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# CREATING E-RESOURCES FOR THE LONDON PROJECT CENTER

Demi Karavoussianis Matthew LeMay Marc Reardon Rachel Smallcomb

# **CREATING E-RESOURCES FOR THE LONDON PROJECT CENTER**

An Interactive Qualifying Project submitted to the Faculty of WORCESTER POLYTECHNIC INSTITUTE in partial fulfilment of the requirements for the degree of Bachelor of Science

> by Demi Karavoussianis Matthew LeMay Marc Reardon Rachel Smallcomb

> > June 21, 2018

Report Submitted to:

Professor Dominic Golding Professor Gbetonmasse Somasse Professor James Hanlan Worcester Polytechnic Institute

This report represents work of WPI undergraduate students submitted to the faculty as evidence of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review. For more information about the projects program at WPI, see <u>http://www.wpi.edu/Academics/Projects</u>.

# Abstract

Information provided by WPI regarding the London Project Center can be spread out and confusing for students, creating a feeling of information overload during ID 2050 and while on IQP. By analyzing the current information dissemination methods and the opinions surrounding them, we determined what information students felt was previously lacking. By doing so, we created a suite of content and tools, presented in a website format, for the London Project Center director, to benefit future generations of London Project Center students. In addition, we provided a series of recommendations to the Interdisciplinary and Global Studies Division, ID2050 instructors, and to the London Project Center on improving the way they inform students before, during, and after an off-campus project.

# Acknowledgements

We would like to thank our advisors Gbetonmasse Somasse and James Hanlan for assisting us during this project. In addition, we would like to acknowledge our sponsor, Dominic Golding, for his guidance, insight, and considerations while working with us. We would also like to thank the IGSD faculty and staff for their sharing their invaluable knowledge, expertise, and wisdom throughout the entirety of ID 2050 and IQP. Finally, we would like to thank the previous and present London Project Center students for all the useful feedback and commentary they provided us over the course of the project.

# **Executive Summary**

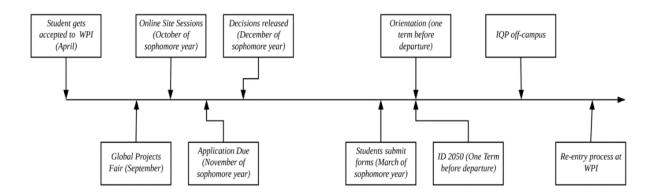
More than 70% of Worcester Polytechnic Institute's (WPI) undergraduate students will participate in an off-campus project (WPI, 2018a). WPI provides a variety of information before, during, and after the off-campus experience, and because students are responsible for keeping track of this information, it is easy for these students to feel overwhelmed.

This provokes the questions: what do students need to know, and what is the best format to provide answers to their questions? The goal of this project was to determine how the Global Projects Program (GPP), and specifically, the London Project Center (LPC), can more effectively engage students and meet their informational needs throughout the entire IQP experience.

## Literature Review

Founded in 1824, WPI began its legacy with the goal of harmonizing theory and practice. The school's founders, John Boynton and Ichabod Washburn, believed the traditional theoretical approach to education combined with hands-on lab work would create an innovative place of technical study. WPI staff designed the Interactive Qualifying Project (IQP) to give students a project that replicates engineers work after graduation. While early IQPs were conducted on campus, the faculty soon realized the experience would be much richer if programs involved sponsoring organizations and off-campus settings. The program has now grown to more than 40 project centers on six continents. An elaborate support structure has also developed over the years, including the IGSD office, specialized classes (ID2050) to prepare students, faculty, and host organizations.

To prepare students for their term abroad, WPI requires students to take a class to introduce them to the country where they are working. The instructor sets guidelines for the students' work, but because the IQP is an open-ended project in general, the students would still have the freedom to explore many possible approaches. A full timeline of the IQP process from the beginning of a student's first year to re-entry after an off-campus project can be found in Figure 1 below.



#### Figure 1: Timeline of the IQP Process

During this process, information is given to students from all different sources, at different times, and in different formats. This can get especially confusing when information overlaps, contradicts, or contains gaps between different mediums.

The purpose of this project is to improve communication with students and other stakeholders to improve the academic and cultural experiences. This requires an understanding of what information students need and want to figure out the most effective delivery mechanisms. Providing more content in appropriate formats will make students more productive, have a better learning experience, and become better ambassadors for the GPP.

## Methodology

The goal of this project is to determine how the GPP, specifically the LPC, can more effectively engage students and meet their informational needs throughout the entire IQP experience. To achieve this, we pursued the following objectives:

1. Identifying what information the GPP and LPC provide to students to prepare for their offcampus experience.

2. Determining student, sponsor, staff and faculty opinions about current resources.

3. Reviewing the best practices for disseminating information about study abroad programs.

4. Designing and developing innovative tools that attempt to address the needs of all WPI stakeholders.

Out team assessed IGSD and LPC materials and supplemented our initial findings with student surveys, student interviews, and faculty interviews. Each stage of the pre-IQP and IQP process is

outlined in the timeline in the Background. We have identified what and how materials are given out at each stage, as well as which departments are responsible for which information.

We evaluated student, sponsor, staff, and faculty opinions on WPI's current practices for providing informational resources and tools in order to understand which are currently in use, how effective they are, how effective they are perceived to be, and what the WPI community thinks about them. Our team focused on understanding the limitations of the current methods, such as online videos, blogs, site sessions, and FAQs. Throughout this process, we examined how student views of the program have evolved from the time they chose a program to their recommendations after completing their IQP.

The third objective was to review the best practices for disseminating information to students who plan to study abroad. We reviewed and analyzed the materials from organizations, such as the Forum on Education Abroad and the Association of International Educators (NAFSA), that promote best practices for staff and faculty of universities and third-party providers to follow.

Our fourth objective was to design innovative tools that attempt to address the need of WPI stakeholders. By evaluating the current dissemination methods, ascertaining the opinions of these different groups, and researching the best practices in study abroad, we determined the creation of a comprehensive website would be the best tactic to complete this objective.

## Analysis and Findings

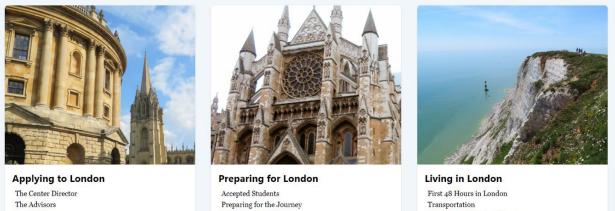
Through surveys, interviews, and focus groups, we asked previous and current LPC students about the quantity, usefulness, and efficiency of provided information resources regarding various topics. The results of our surveys are broken down into three key points: feedback on the amount of information provided, feedback on the quality of the information and suggestions for a new way to organize the information.

Based on the feedback provided during the focus group, students unanimously felt there was no such thing as providing 'too much information' about IQP. The major categories for what topics students wanted more information on are as follows: previous IQP descriptions, assignment information, visa requirements, and travel information. We provided articles specific to these topics on the website.

We asked students how easy they felt it was to find the specific information given WPI's current resources. More than 25% of students had difficulty finding information on the following topics: logistical program details, types of projects offered, financial information, and housing

information. We provided specific articles on the website for these topics. Students also felt information for IQP should be centralized on a website that was geared towards students rather than sponsors.

By a show of hands, both during a presentation and during the focus group, the current LPC students voted unanimously in favor of information displayed in a centralized location on both accounts. We decided to create a homepage that contains all possible queries while also remaining organized and simple for students coming from all stages of the IQP. The homepage contains 3 boxes at the bottom, as seen in Figure 2 below.



The Center Director The Advisors Past Projects Connect With Previous Students London Site Session How to Apply

Accepted Students Preparing for the Journey Planning Your Flights ID 2050 Forms Apartment Information Budgeting A Week Before Leaving

First 48 Hours in London Transportation Plan a Day or Weekend Away Photo Locations Markets Parks and Gardens Restaurants Museums and Galleries Niche Museums English Culture

#### Figure 2: Organization of the website homepage

The user can see all the options of articles available under each category, suiting the popular student opinion that the information should all be presented on one page. For the stakeholders who preferred more structured content, we provided a "Roadmap to IQP" outlining each stage in an interactive format. The user can select the entire box displaying all the articles for that stage of IQP, or choose a specific article from the list provided.

### **Recommendations and Conclusions**

Before starting our project, information distributed by WPI to students was scattered over a variety of multimedia sources. In some cases, information was not even accessible. By creating the website, we have created an organized, student-centered, and comprehensible resource. This new site has information presented in an intuitive manner. Further, we would like to offer

recommendations to key stakeholders at WPI in regards to the information dissemination methods and content provided to students.

The data collected for this project revealed some overarching student preferences. In general, it was found that students prefer centralized sources of concise information geared directly towards students currently going through the IQP Process. After analyzing student feedback, there are several student suggestions which may be of use to IGSD. We recommend consolidating the several Canvas pages into a single Canvas page, as students like information in a single centralized location.

Students felt that the orientation covered information that was very site-specific. This information may be better incorporated into ID2050, to better make use of the orientation time. With that said, the length of orientation was a concern among students and faculty, as they expressed that over the course of orientation students lose interest and are not engaged. We recommend consolidating the information presented during the orientation into short and manageable pieces or split the orientation into several sessions, some of which may be best suited online.

Since the primary focus of this project was creating resources for the London Projects Center, it was important to measure the effectiveness of the current suite of materials. On the original LPC website, there is currently a list of previous IQP projects, sorted by year. Students in the focus group and survey expressed interest in knowing what types of projects were offered before applying, as it affected their ranking decisions. Therefore, adding an option to sort prior IQPs by different criteria could be useful to incoming students, such as by sponsor, theme, and year. This simple feature would allow students to determine the general theme of the project center more effectively.

ID2050 is meant to prepare students for the IQP; therefore, it is essential to streamline information to effectively prepare students. Given that ID2050 is generally taught by different instructors, the following recommendations are aimed at all instructors. From the data collected we have found that students prefer Canvas as a centralized source of information for many reasons, including but not limited to: simplicity of assignment submission, the "Team" function, the gradebook, and other forms of communication.

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How WPI Disseminates Information	Written: DK, Edited: ML, RS
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# Chapter 1: Introduction

More than 70% of Worcester Polytechnic Institute's (WPI) undergraduate students will participate in an off-campus project (WPI, 2018a). To prepare students properly, WPI provides a range of information before, during, and after the off-campus experience; this includes information on health and safety practices, travel, logistics, and any auxiliary information students need. Students also receive academic instruction on how to develop and conduct a research project. They are responsible for keeping track of this information to have a successful cultural and academic experience abroad; however, due to the volume of information, it is easy to overwhelm students. It is difficult to find specific information when there is so much to sort through while applying for and working on ID2050 and PQP during the seven-week preparation period. It remains unclear whether students receive all the information they want and need, and whether alternative types of information and methods of delivery might be more effective.

At the core of WPI's unique program is the type of work students complete during a global project. Since the IQP is distinct in comparison to other study abroad programs at traditional universities, WPI's methods for preparing students also differs from the standard approaches. ID2050, the global projects preparatory course, is completed before going abroad; however, WPI struggles to personalize the distribution of information during this time given the influx of students. Consequently, orientation sessions are growing longer in order to cover material for many project sites at once. Despite all of the information that WPI provides, students may not retain all of it. This situation provokes the questions: what do students need to know, and what is the best format to provide answers to their questions? The goal of this project was to determine how the Global Projects Program (GPP), and specifically, the London Project Center, can more effectively engage students and meet their informational needs throughout the entire IQP experience.

To reach this goal of improving communications with students, we have established several objectives, starting with a review of current resources, followed by soliciting feedback about the effectiveness of the information currently provided. After those initial steps, we analyzed communication strategies from other study abroad programs and use them to guide us in designing and developing new materials for WPI stakeholders.

This report will discuss the approach we take to answer these questions. Our goal was to give students the information they feel is lacking from the IQP process by surveying and interviewing selected cohorts of students, faculty, and key stakeholders. Then we worked to bridge the gap between what information is currently provided and what students would like to, and more importantly, need to know more about.

# Chapter 2: Background

The background section begins with a brief history of the WPI Plan and IQP. We then discuss the history of London Project Center, along with its current state. During the IQP process, WPI disseminates information to students through a variety of methods from online postings to personal interactions. We compare WPI's methods and approaches with the standards of good practice according to the Forum on Education Abroad. Later in this section, we describe exemplary study abroad preparation tools used by other institutions and discuss effective methods to communicate with students in general.

## I. History of the WPI Plan

Founded in 1824, WPI began its legacy aiming to harmonize theory and practice. The school's founders, John Boynton and Ichabod Washburn, believed the traditional theoretical approach to education combined with hands-on lab work would create an innovative place of technical study. In 1966, WPI undertook another radical change to further unite these ideals. (WPI Student Alumni Society, 2010). Many universities developed new programs called 'Science, Technology, and Society' (STS) to help students learn about the impacts of technology on society and the environment. WPI recognized limitations of over-reliance on classroom instruction and saw the need for team projects that reflected how engineers work after graduation. WPI staff ultimately designed one of the most distinctive aspects of the WPI Plan - The Interactive Qualifying Project (IQP). Through these projects, students work in teams while observing the effects of their engineering developments on external communities (Schachterle, 1992).

WPI offers several other project-based programs including the Great Problems Seminar (GPS), the Major Qualifying Project (MQP) and the Individually-Sponsored Residential Project (ISRP). While early IQPs were conducted on campus, the faculty soon realized the experience would be much richer if programs involved sponsoring organizations and off-campus settings. Soon a project center opened in Washington, D.C., and shortly thereafter, established project centers in London and elsewhere nationally and globally. The program has now grown to more than 40 project centers on six continents. An elaborate support structure has also developed over the years, including the IGSD office, specialized classes (ID2050) to prepare students, faculty, and host organizations. Staff redesigned the WPI academic calendar so that students can dedicate one

of the four terms to completing an off-campus IQP. Students who choose to work on-campus usually conduct work over the course of three terms. This became especially helpful with the creation of off-campus project centers.

The IQP gives every WPI student "the experience of working in interdisciplinary teams to solve a problem or need that lies at the intersection of science and society," (WPI, 2018b). During their freshman or sophomore year, students begin the IQP process by applying through the Global Portal that the Global Projects Program (GPP) administrators then review (Figure 1). This process is illustrated graphically below in Figure 1.

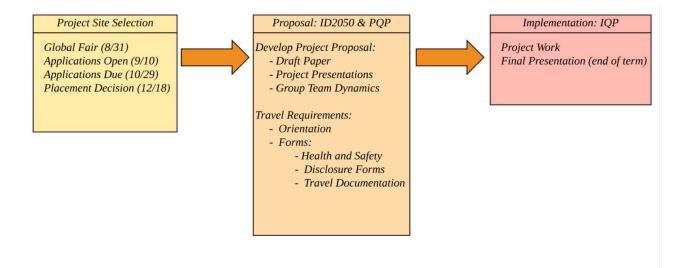


Figure 1: Overview of the IQP Timeline and Process

Once students have been assigned and accepted placement in a program, they enroll in *Social Science Research for the IQP* (ID2050). This course introduces students to research design, methods for social science research, and analysis using the project topics students have selected in conjunction with sponsoring agencies. Students learn to develop social science hypotheses based upon literature reviews in their topic areas and apply concepts drawn from social psychology, anthropology, sociology, economics and other areas as appropriate. This class concludes with presentations, an organized written project proposal, and a communication model to report group findings (WPI, 2017).

# II. The London Project Center at a Glance

Initially, the London location operated as an exchange trip with The City University, London. Following the success of WPI's first project center in Washington, D.C., Professor Maria Watkins, from the City University, and Professor Lance Schachterle, from WPI, helped advise the first project team in London. In 1986, London became a project center for small groups of students to work with British agencies for IQP credit (Schachterle & Watkins, 1992). Professors Schachterle and Watkins worked with Dean William R. Grogan and Associate Dean Frank Lutz to find sponsors in London. The IQP was well received, and many organizations requested opportunities to participate. Sponsorship expanded to include museums, professional and scientific organizations, private corporations, government agencies, and social service organizations (Briggs, 2016).

On the London Project Center's 30th anniversary, March 16, 2017, it had completed over 421 projects with 1366 students, including 80 completed with the Borough of Merton (Briggs, 2016). Most importantly, the students were able to work in a professional environment, learn to allocate time wisely, live independently in another country, and understand technology's consequences in a society and culture different from their own.

To prepare students for their term abroad, WPI requires they take a class to introduce the society and culture of the country in which they would be working, as well as to formulate their project proposal. Instructed by Professor Sue Vernon-Gerstenfeld, the first international project preparation course modeled Dean Francis Lutz's class for the Washington Project Center. It taught students about social science modeling, interviewing techniques, small group dynamics, and requirements to meet the project expectations of their sponsors. The students would devise a report in seven weeks before departure. Lutz set guidelines for the students' work, but because the IQP is generally an open-ended project, the students would still have the freedom to explore many possible approaches. In Washington D.C., Lutz experienced the necessity of flexible project goals to account for sponsor miscommunication several times (Zeugner, 1987). Although students conduct professional research and present a legitimate consultation, they are to remain unpaid. WPI cemented this rule so that the focus remains on educating students rather than earning wages.

Professor Zeugner, a resident faculty advisor for the Washington D.C., Project Center, was chosen to be an advisor for the London Project Center's first student team. In 1986, four British agencies agreed to sponsor projects. Projects in London were successful, innovative, and taken

much more seriously by sponsors than the ones in D.C. (Zeugner, 1987). Shell and The Department of Energy utilized one project for the General Electric Company (GEC) on product safety for further research and development of offshore oil and gas (Schachterle, 1992). The Management Committee of the Institution of Electrical Engineers sponsored the 'Professional engineering manpower requirements in the power industry' project featured in an article from *IEE News*, 'The status of engineers in the UK' (Schachterle, 1992).

The IQP learning experience is different from traditional undergraduate courses because of the many challenges students face, such as dealing with sponsors and adjusting to a new culture. Professor John Zeugner said the IQP is "Mind-widening in ways no conventional undergraduate program can be" (Zeugner, 1987). Looking through the alumni feedback, Zeugner was spot on-one alumnus said the following about the London IQP:

"Today's business environment is global. Having international experience was extremely useful and helped my understanding of another culture. The way we did the research for my project is similar to how I conduct research in my current career."

Aside from the long-term cultural and technological benefits of the project, alumni have stated the more short-term practical skills of the project helped them early in the beginning of their careers. (Schachterle, 1992). This probably comes from the demanding schedule of the IQP, including many oral presentations and weekly report reviews. They also noted that working in teams on an open-ended project was the most valuable part of their whole education; learning the technological solution is only a part of the whole problem (Schachterle). WPI's IQP sacrifices the tourism aspect of study abroad for a more intense work schedule; nevertheless, alumni still appreciated the experience. The London Project Center is the longest running international project site and has helped over thirteen hundred students develop real-world skills.

# III. How WPI Disseminates Information

WPI markets the Global Projects Program year-round to prospective and current students. The information provided by WPI comes very quickly and can often be overwhelming. Flyers and handouts given to prospective students at open houses, accepted student day, and even during students' first year on campus, highlighting the benefit of off-campus projects. A full timeline of the journey from the beginning of a student's first year to re-entry after an off-campus project can be found in Figure 2.

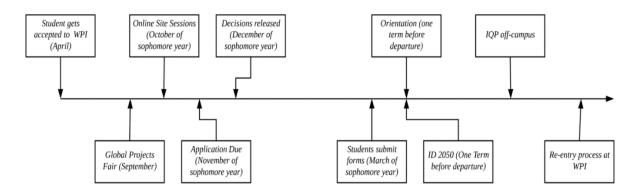


Figure 2: Timeline from first year at WPI to re-entry after completing an off-campus project. Figure based on student experience.

During this timeline, there are a variety of formats used to distribute information. A matrix of the type of information, presentation method, and provider is in table 1 below.

Table 1: H	How WPI	disseminates	information
------------	---------	--------------	-------------

Information:	on: Resource: Channel:		Source:	
What is the GPP?	Brochures	Paper	WPI Marketing Department	
	Global Projects Fair	In-person informal information session	Faculty and previous IQP students	
	Online Site Sessions	Videos and powerpoints	Site Director	
Different Project sites	Global Portal (TerraDotta)	Text and PDF Documents	IGSD	
	Project Center Website Text and images (varies per site)		Site Director	
	Canvas	PDF displaying Checklist	IGSD	
Forms	Canvas	Videos with Quizes to complete	IGSD	
	Global Portal (TerraDotta)	Submission documents	IGSD	
	Orientation	Interactive in-person presentation	IGSD	
Health and Safety	Canvas	PDF Documents	IGSD	
	Handbook	physical packet	IGSD	
Project work	Project Center Website	Text explaining previous projects	Site Director	
1 iojoot work	Canvas - ID2050 page	At disgression of Professor	ID 2050 Professor	

At the beginning of every year, the Interdisciplinary & Global Studies Division (IGSD) hosts an open house to explain the options for completing projects off-campus. Although this fair is not a mandatory event, the goal is to give students a better insight into their travel interests, whether that be close to home or overseas (Shalhoub, 2016). Previous IQP students and faculty present information at individual tables for each participating project site. The site's table provides posters, often displaying frequently asked questions as well as pictures of the location. The previous Global Projects Programs students and advisors present answer questions about available projects and their experiences in different cultures. The information presented at this stage varies based on individual student interests and queries.

The process of applying to an off-campus project starts with being added to Canvas page labeled "IGSD [YEAR] Application Process." On this page, students attend a "Site Session." In previous years, students attended an in-person "Site Session" usually hosted by the advisor of that location, where they learned more details about specific projects and locations. In 2017, these sessions moved online to accommodate the large number of students planning on traveling. Figure 3 shows this Canvas page, with an example of the informational options available for each site in the modules tab.

- Loi	ndon, England	Prerequisites: Getting Started
0D	London, England Project Center information 🤕	
e <sup>p</sup>	London Project Center Site Session	
\$3	London Project Center Site Session Quiz Oct 8, 2017   3 pts	
	London, England Discussion	
• Ma	andi, India	Prerequisites: Getting Started
• Ma	andi, India Mandi, India Project Center information @	Prerequisites: Getting Started
		Prerequisites: Getting Started
P	Mandi, India Project Center information @	Prerequisites: Getting Started

Figure 3: Canvas. IGSD 18-19 Application Process modules page. Shows an example of the information provided for each site: an information page, Site Session, Quiz, and discussion.

Students can click on the site session to watch a video about the location. The information differs for each project site, but usually covers typical projects offered in that country, the living accommodations, fun facts about the host country, and unique characteristics about the project center. Followed by each session is a three-question quiz to ensure the student has watched the video.

The London Project Center's site session for 2018 was a recording of a PowerPoint presentation narrated by the Center Director, Professor Dominic Golding. During this presentation, Professor Golding described previous sponsors and projects, telling students the projects are frequently similar from year to year. He then transitioned to the living accommodations, weather, and English food. The video concludes with a discussion of dates, visas or passports, and cost. For additional information, he directs students to the London Project Center Website.

Students looking to gather more information about any project site can look at the sitespecific webpage on the WPI website. In some cases, as with the London Project Center, there is a link to an external website that provides more detailed information about the site, at the Center Director's discretion. The London Project Center website maintains a record of all IQPs completed since 2011. The website homepage also provides a history of the London Project Center as well as general information and answers to frequently asked questions. Other Project Center locations may have different presentations based on input from the local director. Some sites are more geared towards attracting sponsors, while other sites contain lists of things to do for students, as well as promotional videos filmed by students. In addition, previous projects may be posted on the website, sorted by theme, sponsor, or chronologically.

Students can apply to an unlimited number of project centers, sorting and ranking each one in comparison to the others. After the application deadline, the Global Project Program (GPP) staff assigns students to a specific project site. Students then have a limited amount of time to commit to the project and place a deposit. Following this initial commitment, students must meet requirements and deadlines for all health and logistical documents through the Global Projects Portal on a website called TerraDotta. A checklist of all required documents can be found on the student's Global Projects Portal account, as shown in Figure 4.

Material Submissions				
Click the following to view instructions and/or printable forms which require the physical submission of materials.				
Title	Received			
ATC Laptop Form	n/a			
Acknowledgement & Release Form				
Copy of Passport				
Deposit				
Form B: Health Information Form				
Forms C and D:Confidential Health History and Health Care Provider Evaluation Forms				
Online Orientation				
Participant Statement of Agreement (Residential)				
Pre-Departure Orientation				
Sexual Assault Awareness & Prevention Training				
Travel Health Orientation Video				
Welcome Orientation Video				

# Figure 4: TerraDotta checklist of Submitted Materials

Following the project assignment, each student is enrolled into two more Canvas pages: one for orientation, and another for International Orientation during a specific term. Figure 5 shows an example of the Canvas dashboard with all 3 pages relevant to the traveling abroad emphasized in yellow boxes.

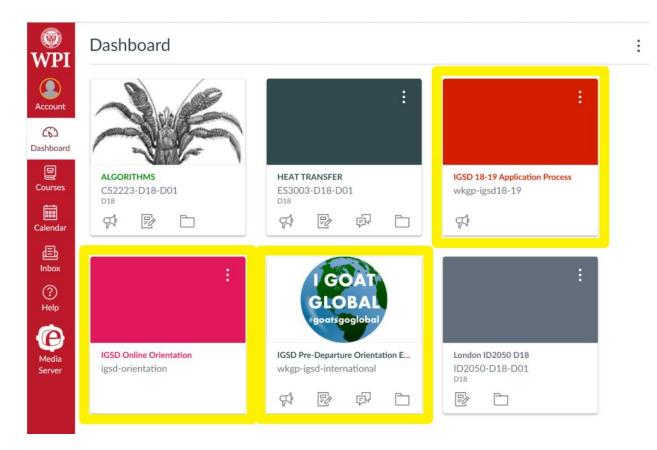


Figure 5: Canvas dashboard page with the three Global Project Canvas pages boxed in yellow.

The first Canvas orientation page contains four videos about various health and safety issues, and one quiz to ensure comprehension of the material. The second Canvas page is a term-specific orientation page that provides the "Welcome Kit", which contains a checkbox list with all of the deadlines for submitting all medical and logistical documents, such as travel waivers. This information is the same as the one listed on TerraDotta (shown in Figure 5), but in a different format in Figure 6 below.

Beijing, Buenos Aires, Copenhagen, Iceland, Japan, London, Panama, Switzerland, Warstein and Windhoek Checklist

## Due March 2, 2018 by 3:00 p.m.

□ Welcome Orientation

Due March 20, 2018 by 3:00 p.m.

Application Questionnaire(s)

Emergency Management Information

D Photographic Consent & Project Information

Release

Signature Documents

- Disability Disclosure Statement
- Informed Traveler Statement
- □ Visa Requirements
- □ WPI Cell Phone Policy

Material Submissions

- □ Acknowledgement & Release Form
- □ ATC Laptop Form
- □ Form B: Health Information Form
- Online Orientation

□ Travel Health Orientation

#### Due March 29, 2018 by 3:00 p.m.

Application Questionnaire(s)

- □ Arrival & Travel to Project Center
- □ Passport Information
- Post Project Center Travel

Material Submissions

□ Form D: Health Care Provider Evaluation

Forms (if required)

□ Copy of Passport

## To be completed April 10 or 11, 2018

- Pre-Departure Orientation
- □ Sexual Assault Awareness & Prevention
- Training

Figure 6: Canvas Submission Checklist in the Welcome Kit

This Canvas page also includes different documents detailing travel information like how to stay healthy, how to pack, and passport information. Due dates and reminders are sent to students by an announcement message feature on Canvas, as well as through generic, mass emails sent to anyone who has not completed a required task a day before the deadline.

Depending on the travel term, this submitted material continues concurrently with ID2050 and the IQP prep class one term before departure. ID2050 classes are usually conducted by faculty who are not the center directors; some ID2050 faculty are instructors but seldom the advisors who will be onsite with the students. Each professor conducts the class differently, but by the end of the term, students expect to have developed a project proposal and presentation.

In addition, during the term before departure, every student must attend a 3-hour orientation session, where facilitators from IGSD discuss safety issues and appropriate behavior pertaining to each individual project site (Welcome Kit E-A'18, 2018). The orientation starts by first going through a slideshow of guidelines to follow to ensure safety. Students then watch short videos about key topics like sexual assault and street safety, followed by a group discussion. Students are then separated by site location, where they complete an interactive exercise named the "circle of trust." During this exercise, students and advisors discuss the expectations they have for the upcoming off-campus experience, placing positive expectations inside the circle, and negative possibilities outside the circle. By the end of the orientation, every student departs with a site-specific handbook, displaying a variety of information, both related to safety and general life off-campus.

After completing this course, students travel to their Project Site, where many of them will meet their sponsors in person for the first time. Upon returning to WPI after completing their project, students can opt to attend a re-entry conference. Here they can re-adjust to life as a student at WPI and reflect on their experience, including working on an elevator pitch to market themselves to graduate school interviewers or possible employers using the work they have just completed.

## IV. Practices in Study Abroad

Although study abroad programs vary across different schools, in general universities tend to adhere to a set of "standards of good practices" published by organizations like The Forum on Education Abroad (The Forum on Educations Abroad, 2018). There are a set of nine different standards, each with a set of related queries. Standards 4 and 8 are particularly related to WPI's Global Projects Program. Table 2 below shows these standards and their subsequent queries.

Table 2: Standards Four and Eight from the Forum of Education Abroad

# Standard 4: Student Selection, Preparation, and Advising: The organization maintains fair and ethical recruitment and selection processes, adequate student preparation and advising, and ongoing student support.

- 1. Describe how your recruiting and admissions procedures are fair, ethical, and transparent.
- 2. How do you confirm that students have sufficient academic preparation before enrolling in the program?
- 3. In what ways do you prepare students for the challenges of the education abroad context?
- 4. How do your pre-departure training and on-site orientation equip students to achieve academic success and broader program goals? How do you help students prepare for personal, health, and safety issues that might arise?
- 5. How does pre-departure and on-site advising encourage academic and professional planning?
- 6. What kinds of re-entry programming are offered to address student needs?

Standard 8: Health, Safety, Security, and Risk Management: The organization prioritizes the health, safety, and security of its students through policies, procedures, advising, orientation, and training

1. What are the health, safety, and security risks that your students face? How are these risks considered in program development, implementation, and management? 2. Do you regularly conduct risk assessments for program sites and activities?

3. Do you maintain written emergency plans and protocols, and do they utilize both U.S. and local authorities and resources?

4. How does your organization routinely access a range of resources, including but not limited to, the U.S. Department of State and other applicable U.S. and in-country governmental agencies, to monitor and advise on health, safety, and security issues? How do you ensure that all participants receive timely updates on health, safety, and security issues?

5. How are staff trained to anticipate and respond to student health, safety, and security risks?

6. How are your students trained to responsibly manage their own health, safety, and security while abroad?

7. What measures are in place to routinely monitor and advise students on health, safety, and security risks?

8. Do you maintain appropriate kinds of insurance for your programs at recommended levels?

9. Do you operate in compliance with local laws and regulations?

10. What are your procedures for reporting critical incidents? Are these procedures aligned with best practices and applicable laws?

Standard 4 focuses on student selection, preparation, and advising. Query 4 asks "How do your pre-departure training and on-site orientation equip students to achieve academic success and broader program goals? How do you help students prepare for personal, health, and safety issues that might arise?" (Forum on Education Abroad, 2018). WPI provides this information at the in-person orientation session one term before departure.

Similar to Standard 4 is Standard 8, Query 6, which asks, "How are your students trained to responsibly manage their own health, safety, and security while abroad?" (The Forum on Education Abroad, 2018). Different organizations have different approaches, but overall, they often use similar media and discuss similar topics. Before traveling for a study abroad, schools distribute information to students regarding key issues like bystander intervention, racism, hazing, safety in a foreign country, and more.

One solution developed by Cornell University, *Intervene*, is series of videos to promote conversation about these topics. Each segment contains a short scene depicting issues students may face at home or while abroad (Cornell University, 2016). Similarly, the University Study Abroad Consortium developed a YouTube channel with videos about different topics. They use colorful images and animated graphics to depict potentially dangerous scenarios and how to prevent them. In addition to videos geared towards safety, the University Study Abroad

Consortium also provides "A day in the Life of…" videos, where a student describes a typical day abroad. The wide variety of information on one website gives students a single place to go to find answers to questions, or even just to learn more about their program (University Study Abroad Consortium, n.d.). Institutions sending students abroad are utilizing short informational videos as a method to distribute information to students.

In addition to videos, The University of Michigan offers a different solution - a website dealing with common problems students face while abroad. They centralize all the information under headings and provide links to skills that can help solve various issues. Additionally, they employ short videos scattered throughout the website. Similar to how the University Study Abroad Consortium videos feature students, the University of Michigan has short videos where students describe the challenges they faced while abroad and how they overcame them. This website goes beyond providing basic travel information; instead, the page focuses on "Enhancing your Experience Abroad" (University of Michigan, 2018). The University explains not only how to solve common issues a student may face while abroad, but also highlights the model used to determine these methods. Listed on the home page is the Resiliency model, which graphically explains the five methods that help to develop personal resilience. The descriptions are concise and easy to read, preventing information overload.

These three resources exemplify the standards of good practices. The information is clear and concise but detailed enough to inform the user of necessary points. The videos remained short and provided personal stories to keep the viewer engaged. Overall, students had the information distributed to them in a manner optimal for absorption and subsequent reflection.

In addition, the Forum provides a set of guidelines for what kinds of resources universities should provide students traveling abroad. Under the topic of "Research Guidelines for Students" guideline F states: "On-site research guides or mentors who are knowledgeable about the host community, and who have been vetted by the credit-conferring entity, are assigned to assist the student with identifying resources, adhering to local norms, and respecting local value systems." (Undergraduate Research Abroad, 2018). WPI satisfies this by sending students off-campus with an advisor, as well as teaming them with local sponsors familiar with the area. With the need for not only academic but also cultural support, there is an immense amount of information that needs to be relayed to students in an effective manner, which is not most effectively communicated through only an advisor.

## V. Effective Student Communication

There are a wide variety of methods schools and businesses can use to communicate with their audience. One of the oldest ways to reach both existing and potential customers is direct mail. Sending attention-grabbing postcards to a targeted mailing list is a relatively inexpensive marketing method. Other solutions include television advertisements, search engine optimization (SEO) and billboards. A marketing consultant or department can generate compelling human-interest stories and press releases for newspapers, magazines and other media.

The Global Projects Program at WPI has many stakeholders including potential sponsors, faculty, and staff. However, reaching college students is the most difficult task. Many of them struggle with a part-time job or extracurricular activities, in addition to the demands of difficult courses. They are not typical consumers visiting grocery stores or shopping online. Students are bombarded with information; information overload is a constant problem. Key messages get lost in the noise, with multiple messages coming from multiple sources via multiple channels. Reaching their parents (often funding sources) is probably easier than getting a student's attention.

Research from the University of Washington shows students at both two-year and fouryear colleges turned to Google for both personal and academic research, followed by Wikipedia, and then to their friends. Social networks were lower on the list of information sources. Blogs and librarians were the least used resources, while traditional media such as newspapers and magazines were never seriously considered (Percheski & Hargittai, 2011). Further, students favored sources for their brevity, conciseness, and currency over other qualities (Percheski et al., 2011). While librarians focus on thoroughness, students use an approach based on efficiency (Percheski et al., 2011).

Students prefer to use websites for research because they present visual information, require minimal effort, and are generally available on demand. Walking into a program office, attending a presentation, or dialing a toll-free number are sub-optimal solutions for busy people (Erickson, 2012). Further, websites can be easily replicated with different versions for different audiences, e.g., Spanish and French versions. Given rapidly changing information and high production and distribution costs, brochures and other traditional media usually cannot compete with internet-based solutions.

A study of college students showed pleasure and readability were the two most important attributes of a webpage (Teng, Cai, Walker, & Cassidy, 2015). Excessive information and chaotic

visual presentations negatively affected the viewer's perception of the website and resulted in significantly fewer visits. (Teng et al., 2015). In general, educational web pages with rich content and clear layout were perceived as more trustworthy (Teng et al., 2015).

A study conducted by Guo, Kim and Rubin shows the most effective videos were less than six minutes long. Longer videos cause most students to disengage, often before the 9-minute point (Guo, Kim, & Rubin, Mar 4, 2014). Speakers need to be enthusiastic, the information needs to flow rapidly, and informal settings tend to fare better than expensive movie sets (Guo et al., Mar 4, 2014). A talking head making eye contact is received better than a visual aid, such as a chart (Guo et al., Mar 4, 2014). Similarly, a video of someone writing on a tablet, although it is far more complicated than a single PowerPoint slide, significantly improved the viewer's attention (Guo et al., Mar 4, 2014).

Emotional and funny videos that are not overtly persuasive are most frequently shared (Hsieh, Hsieh, & Tang, 2012). Users are more likely to share media containing sensory cues like movement, sound and animation, as they create a richer experience. (Hsieh et al., 2012). However, any video that is perceived as advertising is significantly less likely to be shared, and overt viral brand marketing will also fail (Hsieh et al., 2012).

Students traveling off-campus must know certain information such as local regulations, required immunizations, currency exchange rates, and class procedures. Their experience will be significantly enhanced if they also have advance information about their accommodations, restaurants in their neighborhood, personal safety, public transportation, and access to health care.

The internet offers many options for providing this information from flipping pages in a virtual magazine, to interactive websites, to chatbots, and videos. Since students use the internet extensively, solultions will likely focus on web-based communications. While Facebook, Twitter, YouTube and Snapchat are widely recognized, there are many other tools available including viral marketing – getting other people to spread the word. To be highly effective, multiple channels of communication using credible sources - including other students, faculty and sponsors – will need to be used. Further, the fundamental message about the value of the program will need to be repeated across all channels.

## VI. Conclusions

The IQP experience can be overwhelming. While an abundance of information is presented to students in *Social Science Research for the IQP* (ID2050), this class is not intended to answer

every question about the program. In addition to this course, there is also a Pre-Qualifying Project (PQP), orientations, IGSD specific requirements, and sponsor specific tasks. While WPI's goal is to make the IQP experience as educational as possible, it sometimes falls short. Based on the data gathered from student surveys and focus groups, a majority of students feel different sources sometimes present conflicting information. Important details are sometimes overlooked. Further, some information is presented in dull and mundane formats, making the process monotonous rather than exciting. The purpose of this project is to improve communication with students and other stakeholders to improve the academic and cultural experiences. This requires an understanding of what information students need and want in order to figure out the most effective delivery mechanisms. Providing more information in appropriate formats will make students more productive, have a better learning experience, and become better ambassadors for the program.

Just as President Storke and Professor Grogan re-invented the WPI curriculum for a new era, the Global Projects Program should be refreshed for a new generation of students. As Steve Jobs said, "If you don't cannibalize yourself, someone else will," (Isaacson, 2015).

# Chapter 3: Methodology

The goal of this project is to determine how the Global Projects Program (GPP), and specifically the London Project Center (LPC), can more effectively engage students and meet their informational needs throughout the entire IQP experience. To achieve this, we pursued the following objectives:

- 1. Identifying what information the GPP and LPC provide to students to prepare for their offcampus experience.
- 2. Determining student, sponsor, staff and faculty opinions about current resources.
- 3. Reviewing the best practices for disseminating information about study abroad programs.
- 4. Designing and developing innovative tools that attempt to address the needs of all WPI stakeholders.

We divided the timeline into sections for each of our objectives (See Appendix C). Since we already started conducting our research during our time on campus, our team used the extra time after completing all data gathering to develop additional content. The timelines for creating websites and videos are independent; we anticipated work on both to proceed concurrently.

At the beginning of every year, the Interdisciplinary & Global Studies Department (IGSD) hosts the Global Fair to explain the options for completing projects off-campus. Unfortunately, this event did not occur during our project duration, making it difficult to observe first hand. Instead, we conducted surveys asking students to retrospectively reflect on their experiences.

Following the fair, each student is added to multiple Canvas pages. They are required to watch a virtual site session for at least their top choice, as explained earlier in the background section. In addition, they must attend a pre-departure orientation and complete the ID 2050 class during the term before departure. Our team aimed to complete a majority of our first and second objectives before our arrival in London. We made significant progress on the third objective before leaving campus. However, the research and development of these objectives was an ongoing process that spanned the entire project, so relevant work continued while in London. While on campus, we interviewed local experts both in and out of WPI. In addition, we gathered information from organizations like The Forum on Education Abroad. This task continued in London, by

conducting interviews via Skype or speaking with other students studying in London. We completed our fourth and fifth objectives after arriving in London.

I. Objective 1: Identifying what kinds of information the Global Projects Program and London Project Center provides to students to prepare for their off-campus experience.

Our team had already been well oriented with the process students go through for IQP, having gone through it ourselves and reviewed materials presented by the Global Projects Program and the London Project Center. We have made our own assessments of these materials and supplemented our initial findings with student surveys, student interviews, and faculty interviews. Each stage of the pre-IQP and IQP is outlined in the timeline in the Background. Since there are so many documents students receive, they are not shown here. However, we have identified what and how materials are given out at each stage, as well as which departments are responsible for which information. The graphic outlining this is in the Background.

Most parts of the pre-departure process are electronic and do not require physical handouts, but students who plan to travel off-campus are required to attend a pre-departure orientation session hosted by WPI where they are given physical handouts. The goal of the session is to provide students with critical health and safety information while also acquainting them with the peers they will be traveling with. Otherwise, students might not be aware of risks they are taking by traveling to another country. We have the materials given to students at this stage and have evaluated student opinions on the effectiveness of these materials with an exit survey following the pre-departure orientation. Further research with students is explained in Objective 2.

Because most parts are electronic, it was rather easy to find what and when information is given out. However, we confirmed this information is accurately organized based on discussions with staff, faculty, and students. We have personal insight as to which parts work better for students, having been through most parts already, nevertheless we surveyed students about the effectiveness of current electronic methods too. Objective 2 discusses these surveys in greater depth.

# II. Objective 2: Determining student, sponsor, staff and faculty opinions about current informational resources and tools.

We evaluated student, sponsor, staff, and faculty opinions on WPI's current practices for providing informational resources and tools in order to understand the tools in which are currently in use, how effective they are, how effective they are perceived to be, and what the WPI community thinks about them.

#### I. Global Projects Program Staff

We started this process by interviewing pertinent GPP staff. We conducted in depth, qualitative interviews with current GPP staff members, before leaving for London. These interviews were in person with at least two team members present, so one person was able to lead the conversation and the other took notes. We developed the interview script for those with an exhaustive knowledge of IGSD, so they can apply their area of expertise to the questions at hand (See sample questionnaires in Appendix D). A list of all the staff interviewed can be found in Appendix B. Their comprehension of the IQP and available resources was invaluable to our project.

## II. Students

We reached out to students, both through interviews and surveys; utilizing WPI email aliases obtained by our sponsor to contact them. Our team focused on understanding the limitations of the current methods, such as online videos, blogs, site sessions, and FAQs. Throughout this process, we examined how student views of the program have evolved from the time they chose a program to their current recommendations after completing their IQP. Because time and manpower are constraints of IQP, we only conducted in depth interviews with students randomly selected from each stage of the process: perspective (i.e.: D19), current (i.e.: D18 and E18), and past (i.e.: D17 and E17). We worked with the GPP to obtain the email addresses of students in each group. We emailed an online survey to the groups of students listed above (See Appendix E for questions).

We surveyed LPC students from each stage of the process to ensure a sizeable data pool, as this widened our scope of understanding and include more perspectives. During this part of our project, we used targeted surveys to prioritize issues and solutions, and statistically test for significance of the consensus among students. Our team emailed students a link to an online survey; we then analyzed the results using Excel. Responses to open ended questions were categorized and provided guidance for further research and development. The surveys were online,

consisting of multiple choice, scaled, and short, open ended questions (See Appendix E for questions and consent preambles).

While we were at the LPC, we sponsored in person, semi-structured focus groups for E term attendees twice, at the middle and end of the term, so we could check in with students and gather data as they were concurrently working on their projects. Given there are 22 students including our team, two of us hosted a group of six students, selected by us, with one of us as a scribe and the other as the moderator. The moderator led and guided the discussion while the scribe took notes. We investigated what current student opinions were more deeply, if they have changed in retrospect, if they have solidified further, or if there were entirely new thoughts, questions, or concerns (See Appendix F for questions and consent preambles).

Our team has also been in contact with a Graduate Student currently doing research at Clark University. We have collaborated on a paper exit survey that students had the opportunity to complete after the pre-departure orientation for E/A travelers this year (Appendix G).

#### III. Faculty and Sponsors

Each IQP site has its own particular challenges. As such, center directors have different strategies for preparing students. The main focus of PQP is to further the development of the students' research proposals, but the structure varies; PQP can include cultural preparation, language studies, and meetings with project advisors. Some instructors opt to have PQP and IQP taught concurrently, while others choose to have PQP the term before ID2050. We interviewed multiple center directors because the organization of IQP and PQP is so dependent on them. The form of each interview depended on the individual's availability. Our goal was to conduct each in depth, qualitative interview over video call with at least two team members present - one to lead and one to scribe. If video or voice call was not an option, we sent a link to an online form with our questions. We reached out to several center directors to get different perspectives on the IQP process (See Appendix H for preliminary interview questions).

We had the opportunity to conduct an interview with the director of the Worcester Community Project Center, in person during ID2050. Students recently had the opportunity to redesign the website for the WCPC (See Appendix I for interview questions). From the interview, we were able to get a better understanding of student expectations. The Director believed students heavily relied on Canvas since it is the de facto source of information- for other classes. Therefore, it would be beneficial to enhance the already existing platform with additional content. While the Worcester Community Project Center website geared content mainly towards sponsors, it was her belief that organizing the content systematically would yield the best results.

Our project sponsor is the LPC center director, Professor Dominic Golding. He is also currently the ID2050 instructor, so our team has had the opportunity to have frequent meetings with him. These meetings consisted of our full team with one member taking minutes and operated as unstructured interviews. We used this time to ask any clarifying questions and for project advice; Golding guided our team with in-depth feedback. Our team also conducted a more formal interview with Professor Golding, along with the other center directors, as described above.

### III. Reviewing the Best Practices for Disseminating Information in Study Abroad Programs

The third objective was to review the best practices for disseminating information to students who plan to study abroad. Organizations like the Forum on Education Abroad and the Association of International Educators (NAFSA) promote best practices for staff and faculty of universities and third-party providers to follow. We have reviewed and analyzed the materials these professional organizations have published to determine what these best practices are, as well as which institutions are at the forefront of study abroad preparation. The Forum provides sample multimedia forms to various universities and institutions conducting study abroad preparation programs that emphasize aspects of the standards of good practices. We analyzed their content and how they display their content to determine what information other universities are displaying and in what format. Given the nature of our project, we focused on the websites these institutions use.

Interviewing a senior member from the Forum on Education Abroad, helped us to identify which institutions to analyze. This individual previously worked at WPI as the Director of Global Operations, giving her in-depth knowledge about study abroad programs, including those offered by WPI. We inquired about standards of good practice for pre-departure training, as well as examples of universities that are effective communicators. See Appendix J for our interview questions with Natalie Mello which assisted us in forming the background section. Also, she pointed us to Standards 4 and 8 on the Forum, which provided a basis of the best practices of information dissemination for students attending a study abroad. She recommended interviewing a professor at WPI who uses the spiral curriculum method in his lectures. The spiral method could be useful when making suggestions about the order information is presented. Interview questions about the order information about the provided about study about the order information about the provided about study about the provided about study about the provided about study about the provided be useful when making suggestions about the order information is presented. Interview questions for this professor can be found in Appendix K. Our team also received more information about the

circle of trust WPI conducts at pre-orientations. Using both the knowledge of current methods at WPI and the best practices provided by The Forum on Education Abroad, we have gained a wider view on education abroad, allowing us to more accurately analyze WPI's current information dissemination methods.

While still on campus, we continued to investigate which media most effectively communicates information to maximize retention. This research narrowed our options and provided a basis for the media we created in London. After determining the appropriate multimedia tools, we conducted more research to determine effective practices for each tool.

Not only have we read scholarly articles, but we also conducted structured interviews with media specialists. All interviews followed the protocol defined above, with modified questions geared towards the interviewee's area of expertise. We have reached out to a faculty member at WPI with website and video experience, to obtain advice on creating a video that entices the audience to keep watching and learning, as well as the technical details that go into creating such videos. We kept the information he provided in mind when developing virtual content for the LPC. A list of interview questions we asked can be found in Appendix L. We interviewed a member of the WPI marketing department, to determine how to create online content that markets and represents WPI well. A list of questions specific to her can be found in Appendix M. We inquired about what kind of media WPI uses to attract potential students to the Global Projects Program and to WPI in general, along with why these methods are effective. In addition, the marketing department was able to provide WPI website analytics to see what links viewers are clicking on, and what media is most commonly viewed. This information helped us to get a better grasp on what kind of material students are most frequently viewing, which correlates to what kind of content we created while in London. We worked to contact more members of the marketing department to conduct more interviews, using similar questions to those we asked our original marketing contact, found in Appendix M.

# IV. Objective 4: Designing and developing innovative tools that attempt to address the needs of all WPI stakeholders.

Based on our initial review of the materials, our experience in the program, and conversations with students and staff, we discovered there are major limitations with regards to the development and dissemination of information that meets student needs before, during, and after the IQP. Our continued background research, surveys, and interviews for our objectives

revealed numerous additional issues to be addressed, as well as a many possible solutions. We developed a suite of informational sources on a variety of topics using a variety of delivery methods. Our team used the information we learned from our research about student, faculty and sponsor needs to create new content. While we explored many different media, the team focused on employing the best practices used by other successful study abroad programs. From our research and interviews, we determined informative videos embedded in an interactive platform would be the foundation of our deliverables. Based on survey and focus group results, we concluded students will be looking for information about:

- Procedural aspects (i.e.: visas, forms, etc.)
- Getting to London (i.e.: affordable tickets)
- Adjusting to a new time zone (i.e.: jet lag)
- Transportation from housing locations to project sites
- Onsite experience (Major differences between London and Worcester life)
- Living Arrangements (i.e.: cooking, what to bring, where to shop, etc.)
- Health and safety
- LPC operations (office, contacts, hours. etc.)
- Working with a sponsor
- Tourist attractions

There are various options for presenting information about these issues as seen in Table 3 below.

 Table 3: Possibilities for Presenting Information

Procedural Aspects	Links to Passport Applications, etc.	Videos	FAQs	Chat room
Getting There	Links to Airlines and tickets	N/A	FAQs	N/A
Jet Lag	Links to solutions	Web page	N/A	N/A
Transportation	Links to public transportation	Maps	FAQs	N/A
Life in London	Web page	Pictures, Maps, and Videos	FAQs	N/A
Living Arrangements	Web page, Link to Acorn website	Pictures, Maps, and Videos	FAQs	N/A
LPC Operations	Link to website	Videos	FAQs	Viral marketing
Health and Safety	Content from WPI GPP	Maps to police, MDs, Hospitals, etc.	FAQs	Phone numbers
Sponsors	Links to sponsor websites	Videos of completed projects	FAQs	Social Media
Living Arrangements	Link to Acorn website	Pictures, Maps, Videos, etc.	FAQs	Phone numbers
Tourist Attractions	Links to websites	Pictures, Maps, Videos, etc.	FAQs	Social Media

Based on the results of our stakeholder surveys, we decided which issues are the most important and which solutions will most effectively present the information, as seen in the deliverables.

Our team began making videos based on feedback from our surveys about unmet needs. For example, we linked scenes from restaurants to a map of the neighborhood, and have links to the menus at each establishment. The team also created a videos showing what students do during a typical IQP work day. We learned how to use video editing software. We modified the agile development approach used by software engineers to develop our content (See Figure 7). Our team chose this approach because agile development has short cycles; we were able to solicit feedback and adjust our content accordingly. We were able to quickly pivot in the event our content was not positively received following stakeholder surveys. Otherwise, we could have wasted time developing unremarkable content. Before we began filming, we brainstormed potential scenarios and created storyboards that present our action plan. We needed to scout locations and obtain permission to film there. After filming, we solicited feedback from our peers and other stakeholders.



# AGILE METHODOLOGY

#### Figure 7: Agile Overview

Table 4 below details how we will use the agile cycle to develop content for the LPC.

Table 4: Agile	Methodology	for developing	LPC content
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Discover	Design	Develop	Test
Surveys	Storyboards	Web page mockups	Pre-Survey
Interviews	Prototypes	Videos	Post-Survey
Best Practices	Samples	FAQs and Pictures	Focus Groups

An interactive website is an integral part of our objectives. Again, we designed content based on the results of our surveys and employed an agile development approach. Our team focused on the best practices used by other study abroad programs. We created a separate website to illustrate these best practices, but with modular content that can be later moved to existing platforms. This content was evaluated by London stakeholders – especially the current LPC students – through surveys that rated features on the both the existing website and the prototype site.

The team focused on solutions identified as important in our stakeholder surveys. We deployed some emerging alternatives such as viral marketing using social media. For viral marketing to succeed, we must have creative vision and compelling videos, as well as identify influencers that will share our content.

### V. Conclusion

The IQP experience can be overwhelming. An abundance of information is presented to students, starting before they even commit to WPI. Students have a wide variety of information to absorb before departing, ranging from health and safety to cultural awareness. Using the methods developed in the previous section, we analyzed the current information dissemination methods as well as pinpointed areas of improvement. Details of this analysis will be outlined in the following sections. Adhering to the objectives described above, we developed content and provided suggestions as an alternative to the scattered distribution methods currently utilized by WPI.

By understanding what information students want and need, we were able to help provide students a more productive and academically beneficial experience. This not only has positive personal effects on the students, but also creates a group of ambassadors for the Global Projects Program.

### Chapter 4: Analysis and Findings

Through surveys, interviews, focus groups, and document research, we have gathered data to complete the objectives, as listed in the Methodology section. We used this analysis to shape the deliverable into a comprehensive website that satisfies the needs of all stakeholders.

### I. Identifying the Information Provided

Rather than concentrating our attention on all the information provided, we determined what information was lacking. We surveyed previous and current London Project Center students about the quantity of provided information about various topics. The results are shown in Figure 8 below.



Figure 8: Thinking back to when you were preparing to go abroad, how much information was provided about the following topics? Please select one option for each topic below.

With respect to student expectations regarding how much information they received throughout the IQP process pertaining to all the categories as shown in figure 8, most found the information given to be "Sufficient". However, specific topics including a typical work day while on-site, international travel while on-site, and local cuisine options had a large percentage of students who felt there was not enough information provided. Based on these results, we were able to determine WPI provides ample information regarding health and safety to the students. In contrast, out of the 40 survey results, not a single student felt they received too much information on banking, housing, or a typical workday. We were able to cater our deliverables towards the areas where a significant number of students felt there was too little information provided.

In addition, we asked students how easy they felt it was to find the specific information given WPI's current resources. The results are shown in Figure 9 below.

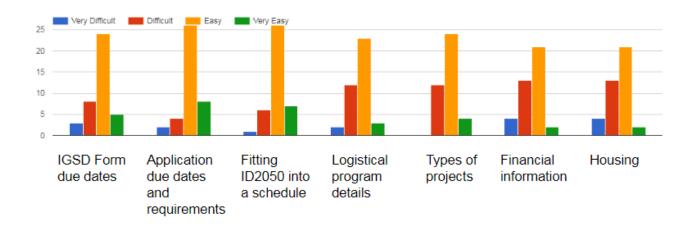


Figure 9: Thinking back before and during your IQP experience, how easy is the following information to find by utilizing all resources provided by WPI?

Contrary to our hypothesis, most respondents found information was easy to find on the WPI resources. More than 25% of students had difficulty finding information on the following topics:

- Logistical program details
- Types of projects offered
- Financial information
- Housing information

This data suggests that WPI does not provide enough information in those areas. When deciding on what information to include in the deliverable, we accounted for these topics, as a significant number of students found that information pertaining to these categories was difficult to find.

During individual interviews with several center directors, we asked them to describe their experiences with students during the Global Fair, admissions/decision letter, ID2050, while abroad, and the re-entry process. The consensus was the frequently asked questions are: the types of projects offered, housing, what there is to do on site, and flight information. All the center directors agreed a significant number of students ask about when the project starts, where and

when to book tickets, and what to do after IQP. The fact that students had to reach out to the directors, usually by email, suggests this information is not made easily accessible by WPI. One center director also commented she believes WPI "must be doing something right" due to the lack of inquiries she receives, especially later in the process; however, we are hesitant to correlate a lack of student contact to comprehension.

II. Determining Stakeholder Opinions on the Information Currently Provided To complete the second objective, our team worked to determine the opinions of students, faculty, and staff regarding the current methods for providing information to students during the IQP process. The results of our analysis are broken down into three key points:

- Students feel they do not have enough information provided to them
- The information that is provided can be difficult to find and navigate
- Students would like a centralized platform containing all the information provided before, during, and even after IQP

### I. Not Enough Information Provided to Students

Based on the feedback provided during the focus group, students unanimously felt there was no such thing as providing "too much information" about IQP. If organized logically, students would prefer an excess of information rather than a limited amount. The major categories for what topics students wanted more information on are as follows:

- Previous IQP descriptions
- Assignment information
- Travel information
  - o Visa requirements
  - o Travel in London
  - Travel in Europe

A few of the students requested more descriptive project outlines from previous students so they could investigate what it is like to conduct a project in London. The focus group results correlated to our survey results, where Students responded to the survey question in Figure 8, shown in the previous section, "Thinking back to when you were preparing to go abroad, how much information was provided about the following topics?" Table 5 divides the categories based on the number of students that found that too little information was provided on the topic.

Table 5: Content topics sorted by the percentage of previous and current LPC students that found there was not enough information provided about the category

Percentage	1% - 29%	30% - 35%	36% - 50%
Торіс	Health and Safety (10%)	Things to See and Do (30%)	Housing (37.5%)
		Banking/Monetary Issues (32.5%)	Local Cuisine Options (42.5%)
			International Travel while On-Site (45%)
			Typical Workday On-Site (47.5%)

From this table, the categories on the far-right show 36% - 50% of students feel there was not enough information was provided about those topics during the IQP process. Out of eight different topics, over 30% of students found that seven of these categories did not have sufficient information provided.

Interviews with several project center directors, IGSD faculty, and WPI staff conveyed that they believe there is enough information presented to students. This indicates two problems: first, the staff and students disagree on something ultimately empirical, and second, there might be another factor besides the amount of information causing students to not see all the information. We investigate this in the following section.

There also seemed to be a concern among students in the focus group that the LPC students they talked to during the Global Fair did not provide enough information on what the projects entailed. Instead, past students focused on fun experiences in London. Students in the focus group agreed they expected more information on types of projects offered in the informational video on Canvas. Moreover, students wanted more assignment and requirement details in ID 2050 and IQP. Further implementation and organization of these materials are discussed later as well.

One student in the focus group that was not a U.S. citizen was concerned about the tedious process of getting a Visa and would have liked to have WPI resources including people to contact and steps to follow during this process.

A couple other students wanted more information on traveling around London and affordable options for doing so. Given there are many different Oyster card plans and other options like Uber and Taxis, they wanted to know which is the most efficient.

We plan to provide more information on each of these topics as part of our project so students traveling to London have more information.

#### II. The Information can be Difficult to Find

After interviewing WPI staff (Project Center Directors and IGSD faculty), we discovered students and faculty did not respond in tandem when asked how much information was provided for each of the categories as seen in figure 8, uncovering there is probably another issue contributing to the disagreement. We inferred this factor is a combination of both information being hard to find and not being communicated effectively.

The topics which students felt there was not enough information were also the same topics they categorized as hard to find. Ideally, students in the focus group stated they would like to have all the information on the Canvas website. The survey question, shown in Figure 9 in the previous section, pertains to "Thinking back before and during your IQP experience, how easy is the following information to find by utilizing all resources provided by WPI?" Table 6 shows what percentage of students found each topic "difficult" or "very difficult" to find information on utilizing all WPI's resources.

Table 6: Content topics sorted by the percentage of previous and current LPC students that found
information was difficult to find utilizing WPI's resources

Percentage	1% - 20%	21% - 35%	36% - 50%
Topic	Application due dates	IGSD Form due dates (27.5%)	Financial information
	and requirements		(42.5%)
	(15%)		
	Fitting ID2050 into a	Types of projects (30%)	Housing (42.5%)
	schedule (17.5%)		
		Logistical program details	
		(35%)	

For five out of the seven categories, over 25% of students found the information pertaining to that topic "difficult" or "very difficult" to obtain. This is over one fourth of the respondents, but it does not completely explain the disagreement between faculty and students.

This led our team to believe the information is not presented effectively. When asked how useful different resources in terms of finding information effectively, for three categories, PQP meetings, The GPP Website, and the LPC website, over 36% of respondents found these resources "Not Effective".



Figure 10: Thinking back to when you were preparing to travel abroad, How useful were to following resources in terms of finding information effectively? Please select one option per resource.

### III. The Need for a Student-Centered Website

The students had suggestions for the website, mainly because they felt all the information for IQP should be centralized using this media. They wanted to see more of the website geared towards students and not sponsors. Topics not already included on the current LPC website they would have liked to have seen are as follows:

- Contact information of more people
- Information on projects offered
- Etiquette of London
- Maps for places students liked visiting
- How to plan sight-seeing around a work schedule
- UK Customs/Border Control
- Planning for travel to London
- Planning to travel around Europe
- Emergency Info
- UK appliances
- Packing list
- Typical work day

The group seemed to adhere to one student's proposal, that the website should have more helpful information regarding all the stages of the IQP experience. With this, we have decided to centralize all these points on a website as a tool for students to use at all stages of the process.

### III. Reviewing Best Practices in Study Abroad

We conducted interviews and external research to determine the best practices of information dissemination in studying abroad programs. Namely, we spoke with Natalie Mello. She was previously the director of Global Operations at WPI. Her knowledge of the specifics of the WPI study program as well as others was especially useful. She is currently key member Forum on Education Abroad, making her an idea candidate for researching the best practices. The forum releases a series of "Standards of Good Practice" which explains the ideal methods and tactics to prepare students to travel abroad. With her insight, we decided our project would focus on a subset of their standards.

We primarily focused on standards 4 and 8, shown in Table 2 previously. Standard 4 describes a far and ethical application process for students. The queries within Standard 4 relate to making sure students are amply prepared and have been given enough information before traveling abroad. Query 6 in Standard 4 touches upon providing a re-entry process for students returning from study abroad. Using the Forum, we were able to pinpoint which institutions were at the forefront of Study Abroad preparation, and what multimedia tools they used. In general, videos and comprehensive websites seemed to be a common theme among the different institutions. Many different organizations utilized videos with personal stories, featuring students that had recently studied abroad. These videos often had students talking about their own experiences.

Standard 8 is focused on the health and safety aspect of Study Abroad preparation. The queries within standard 8 involve everything from preparing students to travel to providing resources while they are abroad in the event of an emergency. When discussing this standard with Natalie Mello, she was able to provide insight on the current methods WPI employs to give students the health and safety information required. Her suggestions, particularly about WPI's pre-departure orientation, have been further discussed by our team and incorporated into our recommendations for IGSD. She felt the long orientation did not best suite these standards. Students do not remain engaged throughout the entire orientation, and therefore are absorbing less information. By splitting up this information over the course of the preparation to travel, maybe employing the spiral method, where information gets more detailed as the term progresses, students would have better retention.

### IV. Developing Content and Suggestions

After analyzing the opinions and recommendations of all the stakeholders, we worked to develop content that best encompassed what the stakeholders felt was most lacking about the current information dissemination methods. Throughout this phase, the deliverables changed. Originally, the deliverable was intended to be a suite of tools and recommendations in the format of a zip file. After determining the opinions of stakeholders, particularly students, the deliverable moved in favor of a website, as based on our focus group, students unanimously agreed a centralized source of information was important.

#### I. Rational in Creating a Website

Initially, the deliverable was a suite of content, mainly documents in a zip file that could potentially be implemented into a website with the intention of organizing information in a clear and comprehendible format. Our sponsor originally advised against pursuing the creation of a website; however, given input from our peers, specifically during a focus group, creating a website would be the most effective format to display our information. Students were adamant about the way content was organized and displayed. By show of hands both during a presentation and during the focus group, the current LPC students voted unanimously in favor of information displayed in a centralized location, on both accounts. The original idea of creating content with no thread to connect the information would not have satisfied this key group of stakeholders. Eventually, with the sponsor's approval, we pivoted the deliverable to include a new website geared towards students.

Based on the results of the survey to current and previous LPC IQP students, we identified students did not have an overarching consensus on what format they would like to see information presented in on the website. We created content in a variety of formats, including but not limited to, interactive maps, videos, text, and pictures, to better accommodate the variety of stakeholder opinions.

#### II. Designing the Website

By selecting the blogging platform Ghost, the website can be easily maintained by future non-technical users. In addition, it would allow us to spend more time creating content for the website instead of designing the site itself. Its popularity among notable companies in addition to its simplicity made it a sensible choice. Over the course of a week, we managed to produce a working version.

The most important page of a website is the homepage, as every user is guaranteed to see it. We relied heavily on the input of the individuals who would be primarily using the site, the students. The research suggests students like visuals and succinct descriptions. These students wanted a place where they could easily visualize all the content at once. These individuals wanted to have the information grouped together in a systematic way, but without compromising the ability to see all the information at once. Other groups of stakeholders preferred a more traditional hierarchy, with dropdowns and a clear path to follow. Thus, we needed to create a design which incorporated both viewpoints. As you can see in Figure 11, the homepage contains 3 boxes at the bottom. The content in each of these boxes is ordered in terms of where it falls on the IQP timeline. With this format, the user can see all the options of articles available under each category, suiting the popular student opinion that the information should all be presented on one page. For the stakeholders who preferred structured content, we provided a "Roadmap to IQP" outlining each stage in an interactive format. Below the roadmap are the boxes shown in Figure 11. The user can select either the entire box, which then displays all the articles for that stage of IQP, or a specific article from the list provided in the box under the image.

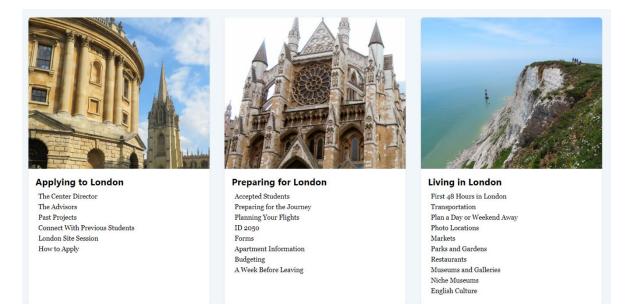


Figure 11: Website Home Page

All the topics listed in the boxes of Figure 11 were chosen to create content for the website. Results from personal experience as IQP students, commentary from previous and current LPC students in the format of surveys, and a focus group helped us narrow down the options listed above.

During interviews with center directors, they identified one of the most commonly asked questions was what typical projects entail. Therefore, we created an article to describe projects students typically complete while in London. Based on the survey to previous and current LPC students, students would like to see this information in a video. To accommodate this, we created a series of videos about the different projects students worked on during E-Term 2018 to allow student visualization of what a typical work day looks like.

### Chapter 5: Recommendations & Conclusion

Before starting our project, information distributed by WPI to students was scattered over a variety of multimedia sources. In some cases, information was not even accessible. By creating the website, we have created an organized, student-centered, and comprehensible resource. This new site has information presented in an intuitive manner. There were several steps taken to accomplish this task. We initially determined information relevant to students during the IQP process. Then, we used this information to write new, original content for the website. Due to the sheer scope of the global projects program, it would be impossible to address all student needs in seven weeks. Therefore, for the topics we were unable to cover in depth we created an overarching set of suggestions, which could be addressed in later iterations.

### I. Recommendations for IGSD

IGSD is that the heart of the global projects program; therefore, it was essential to analyze their procedures before analyzing other dependent entities (i.e.: ID2050, PQP, etc.). In order to operate the program, IGSD needs to disseminate and collect a significant amount of information. Due to the size of the task, it is hard to present information effectively for a multitude of projects. With that being said, the data our team collected may be useful to IGSD, since they plan on reworking their processes.

The data collected for this project revealed some overarching student preferences. In general, it was found that students prefer:

- Centralized sources of information
- Content that is geared directly towards students currently going through the IQP Process
- Concise information

After analyzing student feedback, in the form of a survey and focus group, there are several student suggestions which may be of use to IGSD. These suggestions include:

- Consolidating several Canvas pages into a single Canvas page
- Adding additional information specific to the project center on the website

- Make students aware of the target audience of information (i.e.: prospective students, current students, etc.) on the GPP website
- Make the orientation more applicable to every project site, and have site specific concerns be covered in ID2050 rather than at orientation
- Consolidate the information presented during the orientation into short and manageable pieces or split the orientation into several sessions
- Modify the make-up orientation assignment to be more interactive, including more content from the original orientation (i.e.: minutes of student discussions, links to the videos watched, etc.)
- Add more resources for international students applying for a visa (i.e.: definitive guide, a written document detailing the process)
- Do not require students to have a phone number of the local country. Most plans do not provide international call/text and students tend to use Wi-Fi dependent apps to contact each other.

### II. Recommendations for the London Project Center Director

Since the primary focus of this project was creating resources for the London Projects Center, it was important to measure the effectiveness of the current suite of materials. On the original London Project Center website, there is currently a list of previous IQP projects sorted by year. Students in the focus group and survey expressed interest in knowing what types of projects were offered before applying. Therefore, adding an option to sort prior IQPs by different criteria could be useful to incoming students. Some other project centers sort this information by sponsor and theme in addition to year. This simple feature would allow students to determine the general theme of the project center more effectively. This was recommended by students because they felt knowing the types of projects offered affected their IQP project center decision.

### III. Recommendations for the ID2050 Instructors

ID2050 is meant to prepare students for the IQP; therefore, it is essential to streamline information to effectively prepare students. Given that ID2050 is generally taught by different instructors, the following recommendations are aimed at all instructors. From the data collected we have found:

- Students prefer Canvas over other resources since it is a centralized source of information across courses
- Students prefer using Canvas to submit assignments rather than in person or by email. Students find the ability to easily resubmit assignments for team-based projects before the deadline beneficial
- Students like the ability to have a "Team" created on canvas. This feature allows any teammate to submit an assignment, and once it is submitted all other teammates get a notification as well as the ability to download or re-submit the assignment
- Students prefer using the Canvas gradebook to other alternatives because it allows them accurately to predict their overall grade in real time
- Students prefer their assignments to be published as assignments on Canvas instead of using other forms of written and oral communication

### IV. Website Deliverable

While this project did not initially include a website, by the end it became the foundation for of the deliverable. Due to the late decision to change the project's direction, we became proactive instead of reactive. The initial approach of this project was to survey students and then build content based on their suggestions. In an attempt to bridge the gap, the team conducted focus groups with other current LPC students. In some cases, the initial change in direction resulted in the team to spending significant amounts of time on tools that unfortunately were not included in our final deliverable.

### I. Technology

In order to quickly get a prototype up and running, an existing platform was used for the website. It was decided that a popular blogging platform Ghost would best fit our initial needs. The platform met the following requirements:

- It was relatively simple to setup
- It could be easily used by individuals unfamiliar with prior programming knowledge
- It was popular enough to be maintained for an extended period of time

As a result of picking a pre-built platform, there were some restrictions on the content we could create. Therefore, we ended up writing some custom elements for the website to fulfill these needs.

### II. Content

A large part of making the website effective was creating usable, informative content for the site. Since the original London Project Center website was not ranked highly among visitors, we decided to build to content from the ground up. This meant gathering footage, taking pictures, and taking part in activities in order to create original content.

The survey and focus group which was initially conducted provided insight into a student's perspective. As a result of the findings laid out in the Analysis and Findings section we ended up creating content using the following mediums:

- Interactive maps
- Informative videos
- Relevant pictures
- Presentations (i.e.: Prezi)
- Descriptive articles
- Simplified lists
- Overarching website design & hierarchy

Using these mediums, we created a wide variety of content for students. Given the results from the information solicitation of this project, each topic was tailored to student suggestions. Even after adapting the content to these preferences, informal focus groups were performed on students during presentations. Given this feedback, the team produced content on the following topics:

- English Culture (i.e. Lingo list, Dining Etiquette, General Etiquette)
- Center Director
- Past Projects (i.e.: HRP video and summary, British Museum video and summary, Postal Museum video and summary)
- The Advisors
- Connecting with Previous Student (i.e.: lists of suggestions)
- London Site Session (i.e.: video and description)
- How to Apply
- Accepted Students (i.e.: Description of PQP and ID2050)

- Preparing for the Journey (i.e.: Checklist of things to do before leaving)
- Visas (i.e.: Description of the process)
- Planning Your Flights (i.e.: Cheap flights information, dates, description of traveling during and after IQP)
- ID 2050 (i.e.: Overview, List of assignments with detailed description)
- Forms (i.e.: List of forms)
- Apartment Information (i.e.: description of amenities, accommodation request walkthrough, maintenance information, rules, contact information, comprehensive set of images)
- Budgeting (i.e.: budgeting spreadsheet, currency conversion, discounts, food budgeting)
- What to do a week before leaving (i.e.: packing information, general things to consider)
- First 48 Hours in London (i.e.: detailed description about arriving in London)
- Transportation (i.e.: List of options with pictures, pros and cons, and a comparison)
- Plan a Day or Weekend Away (i.e.: List of destinations with pictures with a comprehensive guide on how to plan a trip)
- Photo Locations (i.e.: List of locations with example photos)
- Markets (i.e.: Video overview, List with descriptions and pictures)
- Restaurants (i.e.: Video overview, List with descriptions and pictures)
- Parks and Gardens (i.e.: Video overview, List with descriptions and pictures)
- Museums and Galleries (i.e.: Video overview, List with descriptions and pictures/videos)
- Niche Museums (i.e.: Video overview, List with descriptions and pictures/videos)

### V. Conclusion

The IQP experience can be overwhelming. An abundance of information is presented to students, starting before they even commit to WPI. Students have a wide variety of information to absorb before departing, ranging from health and safety to cultural awareness. We have determined the current information dissemination methods as well as pinpointed areas of improvement. In conjunction, we evaluated the opinions of key stakeholders, including students, faculty, and staff. After, we researched the best practices in providing information to students traveling abroad, utilizing resources like The Forum on Education Abroad, and specialists within that organization.

The knowledge gained from completing these objectives allowed us to complete the final objective, to develop innovative tools and recommendations better fit the needs of future LPC students. By understanding what information students want and need, we were able to help provide students a more productive and academically beneficial experience.

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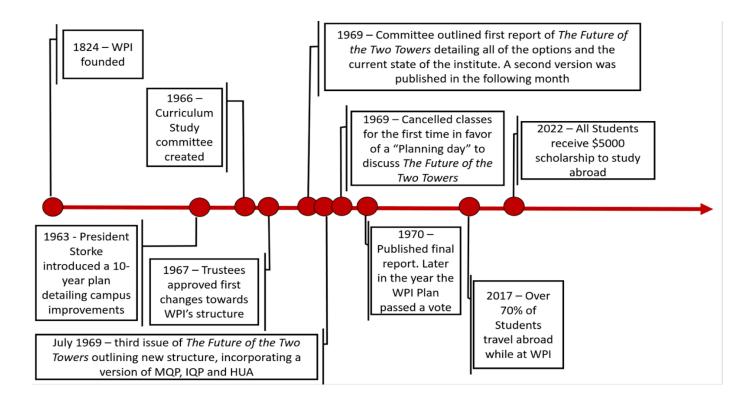
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### Appendix A: Sponsor Description

Worcester Polytechnic Institute, (WPI), was founded in 1824 with the harmony of two intellectual principles in mind: theory and practice. The school's founders, John Boynton and Ichabod Washburn, believed the traditional theoretical approach to education, combined with hands-on lab work, would create an innovative place of technical study. WPI's foundation lies in innovation; 142 years later it would experience radical change that would rock the status quo, but ultimately bring the school closer to its roots and pave the way for its bright future (WPI, 2010).

The '60s and '70s were periods of great change at WPI. Because of the public concern with advances in science and technology (war weapons and environmental degradation), the scientific community, especially universities, struggled to recruit new engineers, given the stigma around engineering. (Schachterle & Watkins, 1992). Universities developed programs in 'Science, Technology, and Society' (STS) that encouraged students and faculty to learn about the impacts of technology on society and the environment. STS classes became popular at WPI, but faculty recognized the limitations of teaching in the classroom setting; students were not practicing what engineers do on a regular basis: team projects. WPI staff would soon develop the IQP so students could work in teams while also witnessing the effects of engineering developments on external communities (See Figure 14).





Beginning a decade of change, in 1963 President Storke introduced a 10-year plan detailing campus improvements, including a new library and field house. Unbeknownst to the community, this would be the catalyst that sparked a complete overhaul of WPI's academic structure. Storke knew to justify WPI's steep tuition price, especially in comparison to state schools with similar programs, there would need to be intrinsic change. Storke asked the department heads to brainstorm ideas for a way forward. Disappointed with the response, he turned to a group of young professors that were already taking steps in their classrooms to break the mold of traditional education techniques. In particular, Professor Grogan encouraged his "...students [to] take on the role of professional consultants, completing small projects sponsored by corporations," (Dorsey, 1996). With these ideas in mind, President Storke created the "faculty-based Curriculum Study Committee to accomplish what the department heads refused to do," (Dorsey, 1996) and asked Grogan to chair it.

The committee faced many challenges, but the biggest one was faculty approval. Many of the senior faculty were hesitant to change the current system. The changes proposed would completely overhaul the undergraduate curricula and create a radical system that had never been tried before. The WPI Plan, formerly known as "The Future of the Two Towers: Parts I-IV", took four long, hard-fought years to come to fruition. By the third publication, the committee had refined their ideas to something closely resembles the current WPI Plan. In the summer of 1969, they drafted an outline of the program "...in which the requirements for graduation were based on a student's ability to learn, and not on his or her ability to accumulate facts through courses. It included a liberal dose of project and independent study work to 'provide realistic and intimate learning situations for both student and faculty.' Students would receive their degrees if they successfully completed advanced-level work on two projects (they strongly urged at least one project be completed off-campus), a two-year residency requirement, a comprehensive examination in a particular area of study, and two sufficiency exams in disciplines other than the area of the comprehensive exam," (Dorsey, 1996). With President Storke's guidance, the existing academic model was transformed into the current global projects program:

"The degree requirements were formalized into a Major Qualifying Project (MQP) -- a significant design or research experience in the student's major field; a second project, later dubbed the Interactive Qualifying Project (IQP), which encouraged students to understand how technology affects society -- for better or worse;" (Dorsey, 1996)

The Global Projects Program (GPP) developed from the need for a program to add depth to the IQP and MQP processes. This is based on "the conviction that to be successful in business, engineering and science in our increasingly interdependent world, engineers and scientists must understand other cultures and be able to work with -- and compete against -- people from all nations and backgrounds," (Dorsey, 1996).

It has since has grown to over 45 project centers across six continents the first off-campus project center was established in Washington, DC in [year]; the second was in London in 1987. Due to high student, faculty, and sponsor approval ratings, the number of project centers subsequently dramatically increased in the following years. While most centers only offer projects during one or two terms, there are multiple projects in progress at any time during the year. WPI's support of the GPP does not stop there. After the year 2022, WPI will be granting a \$5000 scholarship to every accepted student, which can only to be used for global travels (Global Projects Program, 2017). Each project center has one or more WPI faculty members on site and several

concurrent projects. Projects have a local sponsor, such as a government agency, a museum or local organization (Global Projects Program, 2017).

The GPP is administered by WPI's Interdisciplinary and Global Studies Division (IGSD). Faculty members also use the project centers to conduct their own research on local and regional sustainable development and interdisciplinary, project-based education (WPI, 2018c). The projects managed by IGSD help to "create societies that are socially inclusive, culturally vibrant, economically prosperous, and ecologically sound." These projects combine research and teaching, as students work with partners to explore topics with local and global impacts to make significant contributions to these communities (WPI, 2018c).

Students complete a different style of work while abroad, making the global projects program different than the typical study abroad. Similar to WPI, Northeastern University, University of Massachusetts Lowell, and Boston University are all colleges in Massachusetts with a School of Engineering. They all offer a form of study abroad for their students. These three different universities provide classes in foreign countries that are comparable to what students would take on campus, usually hosted by a "partner institution." These programs are typically a full semester, 14 weeks, as compared to WPI's seven-week quarter system. During studying abroad programs at other schools, as seen by these example universities above, students typically take major-specific or other required classes while abroad (Boston University, 2017; also see Northeastern University, 2017; University of Massachusetts Lowell, 2017, Worcester Polytechnic Institute, 2017).

The WPI plan sets itself apart from the rest by having students work with teammates, sponsors, and advisors to complete a project, often involving social science or humanities, in a non-major specific environment (Undergraduate Catalog 2017-18, 2017, p. 17). Boston University and Northeastern provide a study abroad Co-op or internship, where students to have the opportunity to work for a local company in the host country. In comparison, WPI's IQP projects provide the experience of attempting to solve a problem given to them by a sponsor, who is usually an employee at an agency, company, or organization. Instead of individual work like an internship, the students work in teams to develop possible solutions to the issues at hand. (Mello, 2001; also see Northeastern University, 2017 Worcester Polytechnic Institute). According to Northeastern University's *A to Z guide to Studying Abroad*- which describes their pre-departure deadlines-

students are required to attend information sessions, similar to the site and orientation sessions WPI provides.

Another unique aspect of WPI's program is the prep class before departure. In this class, competed one term before traveling, the students will be studying "research design, methods for social science research, and analysis. It also provides practice in specific research and field skills using the project topics students have selected in conjunction with sponsoring agencies," (A to Z guide to Study Abroad, 2017, also see Undergraduate Catalog 2017-18, 2017, p.199). The topics covered expand further than the general travel guidelines; it covers information relevant to completing the project in the next term. As stated by previous WPI director of Global Operations, Natalie Mello, WPI Global Projects Program "... is not a traditional study-abroad program, but rather an opportunity to complete a degree requirement at a remote location with all of the support systems in place to guarantee success," (Mello, 2001). The project program gives students the opportunity to experience both the culture and working life in a foreign country, rather than just taking classes as they would on campus.

The London site started as an exchange trip with The City University, London, and the Federal Technical University in Zurich. Following the success of WPI's first project center in Washington D.C., Professor Watkins from the City University and Professor Schachterle from WPI helped advise the first project team in London. Following the direction of Dean Francis Lutz from the origins of his Washington D.C. projects, they were able to organize a successful first project. The IQP was received especially well in London and many organizations requested opportunities to participate. Sponsorships included museums, professional and scientific organizations, private corporations, government agencies, and social service organizations (Briggs, 2016). From 2015 to 2017, it had a total of 16 sponsors in England (Briggs, 2016). On the London Project Center's 30th anniversary, March 16, 2017, it had completed over 421 projects with 1366 students, 80 of which were completed with the Borough of Merton (Briggs, 2016). Most importantly, the students were able to work in a professional environment, learn to allocate time wisely, live independently in another country, and understand technology's consequences in a foreign society.

In 1986, four British agencies agreed to sponsor projects. Projects in London were successful and innovative and were taken much more seriously by sponsors than the ones in D.C. (Zeugner, 1987). Two notable projects were sponsored by the General Electric Company (GEC) and the Management Committee of the Institution of Electrical Engineers. The projects were used by the sponsors extensively, and even were featured in an article in *IEE News*, 'The status of engineers in the UK' (Schachterle, 1992).

The IQP learning experience is different from traditional undergraduate courses because of the many challenges students face, like dealing with sponsors and adjusting to a new culture. Professor John Zeugner, said the IQP is "Mind-widening in ways no conventional undergraduate program can be" (Zeugner, 1987). Looking through the alumni feedback, Zeugner was spot on-one alumnus said the following about London IQP:

"Today's business environment is global. Having international experience was extremely useful and helped my understanding of another culture. The way we did the research for my project is similar to how I conduct research in my current career."

The London Project Center is the longest running international project site and has helped over thirteen hundred students develop real-world skills.

## Appendix B: List of Interviews Conducted

Dominic Golding	London Project Center Director
	Interviewed: April 26, 2018
Erin Bell	Assistant Director of the Global Projects Program at WPI
	Interviewed: April 13, 2018
Lorraine D. Higgins	Co-Director Melbourne Project Centre
	Interviewed: May 30, 2018
Stephen M. McCauley	Co-Director Melbourne Project Centre
	Interviewed: June 3, 2018
Corey D. Dehner	Worcester Project Center Director
	Interviewed: April 5, 2018
Paige Myatt	Clark University Graduate Student researching pre-departure Interviewed: April 6, 2018
Diane O'Keefe	Marketing Programs Manager-Marketing & Communications,
	Interviewed: April 9, 2018
James Monaco	WPI ATC Staff
	Interviewed: March 30, 2018
	Vice President for Member Services and Training, Forum of Interviewed: March 27, 2018

## Appendix C: Project Timeline

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### Appendix D: Interview Questions for the IGSD Staff

- What is the most common questions students ask about IQP?
  - Before Applying?
  - After getting a decision (immediately after)?
  - Logistical Information?
- Do you like Canvas as a resource and a tool?
- Do you think students like using Canvas?
- What do you think about orientation?
  - Do you think students are attentive at orientation?
- Do you think they will remember the information given once on IQP?
- Should there be a more systematic approach to the on-site orientation?
- What problems do students have while they are away?
- What characteristics you think attracts students to a particular site?
  - Does this have anything to do with the online resources and videos perhaps?
- Is there currently a comprehensive all-encompassing resource for everything IQP?
  - Would students use such a tool?
- Do students ever contact you asking for information about more "fun" less forms/safety related information?
  - If so what kinds of questions are they asking
- What new resource do you think would be most beneficial to students when finding information?
- Do you think students are more apt to search the internet/IGSD websites for information or just contact you directly?
- Do online site sessions increase participation?
- What additional tools would you like implemented?
- Which of the resources do students like the most, or first look?

# LPC Information Dissemination Survey

We are an IQP team working with the London Project Center (LPC) to improve content and delivery of the information WPI provides students during the IQP process. We would be grateful if you would take 5 minutes to tell us about your experiences conducting your IQP in London. On completing the survey, you will have the opportunity to enter your name in a raffle for a \$50 gift card. Regardless of whether or not you choose to enter the raffle, your responses will remain completely anonymous.

\* Required

Female

🔵 Male

Prefer not to say

Other:

#### What is/was your major field? \*

Your answer

#### What is your year of graduation? \*

- 0 2017
- 0 2018
- 0 2019
- 0 2020

#### What class year were you when you attended London?

- O First-year
- O Sophomore
- O Junior
- O Senior

#### Which term did go on IQP?

- O D Term
- O E Term

### Thinking back to when you were preparing to go abroad, how much information was provided about the following topics? Please select one option for each topic below. \*

Please select one option for each topic below.

	Too little	Sufficient	Too much
Health and safety	0	0	$\bigcirc$
Banking/monetary issues	0	0	$\bigcirc$
Public transit options	0	0	$\bigcirc$
Housing	0	0	$\bigcirc$
Typical work day on- site	$\bigcirc$	0	$\bigcirc$
International travel while on-site	0	0	$\bigcirc$
Things to see and do	$\bigcirc$	0	$\bigcirc$
Local cuisine options	0	0	$\bigcirc$

# Any comments or additional topics you felt needed more information provided?

Your answer

Thinking back to when you were preparing to travel abroad, How useful were the following resources in terms of finding information effectively? Please select one option per resource.

	Not effective	Effective	Very Effective	Don't Know	Never used this resource
ID2050 classes	0	0	0	0	0
PQP meetings	0	0	0	0	0
WPI Global Projects Website	0	0	0	0	0
London Project Center Website	0	0	0	0	0
Going Global WPI Handbook	0	0	0	0	0
Other Students	0	0	0	0	0

What format do you think would be most effective in disseminating information to students in the future? Assume all printed formats (factsheets, handbooks, etc) will all be available in PDF format as well. \*

Please select one option per topic.

	Short (1-2 minute) video		Factsheet	WPI website	Class Presentation	PQP Discussion	l don't know	Ot (plo exp be
Health and safety	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	(
Banking/ monetary issues	0	$\bigcirc$	0	0	0	0	0	(
Transportation options	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	(
Housing	$\bigcirc$	$\bigcirc$	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	0	(
Typical work day on-site	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	(
International travel while on-site	0	$\bigcirc$	0	0	0	0	$\bigcirc$	(
Things to see and do	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	(
Local cuisine options	$\bigcirc$	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0	(
								•

# If you answered "Other" to the above question, or have any additional comments, please explain below.

Your answer

#### Thinking back before and during your IQP experience, how easy is the following information to find by utilizing all resources provided by WPI? \*

Please select one difficulty level, ranging from extremely easy to extremely difficult, per topic.

	Very Difficult	Difficult	Easy	Very Easy
IGSD form due dates	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Application due dates and requirements	0	0	0	0
Fitting ID2050 into a schedule	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logistical program details	0	$\bigcirc$	0	0
Types of Projects	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Financial information	0	$\bigcirc$	0	$\bigcirc$
Housing	0	$\bigcirc$	0	0

#### Are there any other topics that you find important to be provided by WPI that are not listed above?

Your answer

#### Please list 3 places outside of London that you traveled to.

Your answer

# What cities/countries would you recommend other students visit?

Your answer

#### Is there any information or tips you learned regarding travel outside of London that you would have liked if WPI had provided.

Your answer

# Is there any other information you would have liked WPI to provide you during the IQP process? If so, what information?

Your answer

Thank you for your time and consideration in taking our survey

### Appendix F: E-Term 2018 IQP Focus Group Questions

We are an IQP team working with the London Project Center to streamline the information presented so students can absorb information more effectively. We are looking for students who are currently enrolled in WPI and experiencing a project with the London Project Center to provide feedback on their experience gathering information before and while in London. By answering the questions below, you are consenting to letting our team analyze your results to further our project. Names will not be recorded, and all the data collected will remain completely anonymous.

- What do you wish you knew before coming to London?
- Thinking back to when you were preparing to go on IQP, what is something that you were given too much information about?
- Thinking back to when you were preparing to go on IQP, what is something that you were given too little information about?
- What information did you have trouble finding?
- What have you experienced so far that you wish you had known a term ago in ID 2050?
  - When you received your acceptance letter?
  - When you were applying to sites?
- What media format do you think would be most effective in disseminating information to students in the future?
- Have you looked at the LPC Website?
- What do you think could be improved with the current LPC website content?
- What do you think could be improved with the current LPC website format?
- What would you like to see instead?
- Where do you usually get your information about what's going on in London?
- Would you utilize an interactive road map? With hyperlinks at different points on the IQP Journey to find information?
- Would you utilize a google maps with preset pins to different locations sorted by categories (free, museums, etc) to find things to do in London?
- How would you like the places categorized? (ex: price, type of experience, closing times)

• Do you think that all IQP information should be centralized on a website? Would that be useful?

# Appendix G: Pre-Departure Orientation Survey

#### Pre-departure Orientation Survey

1.	What is your project site?							
2.	How helpful would you rate the <u>content</u> delivered at this orientation?							
	1 2 3 4 5							
	1 = Not helpful at all, this was repeat information $ ightarrow$ 5 = Extremely helpful, all content was new and useful							
3.	How likely are you to remember this information while on-site?							
	$1 = \text{very unlikely} \rightarrow 5 = \text{extremely likely}$							
1	How effective would you rate the delivery method of this information?							
4.	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2							
	1 = poor, there are more effective ways to deliver this information $\rightarrow$ 5 = excellent, this delivery method is							
	sufficient							
-								
5.	If this method of orientation was less than excellent, how would you have preferred the information presented							
	tonight be delivered? (circle your preferences for each category)							
	Online delivery platform:							
	Canvas Global Portal (Terradota) Project Center Website IGSD Website							
	Online delivery method:							
	PowerPoint Presentations Site Specific Videos General Videos Quizzes PDF Documents							
	<u>In-person method:</u>							
	ID 2050 session IGSD office							
	Other delivery method:							

# Appendix H: Interview Questions for Center Directors

- What project centers do you typically advise?
- How long have you been working with IGSD?
- What is your main form of contact with students?
- What questions do students typically ask you in each stage of the GPP process?
  - Global Fair?
  - Before Admission?
  - After Decision Letter?
  - While in ID2050?
  - While Abroad?
  - After Returning?
- Do you think any of these questions could be answered/limited by creating more content for students?
- How often do you feel students use the resources provided (Project center website, TerraDotta, Canvas) before approaching you with questions?
- What is an improvement you would like to see to information dissemination methods at WPI?
- Do you know in what format your students typically like to receive information?
- What is the most common suggestion you get from students in regards to how to better give out information?

# Appendix I: Interview Questions for Corey Dehner

- How recently did you edit/redesign the website?
- Was re-designing the website an IQP/student project?
- What encouraged you to want to change the format?
- How did you determine what needed changing on the site?
- What is the biggest change you made?
- What was the main feedback (if any) you got from students before redesigning?
- What change do you think had the most impact on students?
- Have any students given feedback on the current design?
- Do your students have any suggestion for what could be improved on the current website?
- What did your timeline look like for design and implementation?
- Was there a process you had to go through with WPI to edit the website?
- Where there any challenges you faced while redesigning the website?
- What's the likelyhood changes like adding videos, interactives, graphics etc. will be implemented?
- Is there anyone we should contact to further our project?

## Appendix J: Interview Questions for Natalie Mello

- How long were you working at WPI?
- What has been the most successful way to present orientation information that you have seen (even outside of WPI)?
- What methods of presenting info have students been receptive to?
- In cases where students were not as prepared as they should have been, what is the best way to bring them up to speed (like a crash course)?
- What are the most common complaints you hear? from students? from parents? from Faculty/Colleagues? from Others?
- What are best practices within study abroad to deliver what students want?
- Any new ways of doing this stuff?
- What are the things that need to be changed the most at WPI out of these?
  - Global fair in person fair
  - IGSD emailing
  - Interviewing process vs Computer Algorithm in person, Terradotta
  - Prep-term, (ID 2050, PQP) classroom setting, Canvas
  - Project Expectations vs Actual
  - Safety and Health
- What about the WPI program do professors/advisors like in comparison to a typical study abroad?

What do you think WPI and IGSD are looking to get out of students traveling abroad?

Academically? Culturally? Socially?

- Why do you feel study abroad is important?
- What do you think the biggest shortcoming in preparing students is at both WPI and other schools?
- What resources would you like to see regarding student safety?
- Has there been a big shift in the way information for study abroad is presented?

# Appendix K: Interview Questions for WPI Professor David DiBiasio

- How long have you been working at WPI?
- What level classes do you typically teach?
- Can you explain the spiral down method?
- How long have you been employing this method?
- Did you try any other methods before the spiral down method?
  - If so, why did you change to this method?
- Is the spiral down method widely used among your colleagues?
- What are the benefits of the spiral down method?
- Do you find the students retain more information using this method?
- Could you see this method being applicable to giving students pre-departure information for off-campus projects?
- If more information is needed, can we contact you again?

Is there anyone else we should contact to help us further our project?

### Appendix L: Interview Questions for James Monaco

- How do we go about checking out equipment over the summer?
- What equipment do you think we will need for our trip to London?
- What should we be using to make brochure type material (Adobe)?
- What software would you recommend for video editing?
- Do you have any experience with Wordpress, if so do you have any recommendations?
- What do you suggest we be aware of when creating videos?
- What about videos do you think students find most appealing?
- Do you have any technical suggestions on how to create an effective video?
- What is the most important thing to remember when designing a website?

# Appendix M: Interview Questions for Diane O'Keefe

- How long have you been working at WPI?
- What is your experience with the IQP Project center websites?
  - Have you worked with other IQP teams in the past?
- What multimedia tool do you think WPI utilized most often to attract students both to WPI and to global Projects?
  - Of these which do you think are the most effective? Why?
  - Do you have conversion metrics for your media? If so can we get access to this data?
- Are there any hard guidelines that the marketing team follows when creating/accepting/rejecting new media to represent WPI?
  - What is the process for getting a website or media approved by the marketing department?
    - What is the timeline for approving a website?
- What modifications can we make to the website, while still adhering to the marketing guidelines?
  - Do we need approval for minor changes (ie: fixing typos, updating images)?
  - Can we have links to NON-WPI websites?
  - Can we embed content from other websites into the WPI website?
- What prompted the redesign of the Worcester Project Center website?
  - What needed changing and why?
  - Is it possible to use this template for the London Project Center Website?
- Do you have any tips for us when we are creating media for the LPC?
  - What kinds of content does the marketing department prefer?
  - What kinds of content does the marketing department dislike?