in the Student Comparison group. However, there were also two respondents who did not complete the sections on Empathy and Career Determination in the AFNR Traveler group.

Table 3

Average Construct Scores by Group

	Global Competence		Cultural Awareness		Empathy		Career Determination	
Group	M	SD	M	SD	M	SD	M	SD
Student Comparison	3.30	0.71	4.11	0.44	4.14	0.39	2.99	0.81
AFNR Travelers	3.96	0.39	4.52	0.45	4.11	0.58	2.71	1.06
Total	3.63	0.65	4.39	0.50	4.13	0.48	2.86	0.93

Finally, we also chose to describe the correlation between the number of countries visited and each construct. Although there are no statistically significant correlations, the highest correlation is between Cultural Awareness and the number of countries visited.

Table 4

Correlation between Number of Countries Visited and Constructs

Construct	Pearson Correlation	*p*-value
Global Competence	-.030	.87
Cultural Awareness	.153	.40
Empathy	.069	.72
Career Determination	-.011	.95

Discussion

Although there was no statistical significance throughout the results of this study, there were several trends that presented themselves. First, being that our group of AFNR travelers had traveled to less countries than our Student Comparison group. This was not what we expected. However, we believe that this is skewed by two individuals in the Student Comparison group who had each travelled to 11 countries. The rest of the respondents in this group shared lower numbers than those in the AFNR Travelers group.

One of the most interesting findings in these data is that students in the AFNR travelers group scored higher in the constructs Global Competency and Cultural Awareness than their peers in the Student Comparison group. We can examine that there is a positive relationship between these students that have structured academic experiences abroad and their understanding of global competency and cultural awareness.

On the contrary however, the Student Comparison group scored higher in the constructs Empathy and Career Determination. One hypothesis as to why this might be is that the students in this group are all currently enrolled in AFNR Education, many of which plan to become teachers themselves one day. Many teachers tend to be very empathetic in nature and often know that they want to teach for an extended period of time before entering the profession. The group of AFNR Travelers is much more diverse in their levels of education and current employment status.

Examining the correlation patterns between our variables, we also see that cultural awareness is the construct with the strongest correlation with numbers of countries visited. It is also interesting that global competence is almost not affected at all by the number of countries students have visited. One hypothesis that could explain this pattern would be that being aware

of what is happening worldwide is no longer as dependent upon a boots on the ground experience. Rather, those who are the most in touch with the rest of the world stay informed through other outlets such as regular media consumption, frequent interactions (in person or virtual) with people of other nationalities, and more.

Another important trend that was found in our data, was that students who have traveled more or are in the AFNR Travelers group have higher scores under the construct Cultural Awareness then they do under the construct of Global Competence. This is not surprising as this pattern was present in past literature as well (Sankey, 2014).

After reviewing the data, it is clear that our students and their outcomes align nicely with Astin's I-E-O model. However, there is still a lot of ambiguity regarding the environment or the basic details of each student's experience. There was a great variety between the length and types of the trips that each of the AFNR travelers participated in. Additionally, we have no information on the other international travel experiences that students listed in the beginning of the survey. More qualitative data is needed to strengthen this area of research.

Conclusions and Recommendations

Overall, we believe that our data supports the notion that study abroad experiences can help students develop more cultural awareness. However, our research does not suggest that students will become more empathetic, globally competent, or be more career determined by studying abroad.

We recommend that both secondary AFNR students and teachers should explore the opportunities for international travel experiences and study abroad programs that are available to them. We also recommend that secondary and AFNR researchers explore the topic of study abroad more. Since this is a growing industry, it is important to be in tune to the learning that these experiences can offer. Especially those with an interest in qualitative research, we recommend to examine the different types of study abroad experiences students can have and the varying implications of those experiences.

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