A Faculty-Led Global Study Trip for Student Credit

Michael S. Nolan, Raymond E. Thompson, Thomas Q. Carney & James E. Lampe Purdue University

Abstract

The Aviation Technology (AT) Department of Purdue University is now entering the third year of an ongoing globalization effort. Activities have included visits to numerous aviation programs around the world for the purpose of setting up aviation specific Study Abroad opportunities. The department offered an aviation law course in Oxford, England for Aviation Technology students in 2002. The Aviation Management major is now requiring a globalization component, with the other majors soon to follow.

The first faculty-led global study trip for academic credit offered by Aviation Technology is currently under development. The trip will be nine days in length and will be offered during spring break 2003. Interest is high with 25 - 30 students expected to participate. The trip will visit aviation operations, manufacturers, museums, and places of cultural interest in England and France.

Development to date has included considerable research and a trip by participating faculty in October 2002. The trip visited all potential sites, investigated transportation issues, and evaluated the overall environment for student participation. Two new courses were developed to support this type of travel. The first is a one-hour seminar course taught by the faculty trip leaders to prepare students and have them perform research prior to travel. The second is a two-hour course for the actual trip and associated assignments, logs, and trip reports. All three majors in Aviation Technology have agreed to accept this type of credit towards graduation requirements.

This paper will discuss the development of this type of academic experience, the associated course content, and the desired outcomes.

Introduction

Aviation is a global oriented industry in nature and is rapidly becoming more so. In response, the Department of Aviation Technology at Purdue University set in motion an initiative to add additional international perspective to our programs.

Many of our students come from a background in which they have not routinely interacted with individuals from other cultures, nor have they traveled extensively. Our graduates typically seek employment as professionals with large airlines or manufacturers that have significant international operations. The lack of exposure to other cultures places graduates at a disadvantage when they begin to work with individuals from other countries.

The goal of this new initiative was not simply addition of a course to the curriculum, but to make global issues and cultural awareness an everyday part of each student's curriculum. As part of

this globalization initiative, the department received an internal university grant to help develop this program. After three years of significant travel and discussion, departmental faculty decided in addition to integration of global topics into the curriculum, a cultural experience of some sort was a desirable addition to the degree program. The faculty decided to approach the problem by employing creative methods of enculturation.

When asked to prioritize the different activities that members of the Aviation Technology Industry Advisory Committee and faculty felt would benefit our students, the following globalization activities were ranked in order of preference.

- 1. Living or working abroad
- 2. Studying abroad
- 3. Travel (both formal and informal) abroad
- 4. Learning a foreign language
- 5. Taking an enculturation course on campus

Living or Working Abroad

Although the faculty felt that living or working abroad would be an excellent means of becoming culturally aware, such an experience can be very expensive and time consuming, and most students are unable to avail themselves of these limited opportunities.

There are two study abroad options that are available to students at Purdue University. The typical study abroad program requires a student to enroll in a foreign university and take courses for credit. Although an excellent program, it is sometimes difficult for students to attend another college for a year, or even a single semester. Due to differing schedules, (most schools have differing academic calendars), and difficulty in finding appropriate courses, this approach to enculturation can present problems for students. It becomes the responsibility of the student to ensure that all course prerequisites are met, while selecting courses that will transfer back to Purdue. In a specialized academic discipline such as aviation technology this can be very difficult. In many cases, students who choose to study abroad end up taking generic general education or non-transferable courses.

Another means of studying abroad is to take a Purdue course offered at a college or university in another country. Purdue currently has programs established at Oxford, UK, and Florence, Italy. Under this program, both general education and departmental specific courses, (such as aviation law), are offered by Purdue faculty in a short session format at a university in another country. This program structure solves may of the problems inherent in the typical study abroad program since Purdue faculty establish the schedule, control the content, and ensure transferability of credit

Travel abroad

The faculty feels that traveling abroad is an excellent means for students to become culturally aware. However in an unorganized pleasure trip, it is difficult to ensure that the goals of enculturation are met. It is quite possible to travel to most any country of the world, while eating

and staying in establishments commonly found in the United States. In many situations, visitors are bussed from one location to another, and the entire tour is conducted in English. As a result, very little cross-cultural contact is made during one of these trips.

The departmental faculty felt that an experiential trip to another culture would be highly beneficial, but only if certain goals and objectives could be met during the trip, and only if the trip were under the control of the university. A trip offered by the university could be structured to be aviation oriented and to meet the enculturation goals of the department. A program of this sort did not exist for students on the Purdue campus and the aviation technology faculty decided to pursue developing this option for students.

Fluency in Foreign Language

Although not specifically designed as a globalization course, the departmental faculty felt that a student fluent in a foreign language would have received sufficient cross-cultural exposure during their studies to meet the globalization requirement of the department. At Purdue University, completion of 12 credit hours of coursework in a single foreign language is considered basic fluency.

Classroom Study

The easiest method of teaching enculturation could have included the development and teaching of a class in globalization. Although such a course could be valuable, by its very nature it would not be very engaging or experiential, and by itself would not be the best way to introduce students to foreign cultures. There are some advantages to such a course, and it was decided that components would be integrated into any travel course developed by Purdue.

Embedding Globalization in the Curriculum

As part of the development of a globalization experience for students, the faculty decided that instead of simply adding another course to a student's plan of study we would instead make globalization a graduation requirement. This approach would give students a number of options to meet the graduation requirement. Accordingly, effective fall semester of 2003, all incoming students in the aviation management curriculum must meet the globalization requirement in order to graduate with a baccalaureate degree. The requirement can be met without additional cost or credit requirements on the part of the student.

Aviation Technology Globalization Requirement

Because of the international nature of the aviation industry, all Aviation Management B.S. degree students must complete a globalization requirement using any ONE of the following six methods:

- 1. Complete a study abroad term
- 2. Complete an internship outside the U.S.
- 3. Complete an Aviation Technology sponsored study trip
- 4. Provide documentation of having lived/traveled outside the U.S. for at least 90 days after a student's 12th birthday (does not have to be consecutive)
- 5. Complete one of the following courses: COM 224, 303, 424; ECON 368, 370; HTM 372 (all of which have an international component)
- 6. Complete 12 credit hours in one foreign language

Faculty-Led Travel Course Development

One method of meeting the globalization requirement is to complete an Aviation Technology sponsored study trip. These trips are designed and led by aviation technology faculty. They must include:

- Travel by airline to an international destination.
- Internal domestic travel using both airlines and alternate transportation modes not commonly used in the United States, such as high-speed rail.
- At least one of the countries must utilize a language other than English.
- The countries included in the tour must have significant aviation heritage or activities.

The trip has been developed as a two-part course, with its first offering during the spring 2003 semester. The first part, AT 490G Aviation Global Experience Seminar meets for two hours per week for the nine weeks prior to the trip. Discussion topics include insurance, safety, and student conduct during the trip. The course will also cover travel suggestions and tips, cultural and language differences. Specific information such as use of the public transportation system, currency issues, and free time activities in each location will also be included. Learning key phrases in related foreign languages will be covered.

As part of the course each student will have three assignments. They will each be issued a specific topic/activity to research and present to the class before departing. These include: currency, use of public transportation, a specific museum, etc. All of these presentations will be combined into a text prior to departure. Each student will receive this booklet as well as other pertinent information. It will, in effect, become a custom guidebook for the trip. During the trip, students must keep detailed notes about their assigned topic. At the conclusion of the trip, they will be responsible for writing a paper that details their assigned topic. They must also write a comprehensive evaluation of the trip from their perspective. This book will be compiled (with

pictures), printed, and copies distributed to each member of the group. Copies will also be kept as a reference for other students, and will be used as a promotional tool for subsequent educational travel programming. The second part of the course is the trip itself, AT 490S Aviation Global Experience.

Estimating Student Interest

Before developing this initiative, the students were polled and a number showed significant interest, regardless of the globalization requirement. The survey also determined the dates of greatest appeal to students for travel. The two predominate times of the year selected by the students were early summer (just after graduation weekend), and the week of spring break.

The advantages of a summer trip include: the students are on a school vacation period, they can extend the trip, and they can arrive and depart from their home city. The disadvantages are increased cost and loss of time for work, internships, etc. A spring break trip also has many advantages, such as lower airfare and housing costs. Students are already in school, and many are already planning to take a trip of some sort during the spring break period. A spring break trip also does not interfere with summer activities such as summer school, internships or a summer job. Students are already enrolled for term and do not have to pay additional summer session tuition. There are a few disadvantages, however. The weather is less predictable and museum and daylight hours are shorter. The students are also unable to extend the trip a few days if they wish, because of the need to return to school to complete the spring term.

Based on the results of student feedback, cost, and development effort for the faculty, it was decided to offer the first trip during the 2003 spring break period in March. The course is primarily directed at students in their second or third year of university studies. It will be structured so that other students, graduates and interested non-students can also enroll in the course. The faculty decided the best choice for the first trip of this type was to England and France. Both of these countries have significant aviation history and activities with significant cultural and language differences, particularly between the United States and France. The travel infrastructure is easy to access since tourism is already a large part of the economies of these countries.

Trial Trip

During the fall of 2002, one faculty member was selected to visit both England and France to preplan the trip and ensure that it was actually feasible. Prior to departing on this trip, the faculty member conducted research and made contacts at each site to be visited. The faculty member was responsible for making travel arrangements (both internationally and within each country) and was tasked with determining the location of adequate and affordable lodging.

This initial research was conducted using standard Internet travel sources and local travel agencies. The planning trip to England and France was then conducted over a nine-day period in the fall of 2002. The faculty member was charged with determining the suitability of the various modes of travel, locating and inspecting suitable lodging, determining the locations to be visited,

and taking note of all the procedures needed to travel to, from and within each country. For example, each country's domestic train system uses different ticketing and reservations styles. The subway systems are different. Different currencies are used.

As part of the planning trip, the faculty member also needed to determine how much language ability would be needed. Every activity site needed to be visited to determine the hours and days of operation, how long a typical student might spend at each location, and how long it would take to travel between sites. Any specific restrictions, (such as age requirements, citizenship, mobility) applicable at each site also had to be determined.

During this trip, the faculty member traveled by air to London, and investigated various sites in the London area, including the Royal Observatory, London Museum, Tower of London, Imperial War Museum, and the British Library. Use of the local transportation system was accomplished, in addition to locating suitable, affordable and safe lodging. The faculty member then traveled to Cambridge University by train and accomplished much of the same at that location. The American Air Museum at Duxford was toured. The train was then used to travel to London Stansted airport where a flight was booked on Ryanair, a new, fast growing, and low-cost European air carrier. This flight was to Carcassonne, France, located about one hour east of Toulouse, the location of the Airbus assembly facility.

After touring Carcassonne, train transportation was arranged to Toulouse, where a tour of Airbus was conducted. The faculty member then boarded the famous TGV high-speed train service offered by SNCF in France. During the four hour trip to Paris, the TGV routinely reaches speeds of close to 200 miles per hour. Upon arriving in Paris, the faculty member toured many of the cultural exhibits, in addition to the French national air and space museum at Le Bourget airport, the final destination of Charles Lindbergh's historic flight. Upon completion of this tour, the faculty member traveled to the Paris airport for the flight home.

Benefits of a Trial Trip

Although the faculty member did extensive research and preparation, and recommendations from travel agents were received, several surprises and issues arose during the preliminary trip. By investing in a trial trip, these have been addressed and the faculty member has a significantly higher comfort level for the actual student trip. For example, a ticketing problem for train travel in France occurred because the process was not completely understood. The situation was remedied with a return to the station and a somewhat extended discussion in English and French. Dealing with such a situation, with 15 - 20 students on the actual trip, would have been a serious problem. We also learned that while domestic train travel is convenient in Europe, in many cases newer, low cost airlines are cheaper and more efficient. For example, travel from London to Toulouse by train takes about 12 hours and costs about \$250. Travel by Ryanair from London Stansted airport to Carcassonne takes one hour and a shaft and costs about \$25.

We also determined that although public transportation is cheaper on an individual basis, charter coaches are sometimes cheaper overall and less time consuming. For example, it is cheaper and

more time efficient to charter a bus to go from Carcassonne to Airbus, then to the hotel in Toulouse, than to take public transportation. During the planning trip we traveled from the hotel to the train station in Carcassonne, took the train to Toulouse, then obtained transportation to and from the Airbus factory outside Toulouse. Had we set up the student trip this way, the cost to each student would be about \$40 (or about \$500 for a group of twelve). We can charter a coach for that price which would pick us up at our hotel in Carcassonne, take us directly to Airbus, followed by transfer to our new hotel in Toulouse. This situation also applies to transit to our hotels in London and Paris. It was decided to charter a coach to pick up the group at the Heathrow airport and give a short city orientation on the way to the hotel in downtown London. In Paris, a coach will pick up at the train station and travel to the hotel. In both cases, the cost is about the same as public transportation, travel is faster, and will include a short orientation tour of the city.

Final trip development

Once the faculty member returned from the planning trip, he met with the university travel office to formally set up the trip as a course. After detailing the specifications for the rip, bids were obtained from travel agents and the most favorable selected. The travel agent was chosen based on the itinerary they provided, the price, and incidental suggestions they made. It was decided to let the travel agent make all ground and air travel arrangements. They were able to get housing and travel discounts, and had travel contacts in each country that are unavailable to the university. The travel agent is responsible for all ground accommodations and activity admissions separate from air travel. Air travel will be sold by the travel agent flyer miles, relatives who work for an airline, etc. For the sake of convenience the hotels will provide breakfast, but the students will be responsible for all other meals. On the initial trip, we plan to take about 12 - 18 students and one faculty member. Subsequent trips could have as many as 30 students, maintaining a 12:1 ratio of students to faculty.

University Participation

The university (through the international travel office) provides medical and accident insurance at a minimal cost to the student. By working through the international travel office, it is simple to fund the travel for the faculty guide. The office also takes care of providing funds for deposits. In most cases, the travel agent will be able to provide free accommodations and museum entry charges for the faculty member, (based on the number of students who sign up). The airfare and daily expenses of the faculty member are not included in the travel agent package and must be considered in developing the cost of the trip. If the faculty member is not on contract during this time, the university might also need to factor in a salary adjustment. Once the cost quoted by the travel agent and the university costs are calculated, a fee for the course is established. Every student who signs up for the course pays this fee, and the international travel office handles the disbursement to the travel agency.

Trip Itinerary

The trip will depart from the Purdue University campus on Friday, March 14th and return on Sunday, March 23rd. Students will exchange currency (preferably at a local ATM machine) once they arrive in London. Free time in all visitation sites has been built in to allow for individual exploration. Part of the AT 490G course research is for students to know what is available for them to see and do during their free time. The itinerary is shown in Table 1.

Inclusion in the Aviation Technology Curriculum

As previously noted, the aviation management curriculum will include the AT globalization requirement, beginning with the fall 2003 semester. Aeronautical technology and professional flight technology curricula are anticipated to adopt this requirement. The faculty in all three majors have agreed that credit established in AT 490G and AT 490S can be used to meet current and future graduation requirements in elective or selective areas, in addition to complying with the globalization requirement.

Outcomes and Benefits for Aviation Students

The term globalization is a popular buzzword of relatively recent origin. Since this term is used interchangeably in political, academic, economic, cultural and business discourses the student may have a degree of discomfort with the concept. The purpose of this program is to allay this discomfort and provide concrete examples of how globalization affects the nation's business endeavors. Each student will interconnect with this process and become aware of how this experience will assist him/her in acquiring employment. Hence, the traditional student on trips abroad will learn first hand how globalization affects the business world.

Global Implications

A collateral benefit of traveling to major international metropolitan areas using public transportation, is for students to observe first hand the importance of integration of a large number of mass transit capabilities into an airport terminal. Globalization contains far-reaching implications for virtually every facet of business endeavor, especially in aviation. In addition, the notion of transoceanic travel or intercontinental travel assists the student in appreciating how air travel enhances geographical mobility. Part of this experience is for students to study how global players come together and act in concert to solve local and international issues related to air travel.

Intermodality

By traveling on various modes of transportation, the students will view the degree of detail required to document transactions, and acquire an appreciation of the legal issues of the various contractual components involved in the travel experience. They will also have an opportunity to deal with various currencies for basic money exchanges, not only in a micro sense, but in a macro sense, as well. An important feature of any international travel experience is simply ordering food

from a menu in a different language. Because of these experiences, globalization in the curriculum gives increased opportunities for interactions between and among people in situations where latitudinal and longitudinal location seems immaterial to the business at hand.

Table 1 Aviation in Europe

Day/date	Daily Activities	Transportation	Accommodations
Day 1	Depart in evening for London from Chicago O'Hare airport	Coach from Purdue University to Chicago	On airplane
Friday, March 14		O'Hare airport (leave around 5pm)	
		Flight from Chicago O'Hare to London	
		Heathrow airport	
Day 2	Arrive London	Tour bus from Heathrow to hotel including	3 star hotel in London near the Strand
Saturday, March 15	Visit Greenwich Observatory as well as cultural sights	short tour of London	
	including: Westminster Abbey, Buckingham Palace, St.	Excursion boat trip on Thames river to	
	Paul's, etc	Greenwich	
Day 3	Free day in London.		3 star hotel in London near the Strand
Sunday, March 16			
Day 4	Depart London for Cambridge	Train from London to Cambridge-2 nd class	3 star hotel in Cambridge
Monday, March 17	Arrive in and visit Cambridge	(leave around noon)	
Day 5	Visit British Aviation Museum at Duxford	Bus to Duxford (provided free by museum)	3 star hotel in Cambridge
Tuesday, March 18			
Day 6	Depart Cambridge for Carcassonne France	Train to Stansted	3 star hotel in Carcassonne
Wednesday, March 19	Visit medieval walled city of Carcassonne, France	Ryanair flight to Carcassonne-depart late	
		morning	
		Transportation to hotel in Carcassonne	
Day 7	Depart Carcassonne for Toulouse	Transportation from Carcassonne to Airbus	3 star hotel in Toulouse
Thursday, March 20	Tour of Airbus manufacturing facility	and then to hotel in Toulouse	
Day 8	Depart Toulouse for Paris	TGV train to Paris	3 star hotel in Paris in the Ecole
Friday, March 21			Militaire/Rue Cler/Eiffel Tower area
Day 9	Free day in Paris		3 star hotel in Paris in the Ecole
Saturday, March 22			Militaire/Rue Cler/Eiffel Tower area
Day 10	Visit French aviation museum at Le Bourget	Transportation via coach to Museum then on	
Sunday, March 23	Depart Paris for ORD	to CDG airport	
		Flight from Paris CDG to Chicago O'Hare	
		(leave in afternoon)	
		Coach from Chicago O'Hare airport to	
		Purdue University	

Students must provide transportation from the US to England and return in addition to a flight from London Stansted to Carcassonne, France. The tour package includes: Ground transportation to and from all airports (including O'Hare), Train to Cambridge, Transportation to museums, boat trip on Thames river, TGV train in France, Hotel accommodation (two per room, single supplement extra), breakfast each day, museum entrance fees and Medical Insurance. Students must plan for the following expenses (estimated to be around \$450): Afternoon and evening meals, optional attractions, local transportation if desired (bus, subway, taxi, etc.), Admission to Airbus (\$8). Due to the nature of both the flight and tour reservations, everything is to be considered non-refundable. If you wish to purchase trip insurance privately, you may do so, but be aware that it has many limitations. Although we will make every effort to the posted timerary, due to circumstances beyond our control, (weather, transportation problems, etc..), the itinerary may be modified at any time either before or during the trip.

Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition Copyright Ó 2003, American Society for Engineering Education

The Human Element

For the student that graduates with the international experience, he/she will have much more than a rudimentary idea of what globalization provides in terms of industry benefits. Globalization renders processes of change that underpin transformations in the organization of human affairs by linking together and expanding human activity across regions, oceans, and continents. He/she will not look at travel abroad as a temporary condition, but rather as a possible permanent transfer into the economy of any of the nations visited.

Interconnectedness

Unless the student has actually visited a foreign country, it is difficult for her/him to envision the expansion of interconnectedness within the travel industry. With this experience the student will be able to visualize how speed in travel, communications, and information exchange enhance the degree of simultaneity and instantaneousness in the "Business World." As they move abroad, students will quickly grasp the degree of global blending occurring outside of the United States. Interconnected aviation business activities take place irrespective of the geographical location of participants. Like all matters of human endeavor, familiarity through personal contact makes foreign operations both commonplace and welcome. Students will understand that in the airline world one is no longer a citizen of the country, but rather a citizen of the world.

Outcomes and Benefits for the Aviation Technology Department

While it is obvious from the foregoing that the primary purpose of adding the globalization component to the curricula is to enhance the understanding and professional preparation of the students who will conduct their careers in an increasingly global marketplace, there are a number of other benefits for the department. Principal among these are increased opportunities for faculty professional development, tenure, and promotion through resulting scholarly endeavor; enhanced recognition and visibility for the department among its peer institutions and in the eyes of prospective students and their parents; and opportunity for placement, internships, and other mutually-beneficial programs with key industry partners in other countries. Moreover, in response to the growing need for enhanced security measures and protocols, particularly at the borders of countries, the faculty experienced in international aviation operations should be especially effective in securing funded research to help meet the threat of terrorist activity.

Implications for Future Research

With the first faculty-led study trip just completed, it is not possible to report on the effects on students as yet. Assessment metrics are being considered which include tracking of placement and starting salary for students who participate in the travel options. It is estimated that it will take five years before significant results can be adequately measured.

MICHAEL S. NOLAN

Prof. Michael S. Nolan is Associate Professor of Aviation Technology and coordinator of the air traffic control education program at Purdue University in West Lafayette, Indiana. Prof. Nolan is the author of the textbook "Fundamentals of Air Traffic Control", as well as a contributing author for Microsoft Encarta. His current research and teaching activities include air traffic control, airline operations, globalization and distance education

RAYMOND E. THOMPSON

Raymond E. Thompson is Associate Professor of Aviation Technology and Assistant Department Head at Purdue University in West Lafayette. Prof. Thompson founded the AOT Advanced Composite Laboratory and coordinates student services within the department. His current research includes applied composite technology, assessment, technology in the classroom, distance education, and aviation human factors.

THOMAS Q. CARNEY

Thomas Q. Carney is Professor of Aviation Technology and Head of the Department of Aviation Technology at Purdue University, with teaching emphases in advanced aviation meteorology, high performance turbine operations, high altitude flight, and corporate flight department management. He holds M.S. and Ph.D. degrees in Atmospheric Science, with primary areas of interest in aviation meteorology and the impact of weather on aviation operations, synoptic-scale dynamics and energetics, and the interactions between synoptic- and mesoscale motion fields.

JAMES E. LAMPE

James E. Lampe is an Assistant Professor of Aviation Technology in Indianapolis. Prof. Lampe has extensive international major, national, and integrated carrier experience. His current research includes aviation safety, globalization, and aviation human factors.