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International aviation collaboration in a study abroad program

Abstract

Aviation is a global industry. As we continue to push the boundaries of technical advancements and operational efficiency in the aviation industry, the reliance on the global workforce will continue to increase. In the United States of America, the majority of educational establishments focus mainly in the education and training of students for the US aviation industry. The narrow focus significantly limits the amount of exposure and opportunities available to the students of these educational establishments. In order to improve global exposure and provide students with opportunities outside of the US aviation industry, the authors of the paper successfully established a study abroad program, allowing students to explore and understand European culture, history, and its' aviation industry. Furthermore, students enrolled in the program had the opportunity to work with fellow aviation students from two different European universities on a joint research project. Students were required to complete homework assignments during the program designed to increase global awareness and cultural understanding. Feedback from students was positive in both written and scale questions.

Keywords: Study Abroad, Aviation, Collaboration, Global, International

Introduction

Aviation by its nature is a global industry and graduates from aviation programs are expected to perform well in the worldwide industry. However, most aviation programs within the United States (US) are focused on US aviation. In order to increase the global awareness of students, the authors created a 17 day study abroad program to Europe. The United Kingdom and France were selected due to the authors' familiarity with each country, the location of major aerospace companies, aviation universities, and aviation museums. Students attending the trip were primarily from three aviation majors: Professional Flight, Aeronautical Engineering Technology, and Aviation Management. Prior to the creation of this program, there was only one study abroad program within the authors' department. It occurred during Spring Break and lasted 9 days and visited 3 countries with limited involvement of local aviation students.

Part of the program included a week-long trip in France with Coventry University where students had the opportunity to tour the Airbus final assembly facility in Toulouse, France and the Airbus Helicopters facility in Marignane, France, near Marseille. During the France portion of the program, students worked on a joint research project with their peers from Coventry University. Furthermore, one of the faculty leaders from Coventry was a former British Airways captain, another was an airport manager in Europe, and the last was an executive from an airline in charge of revenue management. This leadership team allowed Purdue University students to network and learn from professionals in their respective majors.

In addition, students also learned about the culture and history of Europe by visiting aviation museums such as the Airbus Museum in Toulouse, France, the Imperial War Museums near Duxford in Cambridgeshire, England, and the Le Bourget Air and Space Museum in Paris, France.

Literature Review

Cross-cultural and cross-national career moves are becoming more common in today's world of global industries (Arthur & Rousseau, 1996). One good example of these global industries is the aviation industry. Due to the aviation industry's global nature, employees are often required to work with foreign colleagues or physically relocate to a different country for their duties. The employee's adaptability and awareness to different cultures becomes very important for their performance. Cultural awareness and exposure are experiences related to a specific region that helps in the development of familiarity and understanding of the region's norms, values, and beliefs (Crowne, 2013). Cultural adaptability on the other hand is one's degree of psychological discomfort with various aspects of the host region (Black, 1988). Cultural awareness and adaptability can be combined into one skill commonly known as global competency.

Global competency is defined as "Having an open mind while actively seeking to understand cultural norms and expectations of others, leveraging this gained knowledge to interact, communicate and work effectively outside one's environment" (Hunter, 2004, p. 130-131).

One popular method to help promote global competency at an early stage is through the use of study abroad programs. In a study abroad program, the student expands career and personal development within an educational framework (Baruch et al, 2013). During a study abroad program, students will have the opportunity to visit one or more foreign countries on a short timeframe, engage in educational activities with local peer groups, and visit local industry establishments. All these study abroad activities are designed to promote global competency by helping the students “establish a firm understanding of the concepts of globalization and of world history. It is here that the recognition of the interconnectedness of society, politics, history, economics, the environment, and related topics becomes important” (Hunter & White, 2006, p. 279).

Aside from sightseeing and learning about a foreign country’s history and culture, one of the main educational aspects of the study abroad program is the opportunity for the students to tour local industry establishments, interact, and work together with local peers on small joint projects. This international experience can be a big challenge for students with very limited exposure to foreign cultures. However, the international experience can also have a large impact for the student’s cultural development (Chiba & Nakayama, 2016).

Overview of the program

Before traveling abroad, students were required to enroll in a 2 hour weekly preparation course on international travel during the semester before travel. During the course, topics including safety abroad, jet lag, foreign currency, foreign history, and cultural differences were discussed. Within the course, students were assigned to groups where they presented to the class an overview of each country and each of the major cities visited. The course was primarily designed for students with limited or zero international travel experience. During the first offering of the program, 9 out of 17 students had never traveled internationally. Guest speakers provided local insight into the culture. They were students from the aviation department who were from the countries that the program would visit. It provided a student to student perspective that allowed for peer learning.

While in Europe, the program was organized to allow for planned activities during most of the days starting in the morning and ending in either the late afternoon or early evening. Once the official program events ended, students were free to explore the cities with either Purdue University and/or students from Coventry. Student assessment of the program was broken into two major portions. First was the collaborative project and the second was a series of homework assignments that were to be completed in Europe. The homework assignments were compiled into a report and turned in on the final day of the program. Both were designed to increase student awareness of global aviation challenges and to promote cultural development.

Collaborative project

During the program, students had the opportunity to visit and work with students from another aviation university. Coventry University located in Coventry, United Kingdom was

chosen due to the author's previous work with the university. Before starting on the project, a tour of Coventry was organized. The authors arranged for the tour to be conducted by students from Coventry. This allowed for students to become comfortable with each other before the project was started. After the tour, students were required to complete an assignment that was designed to increase the student's awareness to university life in different universities. The assignment was:

During the tour of Coventry, what are some similarities and differences with what you see compared to Purdue University? Please be sure to comment on differences in students, academic environment, instructors, campus layout, and anything else that appears to be significant. Summarize your findings in a paragraph.

After the tour, students were paired with students from Coventry to work on a week-long aviation project focused on issues relating to the challenges within European aviation. This project was created as a result of efforts from faculty at Coventry and the authors. Students were paired in groups of 4; with 2 students from Coventry University and 2 students from the author's university. Topics, assignment by course staff, included:

- Multinational flight crew training
- Cultural difference in airline operations
- Regional airport challenges
- Airline and high speed train competition
- Aviation environmental impact
- Legacy vs low-cost airline competition
- Workforce development and outsourcing in aviation manufacturing

Students had one week to complete their work. At the end of the joint study abroad portion of the program, students presented their findings to the group via a 20 minute presentation. Each member of the group was required to speak for part of the presentation. Grades for the presentations were assigned by Coventry and Purdue University faculty as well as a panel of industry experts representing European manufacturers, airports, and airlines.

Airbus

The program visited the Airbus aircraft assembly plant in Toulouse, France. The tour was to visit the final assembly of the A380 and A350 aircraft. During the tour, students had the opportunity to walk the assembly line floor and were able to ask questions to the workers regarding their role in aircraft construction. Also during the tour, the tour guide commented on the role of labor unions within France and how negotiations between workers and management were strained.

The program also visited the Airbus Helicopter assembly plant in Mariselle, France. Like the tour in Toulouse, students were able to walk the assembly line and ask workers questions. However, unlike the final assembly of the A-350 and A-380, students were able to see the entire assembly process. While in France, the group had the opportunity to hear guest lecturers from executives from Air France, Dassault, and Airbus. They also heard airport managers from major airports within France.

Museum Visits

The program spent a full day at the Imperial War Museum Duxford located in Duxford, United Kingdom. The museum is a preserved World War II airbase with more than 200 military and civilian aircraft. During the time at the museum, students were tasked with the following prompt:

The Duxford Aviation Museum has a large number of historical aircraft. These aircraft played important roles in both aviation and world history. During your time at the museum, pick one aircraft that is interesting to you for further investigation. Describe how the aircraft is constructed and the materials used to build it. Include the timeframe which it flew, the role it played in aviation and world history, why you picked this aircraft, and any other interesting or important information about the aircraft. Summarize your findings in a paragraph.

Furthermore, the program visited the Le Bourget Air and Space Museum in Paris, France. This museum located near the Le Bourget airport in Paris has a large collection of mostly French aircraft. Following a similar prompt from Duxford, students were required to complete:

The Le Bourget Air and Space Museum has a large number of historical aircraft. These aircraft played important roles in both aviation and world history. During your time at the museum, pick one aircraft that is interesting to you for further investigation. Describe how the aircraft is constructed and the materials used to build it. Include the timeframe which it flew, the role it played in aviation and world history, why you picked this aircraft, and any other interesting or important information about the aircraft. Summarize your findings in a paragraph.

The goal of both assignments were to encourage students to think about global role of aviation and the roles of British and French aircraft in aviation history.

Cultural Exploration Days

As part of the program, there were three cultural exploration days which allowed students, in groups, to explore each city. These days occurred in Paris, London, and Lyon. Students were asked to complete the following assignments in each city.

Assignment 1

Find a local cafe and observe the population for at least 30 minutes. What are some similarities and differences with what you see compared to culture in the United States? Please be sure to comment on differences in genders, ages, ethnicities, social-economic status, professions, and anything else that appears to be significant. Summarize your findings in a paragraph.

Assignment 2

Identify a local iconic site that is representative of the local countries culture. Take a picture of this site and describe it. Ask two local people what this site means to them and their nation. Summarize your findings in a paragraph

At the end of the trip, students were required to write comparison assignment for each city and with the United States. Also, students were asked to provide their top 3 pictures from the trip to include in a post program slideshow.

Student feedback

Once the program was completed, students had the opportunity to provide feedback to the program instructors. The comments that they left are below:

The author created an excellent opportunity for his students to learn, grow, and experience a new culture and a new viewpoint of the Aviation world in Europe. I greatly enjoyed his instruction and his company for the entire trip.

-Student 1

I found the museum visits to be highly educational and interesting so I hope those continue in the future. Also, the cultural exploration days where we could explore on our own really taught me a lot about other cultures and forced me to problem solve along with other technical skills.

-Student 2

Our instructor did a good job of letting us go out and experience the culture ourselves and didn't try to force us into anything. Allowing for free days was something that really enhanced the study abroad experience.

-Student 3

In addition, students had the opportunity to answer a series of questions from Purdue University's Study Abroad Program. Of the 17 students in the program, 11 responded to the survey. The results are found in Table 1. Responses were:

Strongly Agree=5, Agree=4, Undecided=3, Disagree=2, Strongly Disagree=1

Table 1: Student survey questions

Question	Score
My problem-solving abilities improved because of this course	4.8
My technical skills were improved as a result of this course	4.0
My field experience is well coordinated with my course work	4.8
The local cultural context was integrated into the academic content of this program	5.0
Extra-curricular program features involved cultural integration	4.8
I am better equipped to deal with inter-cultural issues.	5.0

Conclusion

Aviation programs within the United States have primarily been focused on US aviation. In order to increase the skills and cultural awareness of students in this global industry, the authors created a study abroad program that visited Europe. A fundamental part of program was a weeklong joint trip with Coventry University where issues related to European aviation were studied. Students formed small groups with peers from Coventry to address these issues. Tour of European aviation museums and aircraft manufactured were used to enhance the program. Post trip student comments and surveys were positive.

Future Work

Currently, there are tools that exist to measure cultural awareness. One such tool is the Intercultural Development Index (IDI). Pre and post program IDI could be used to further explore student cultural understanding. Furthermore, week long industrial projects could be conducted with both European manufacturers and other aviation universities. Finally, a joint program where students from Europe and the United States spend a week in each place could be developed.

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