Worcester Polytechnic Institute's Legacy Down Under: Documenting and Promoting the Melbourne Project Center

An INTERACTIVE QUALIFYING PROJECT Proposal

Submitted to the faculty of Worcester Polytechnic Institute

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Abstract

The goal of this project was to understand and communicate the impacts that Interactive Qualifying Projects have had at the Melbourne Project Center (MPC). This was accomplished through semi-structured interviews with sponsor liaisons, surveys of past, present, and incoming MPC participants, and extensive engagement with MPC Program directors. The information collected fueled content for our promotional-material based deliverables, including an MPC website and user manual, social media, videos for students and prospective sponsors, a program database, and MPC outreach material.

Executive Summary

Worcester Polytechnic Institute's (WPI) innovative undergraduate education program, *The Plan*, combines theoretical knowledge with practical application. *The Plan* consists of three mandatory projects, including the Interactive Qualifying Project (IQP). The IQP creates well-rounded engineers and scientists by immersing students in a social science-based project that combines aspects of project-based learning, service learning, and study abroad[1].

Our background research showed that study abroad programs and other high impact learning programs, such as service learning, have substantial data about their impacts on students, but lack information on the value the students bring to their host location. WPI's most recent strategic plan, *Elevate Impact*, seeks to elevate the impacts that WPI has in its various constituent communities (WPI Strategic Plan: 2015-2018, 2015). This includes having an increased understanding of the impacts the Global Projects Program (GPP) has had on the communities in which students complete their off-campus projects, as well as strengthening the "global partnerships" created in these communities.

Project Goal:

This project had two major goals. The first was to understand and communicate the impacts the IQPs have had on sponsors and stakeholder communities of the Melbourne, Australia Project Center (MPC) and on the WPI community. The second was to create promotional material to better communicate the value of the program to its range of stakeholders, including project sponsors, potential sponsors, students, parents, and other interested parties. To accomplish these goals, we engaged extensively with key stakeholder groups: MPC Program Directors and other WPI administrators, sponsors, and students, as seen in Figure 1.
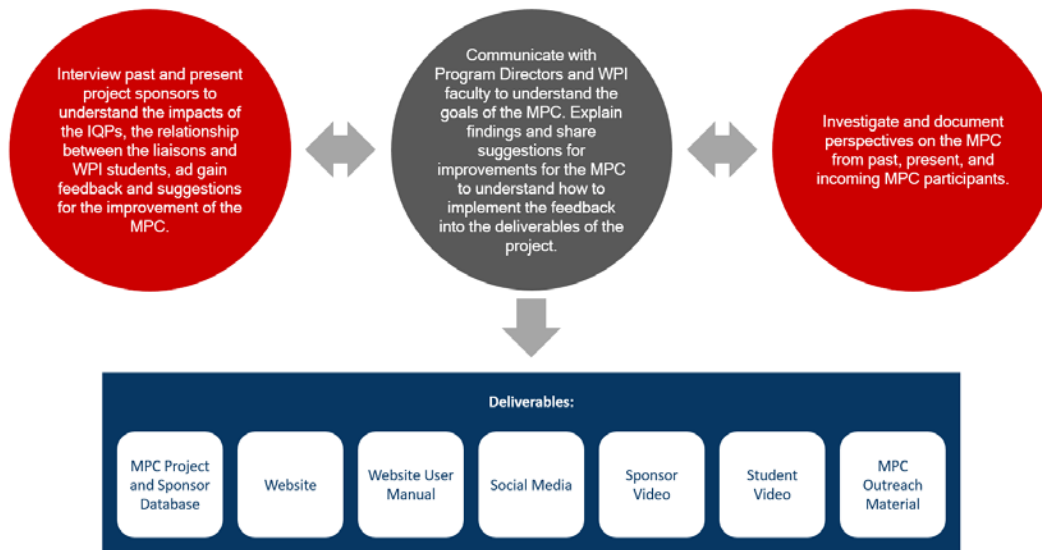

Figure 1 Overview of Project Objectives and Deliverables

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[1] Not all IQPs are completed off campus. Approximately 65% of WPI students complete one of their three required projects off campus.

Impacts of the MPC on Sponsors and Project Stakeholders

Between 1998 and 2016, the MPC partnered with 40 sponsoring organizations. In order to gain an understanding of the impacts of the IQPs, experiences the liaisons had with WPI, and gain suggestions for improvements, semi-structured, in-depth interviews were conducted[2]. In total, 27 sponsor liaisons were interviewed, representing 22 sponsoring organizations. Each interview was coded and analyzed for the level of impact on the sponsoring organization and project stakeholder groups, impact longevity or perceived longevity, overall experience with the IQP, students' work ethic and professionalism, and suggestions for improvement of the MPC.

The interviews revealed that most projects had a high impact on the sponsors and stakeholders. Of the 24 sponsor liaisons who had completed at least one IQP with the MPC, 83.3% described the projects as highly impactful for their organization and 75.0% found the projects had high impacts on the stakeholder group. 70.8% of the projects were classified as "Long-Lasting," and 25.0% were classified as "Medium-Lasting." A visual overview of this can be seen in Figure 2.
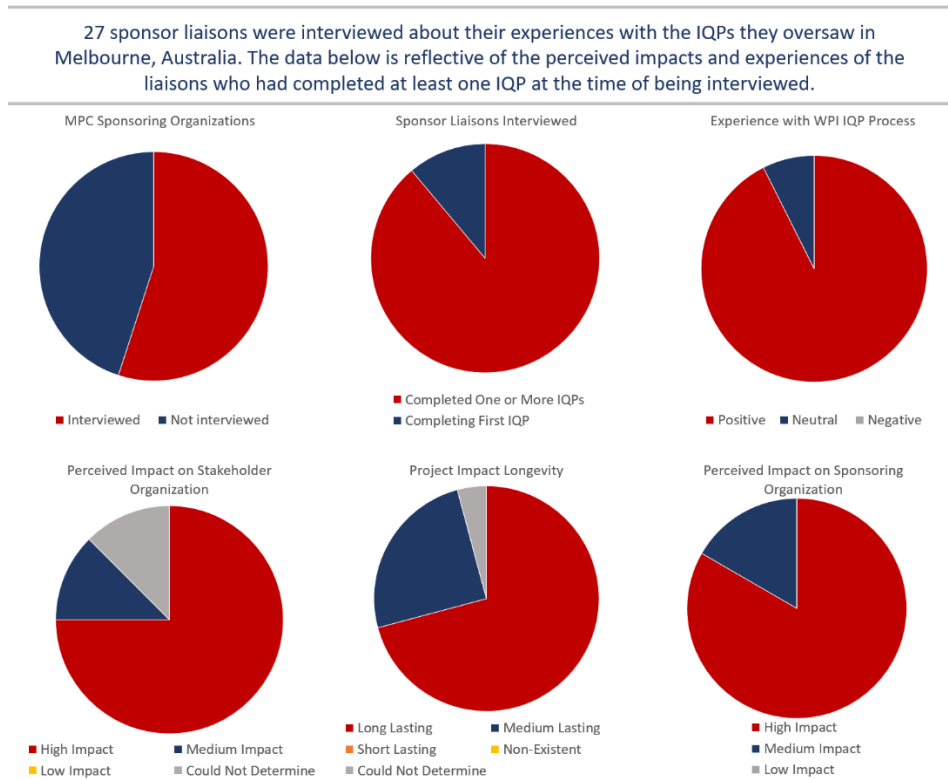

Figure 2 The complete data from sponsor liaisons, showing perceived impacts on sponsoring organizations, project stakeholder, longevity, and experience with the WPI IQP process.

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[2] This project is a continuation of a B-16 MPC IQP. The students on this IQP team conducted 17 sponsor liaison interviews. Our team contacted the remaining 30 sponsoring organizations, documented which organizations still had connection with individuals who worked with WPI students, and conducted 10 interviews with sponsor liaisons. Our team compiled information from all 27 sponsor interviews, coded the interviews, and concluding results of the impacts of the IQPs on MPC sponsors.

Perspectives and Needs of WPI Students

To better understand the information content and communication needs of students, we distributed a survey regarding topics relevant to the GPP's IQP process to three student groups: past (B16), current (D17), and future (accepted B17 and D18) MPC participants. The students were asked to rank which information they would find most helpful in communicating information about the MPC to future generations of participants, as seen in Figure 3. These findings helped drive the deliverables of this project that were produced for the MPC.

One interesting finding was that project reports, although their average rank was fifth (out of eight) of desired information sources, were the most discussed topic. A Fall 2016 participant explained, "I put that project descriptions didn't help because they aren't released until after application and acceptance. Also, some of the historical trends in types of projects seem to be shifting (mainly fire projects) this leads some people to have false expectations."
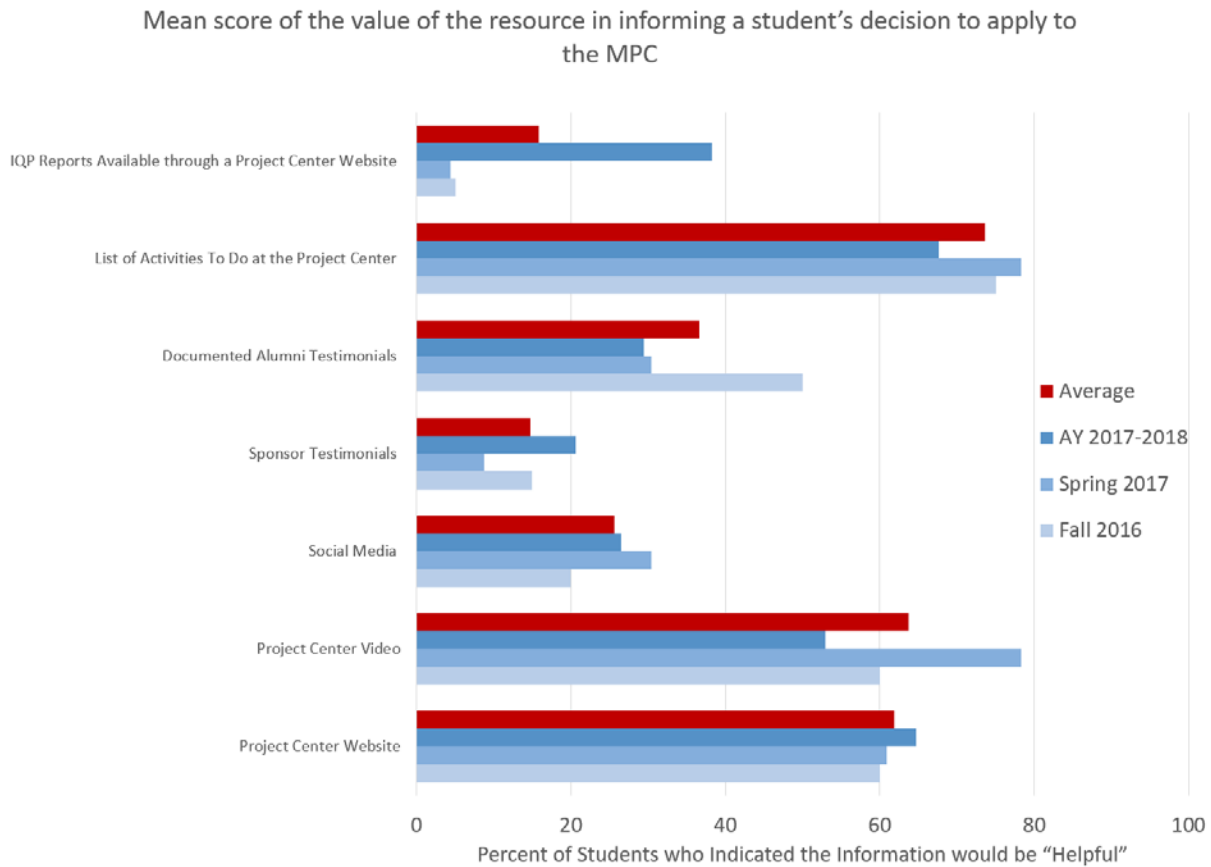

Mean score of the value of the resource in informing a student's decision to apply to the MPC

Percent of Students who Indicated the Information would be "Helpful"

Figure 3 Resources students believe would be beneficial in informing future students of the MPC, ranked by three groups of MPC student stakeholders

Deliverables: New Communication Media for the MPC Stakeholder Groups

We created seven deliverables which will help strength the global partnerships between WPI, sponsors, and stakeholders of the IQPs completed in Melbourne, Australia: a database of all past MPC projects and sponsors, informational content for communicating program impacts, a project center website, a website user manual, two informational videos, and social media platforms for the project center. We also provided important program improvement feedback from sponsors and student stakeholders to the MPC and IGSD.

MPC Project and Sponsor Database:

An MPC IQP database was started by the Fall 2016 Documenting the MPC Team. Our team expanded it to include sponsor contacts and notes, coded impacts of sponsor liaison interviews, and an overview of all organizations contacted for this project. By expanding the database, we were able to provide a complete history of the projects and sponsors of the MPC from 1998 to 2017.

MPC Outreach Material:

A major suggestion from sponsor liaisons was to provide information about WPI and the IQP to sponsoring organizations. After discussing this finding with the MPC Program Directors, our team decided to create content for MPC outreach, which would be distributed to WPI Marketing. The content included: photos taken by a professional photographer, and testimonials from sponsor liaisons and MPC alumni. Additionally, it included vignettes and photos from noteworthy projects. The vignettes were our way of communicating how impactful, powerful, and moving the results of various IQPs have been.

Website:
A user-friendly and visually pleasing project center website was created as a way to connect stakeholders with the MPC. The website was designed in WordPress, using a template created for WPI project centers. The website features information about the benefits of sponsoring an IQP and the expectations of sponsors, information for students including a list of on-site activities and a FAQ section, and information about all of the completed IQPs sorted by sponsor, year, and theme. The website can be accessed at: http://wp.wpi.edu/melbourne/

Website User Manual:

To ensure the MPC Program Directors could easily edit and maintain the website, we created a Website User Manual. In the manual, we documented information on how to post a new project page, create a blogpost, edit the sidebar to include the new projects, and utilize and understand the specific features of the website.

Social Media:

Additionally, we created a Facebook page and YouTube channel. The social media accounts were created for sponsors and students to see pictures, videos or student experiences, find updates about important dates, and create an online community for all MPC stakeholders. The content for the Facebook page is generated through the Blog feature on the website, and is moderated by website administrators.

Videos:

Two videos were created and featured on the MPC website and social media. One was targeted towards potential sponsors and one for prospective MPC student participants. These were created by our team to portray information about WPI, the IQP, and specifically the MPC.

Student Video: http://wp.wpi.edu/melbourne/students/

Sponsor Video: http://wp.wpi.edu/melbourne/partners/

Conclusion:

Through this project, we were able to perform an analysis on the value of the MPC to its core stakeholder groups: students, program administrators and sponsors and communities. We found that the work students completed has been highly impactful on sponsors and project stakeholders. Based on the feedback we gathered, we were able to provide suggestions for improvements of the MPC and the off-campus IQP program. Suggestions such as better communication between sponsors, advisors, and students during the preparatory term will be shared with the MPC directors and administration of the IGSD. By creating new media for communicating information about the MPC — including informational packets, MPC website, videos, and social media — we believe we have increased the strength of global partnership between WPI and the stakeholders of the MPC.

Acknowledgements

We would like to thank all of the sponsor liaisons and WPI faculty members who were interviewed for this project, and the students who participated in our survey. Additionally, we would like to thank Professor McCauley and Professor Higgins for sponsoring our project, and Professor Michalson for advising and acting as a sponsor liaison. We would also like to thank Anna Kuch for her guidance in video story-boarding as well as booking meeting spaces for us. Lastly, we would need to thank Jonathan Chee for his support and guidance of our project, and for helping us better understand Australian culture!

A number of the organizations who have hosted IQPs between 1998 – 2017

Figure 4 A number of the sponsoring organizations who have hosted IQPs between 1998 and 2017

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Introduction

Worcester Polytechnic Institute (WPI) is a pioneer in innovative project-based learning. In 2016, WPI received the prestigious Gordon Prize[3] for "Innovation in Engineering and Technical Education" for its project-based undergraduate curriculum (The National Academy of Engineering Recognizes WPI, 2016). The uniquely structured project-based learning curriculum at WPI prepares students for the real world by engaging them in professional environments and team settings. Universal graduation requirements for WPI students include a humanities project, an interactive social science project, and a major-specific project. Students have the opportunity to complete these requirements while abroad through WPI's Global Project Program (GPP), which consists of a network of over 40 project centers located on six continents. The success of this program earned WPI the "Number 1 Most Popular Study Abroad Program" by the Princeton Review (Most Popular Study Abroad Program, 2017).

Among these off campus project centers is the Melbourne Project Center (MPC). The MPC was established in 1998, and has since hosted nearly 600 WPI students to complete their Interactive Qualifying Project (IQP). Students at the MPC have completed over 150 IQPs exploring various themes, including: fire safety, disability services, and education. Their project outcomes have impacted both sponsoring organizations and community stakeholders. The IQP experience has helped students develop personally and professionally in terms of confidence, public speaking, project management, and professional communication (Callahan et al., 2016). As the MPC approaches its 20th year, the GPP is seeking to understand the impacts of the

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[3] The Gordon Prize award recognizes a project-based engineering curriculum that develops leadership, innovative problem solving, interdisciplinary collaboration, and global competencies.

projects to promote the extensive work completed at the MPC and heighten the MPC's impacts throughout the Melbourne community.

As WPI seeks to elevate the impacts of the GPP, project centers have an opportunity to amplify their accomplishments and promote the accomplishments of IQPs completed abroad. Student travel programs rarely result in the sustained impacts that WPI's project center programs have on students, project sponsors, and communities. Understanding and communicating the impacts MPC projects have had on sponsoring organizations and communities around Melbourne would enhance promotion of the center to students, potential sponsors, and other audiences. After 19 years and over 150 projects with partnering organizations in the City of Melbourne, the MPC has accumulated a significant body of accomplishments and research findings that could benefit stakeholders throughout the city. Additionally, teams and sponsors working on projects with related themes can draw directly from the findings of previous teams. This cross-fertilization between projects over the years relies on students and sponsors having easy access to the collection of project reports completed at the MPC.

During the Fall semester of 2016, an IQP team at the Melbourne Project Center spearheaded the effort to document the entirety of projects and sponsors from the beginning of the project center in 1998 to the Spring semester of 2016. To organize completed MPC projects, the team created a comprehensive database of IQPs. Additionally, they developed summary statistics to organize the projects by theme and sponsor type (i.e. government, private, etc.) Another focus of the project was assessing the impacts the IQPs had on MPC alumni. Their work resulted in an impact analysis of the MPC on alumni, and a project database.

Our project aimed to understand and improve the impacts of the MPC for sponsors, students, and program directors. We conducted semi-structured, in-depth interviews with sponsor

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liaisons to gain insight regarding the impacts of past projects and suggestions for the success of

the MPC in future years. We surveyed past, present, and future participants of the MPC to

understand what information is important to students when applying to the MPC, and what

informational content should be created to better inform future students of the activities and

projects of the MPC. We utilized the findings from sponsor liaisons and students to produce

promotional material for the MPC. This included informational videos, online promotional

material, and content for MPC Outreach which can be used when introducing potential sponsors

to the opportunity to host an IQP team. These deliverables will allow all stakeholder groups

easier access to information about the impacts of the MPC.

Background

The purpose of this chapter is to introduce the importance of project-based learning, the WPI Plan, the impacts of innovative learning methods on students and communities, the history of the Melbourne Project Center, and transmedia marketing[4] approaches for educational programs. This background information is crucial to understanding the scope of this IQP.

Project-Based Learning

Jane L. David, author of the column "What Research Says About…Project-Based Learning," explained that "Project-based learning creates opportunities for groups of students to investigate meaningful questions that require them to gather information and think critically" (2008). She investigated how project-based learning is implemented in different settings, by different facilitators. Similarities among these environments are: students applying knowledge in a problem-solving context, framing meaningful questions, and structuring meaningful tasks, all of which result in students gaining useful skills for the future.

John Larmer and John R. Mergendoller analyzed a hypothetical experience of a high school science teacher who facilitated project-based learning in the article "Seven Essentials for Project-Based Learning" (2010). In the article, the authors compared Ms. McIntyre's experience with common practices and goals of project-based learning and created the seven essential factors of project based-learning. The criteria are:

1. A Need to Know

2. A Driving Question

3. Student Voice and Choice

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[4] Transmedia marketing focuses on a collaborative approach to story-making instead of a proprietary predetermined approach to traditional brand storytelling (Carmody, 2016).

4. 21st Century Skills

5. Inquiry and Innovation

6. Feedback and Revision

7. A Publicly Presented Product

The authors explained that, by following their criteria, teachers will be able to successfully implement project-based learning in their curricula; they also explained the benefits of doing so. "21st Century Skills," explained how Ms. McIntyre's students created videos, podcasts, and journals as part of their projects, all of which resulted in helping teach students collaboration, communication, critical thinking, and technology skills. The knowledge of these skills will increase their value in the workplace (*Id*.).

Project-based learning allows educators to bridge theoretical teachings with practical applications. In a paper sharing the best practices of project-based learning completed for the 121st American Society for Engineering Education (ASEE) Annual Conference and Exposition, Aruna Shekar wrote,

> "...a transformation in teaching and learning approaches is essential to prepare [engineering] students to solve complex problems in a global world. In order for students to practice as engineers, they need to have had exposure to a number of projects that offer real-world problems, along with the complexity and uncertainty of factors that influence such problems." (Shekar, 2014)

The paper investigated the need for a new approach to traditional teaching styles in the classroom, including well-rounded professors who could speak about the topics they teach with a greater focus on application in the industry, rather than simply the theory behind the subject (*Id.*). The paper discussed the need for project-based learning as a way to teach industry skills and

encourage practical applications and the need for global perspectives when implementing project-based learning to allow students to become more aware of "cultural, ethical, economic, and social needs" (*Id.*).

The Worcester Polytechnic Institute Plan

In 1868, the Worcester County Free Institute of Industrial Science, now Worcester Polytechnic Institute (WPI), opened its doors to students. Students spent part of their day attending classes, and the rest of their day in a machine shop, applying the theory they learned in class to the practical application of making products (The Two Towers Tradition, n.d.). This concept of learning theory and applying it to practice shaped education at WPI.

In the 1960s, almost 100 years after opening its doors, WPI began work on 'The Plan,' "a radical revision of the curriculum that combines traditional course and laboratory instruction with three mandatory projects..." (*Id.*). The WPI Plan was, at the time, considered a "bold experiment in higher education." With the end of World War II there was a technological change in American industry, and a need for an undergraduate curriculum that would prepare students for the challenges to come in the decades ahead. The WPI Plan transformed WPI from being a small, traditional, engineering college into a well-respected, innovative, and successful institution for technology and higher education (Cruikshank et.al, 2015). After a multitude of drafts, final planning efforts for The Plan began with WPI President Harry Storke in 1968 with a committee of nine men from the WPI faculty, along with input and ideas from other faculty who were passionate about education at WPI.

The main objective of The Plan was to provide a quality undergraduate education. The Plan states that quality education must focus on humanities and social sciences, not just engineering and science. The creators of The Plan aimed to make the quality of the humanities

and social science program comparable to that of a liberal arts college, and believed that well-rounded students would become better scientists and engineers. The Plan's roots are grounded in WPI's motto "Theory and Practice" and provide structure to the three mandatory projects, the humanities project, the Interactive Qualifying Project (IQP), and the Major Qualifying Project (MQP). The humanities project is capstone project for students' humanities studies. The IQP is a social-science project which focuses on increasing students awareness of issues surrounding science, technology, and humanitarian needs. The MQP is a capstone project within student's' specific field of study.

The Global Projects Program

Worcester Polytechnic Institute's Global Projects Program (GPP) was created to immerse students in unfamiliar cultures while completing a significant project, and to prepare them "for the world-wide practice of engineering in the 21st century" (Durgin, et al., 1999). The GPP works closely with WPI's Interdisciplinary Global Studies Division (IGSD) to connect students looking to complete their required projects off campus with off campus opportunities. The off-campus projects can be completed at one of over forty WPI project centers (Global Projects Program, n.d.). These project centers are run by WPI and each center provides accommodations for the students and the faculty advisors. Local sponsors such as non-profit organizations, private enterprise, educational institutions, or government organizations work with WPI to incorporate students into workplace environments and provide them with valuable project plans. For each project, students are paired with WPI faculty advisors, who provide a grade and validate the WPI academic credit, and with the sponsoring organization, which provides guidance to the students regarding their projects. As of 2016, sixty-five percent of WPI students participated in the GPP work to complete at least one of their required projects (Id.).

The most common way for students to participate in the MPC is through the off-campus opportunities available through the IQP. Table 1 shows how the IQP incorporates Project-Based Learning, Service Learning, and the option to Study Abroad.

Table 1 Learning goals of three high impact learning methods and their relationship to the Interactive Qualifying Project (IQP)

	Project-Based Learning	Service Learning	Study Abroad*
Learning Goals	• Manage multiple tasks • Collaborate effectively on a team • Communicate with multiple stakeholders • Create innovative and relevant solutions • Improve understanding of underlying material	• Education via community service • Improve personal efficacy • Enhance individual growth • Combat reductive seduction tendencies	• Improved open-mindedness • Experience learning as a way of life • Intercultural development
Unique Application to the IQP	• Contribute research and recommendations to address open-ended problems • Hands-on group work • Project spanning several months	• Community-based nature • Working alongside organizations and their communities	• Immersion into an unfamiliar culture • Emphasis on ethics and collaborative practice *Not all IQPs are completed abroad

Over a thousand WPI faculty and staff members, students, alumni, trustees, and partners assisted in creating "Elevate Impact: A Strategic Plan for WPI, 2015-2018". The President of WPI, Laurie Leshin, explains that the Strategic Plan's purpose is to better align WPI with the needs of the students and the opportunities existing in the world. The intention of the plan is to accelerate and extend WPI's impact by furthering education and research. Leshin explains that, "Elevate Impact serves as a roadmap that helps WPI advance toward its goal of becoming the premier global polytechnic" (WPI Strategic Plan: 2015-2018, 2015). As seen in Figure 5, the

Strategic Plan encompasses nine key pillars, three of which are directly addressed by the GPP through Global Projects for All, the Center for Project-based Learning, and through Global Partnerships. Global Projects for All aims to have 90% of WPI students complete at least one project abroad. The Center for Project-based Learning focuses on allowing WPI to share its best practices of project-based learning and establish WPI as the leader in the field. Global Partnerships is an initiative to strengthen WPI's existing partnerships and create meaningful new partnerships.
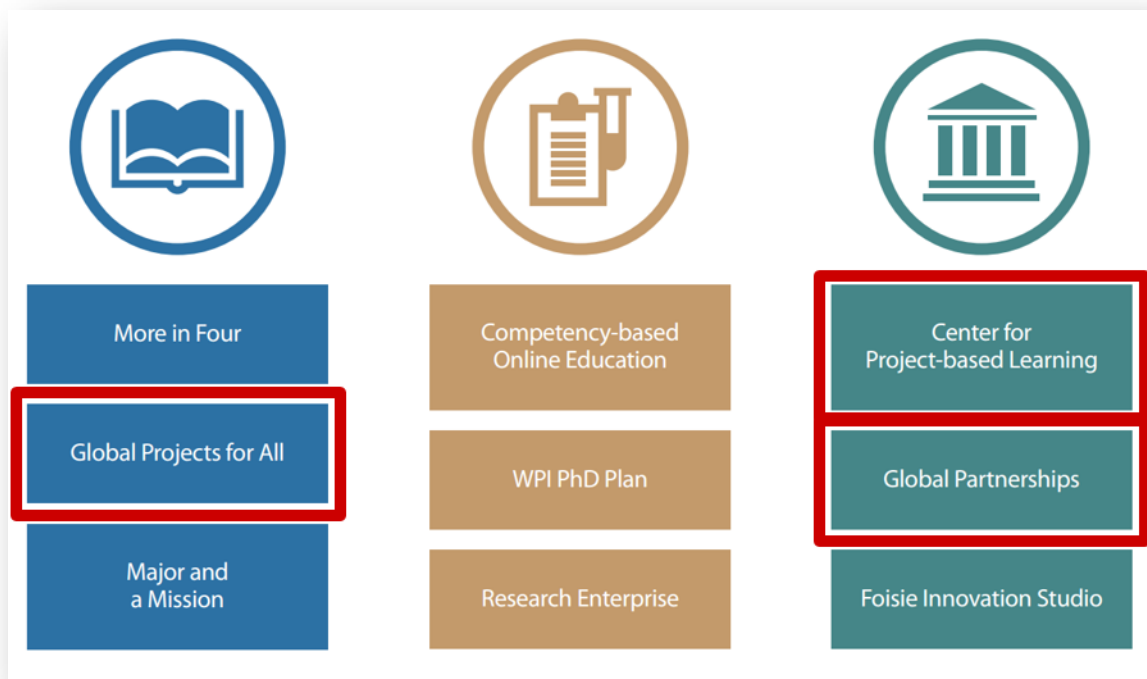
Figure 5 The nine pillars of the WPI Strategic Plan, highlighting the three pillars that directly align with the Global Projects Program, adapted from: Elevate Impact: A Strategic Plan for WPI, 2015 -2018.

The Interactive Qualifying Project

"The Interactive Qualifying Project is one of the most distinctive elements of WPI's project-based learning curriculum, giving 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.edu, n.d.). Student teams engage with a wide variety of stakeholders to better understand and appreciate societal concerns or downfalls, and provide sponsoring organizations with resources and suggestions for potential solutions. Directly addressing Nieusma and Riley's (2010) argument, that "[engineering] projects often focus too heavily on technology, which can lead to a narrow definition of outcomes" (Reynolds, 2014) the IQP focuses on documenting the complexity of social needs and perspectives, allowing recommendations to be made only after careful consideration of social context.

The IQP enables students to work on a project that requires them to examine the interaction between science and technology on society to address social issues and human needs (Id.). The IQP allows for travel to various countries as well as the opportunity to work with communities on projects, and incorporates aspects of project-based learning, service learning and study abroad. The Global Projects Program (GPP) is an administrative body within the Interdisciplinary Global Studies Division (IGSD). The GPP has allowed WPI to form its own unique take on a study abroad program. At many universities, a common study abroad involves students taking classes at a university in a different country, the GPP is different in that it connects students and WPI advisors with project sponsors, allowing the project experience to include networking and experiencing the working culture of an off-campus location.

Sponsors provide WPI students and advisors with projects that they believe would be beneficial to their organization. WPI's reputation of hard-working students and award winning faculty is appealing to many organizations worldwide looking to improve or investigate problems they face. Project sponsor William Arlidge recalls his experience with the IQP: "The WPI students provided an invaluable resource to the Department of Conservation, New Zealand. They provided insight into the public perception surrounding the critically endangered Maui's

dolphin, while working to improve public knowledge" (wpi.edu, n.d.). While working on the IQPs, one of the students' most valuable resources are WPI faculty members who advise the projects. In 2016 WPI was ranked #1 by Wall Street Journal for the category of "Faculty that best combine research and teaching" (Belkin, 2016). Many of these outstanding faculty members assist students in the preparation for their projects through social research instruction, as well as guiding students while on site.

Students are also able to gain valuable insight from their sponsors at off-campus centers. Some of the sponsor responsibilities include helping during the students' preparatory course by engaging in Skype interviews, and providing written descriptions of their vision for the project. While students are at their off-campus site, the sponsors provide them with a workspace, guidance, and support throughout their project (Taylor, 2016). Sponsors also help connect students with the culture of their organization, country, and community.

Impacts of Innovative Learning Methods

High impact learning strategies are platforms of learning that provide students with opportunities and experiences not found in traditional teaching styles. Study abroad, service-learning, and project-based learning in particular are at the forefront of innovative learning techniques, and have been shown to have long-lasting impacts on students and communities.

Impacts on Students

Student learning outcomes go far beyond what is learned in a classroom setting. Outcomes of student projects can be tangible, such as a product, or intangible, such as suggestions. Students can be impacted by the work they complete in a multitude of ways through study abroad, service-learning, and project-based learning. These impacts can be measured

through surveys, interviews, and comparisons to previous years. This section seeks to explain these particular impacts on students.

Study Abroad

Study abroad programs are known for having a deep impact on students and offer a multitude of opportunities for the students' education that are rarely found at their home campus. Although student testimonials are essential in measuring the impact their experiences had on them, it can be difficult to assess how effective study abroad programs are, due to the wide variety of skills and experiences that each country provides its visiting students (Williams, 2005). Hopkins (1999) explains how: "Study-abroad programs take many forms, but all share the characteristic that, by their very nature, they provide students with a healthy dose of experiential learning. Immersing oneself in another culture provides new opportunities for learning-by-doing, virtually twenty-four hours a day" (Williams, 2005).

One important learning outcome that T. R. Williams (2005) set out to explore was intercultural communication skills. He wanted to assess how study abroad programs allow students to develop the communication skills necessary to work in a modern global community. Williams conducted an experiment with students from Texas Christian University (TCU), and studied differences between a group of students that went abroad and a group of students that stayed at TCU. Through various pre- and post-test evaluations on communication skills, "the study reveals that students who study abroad do in fact show a greater change in intercultural communication skills than students who stay on campus" (*Id.*). These skills have deep impacts on students long after their time away from campus, including an understanding of and ease of working with the wide variety of cultures found in the modern day workforce (*Id.*). An unexpected outcome of the study showed that the experience of being abroad itself was not

sufficient to acquire these skills, but rather the level of exposure to the culture and the relationships they formed while abroad were even more essential to this unique learning experience (*Id.*).

An article entitled Education "Abroad in China: Literature Review of Study Abroad Program Types, Outcomes and Benefits" by Brett Dixon contains an evaluation of literature pertaining to the benefits of study abroad programs. Many of the benefits discussed related to awareness of international cultures, such as "intercultural sensitivity [...] intercultural communication skills and friendships [...] increased knowledge of the host country or culture [and] increased interest in and concern about international affairs and politics," (p. 118). The next page, however, lists many things that do not relate to internationality, such as "increased motivation to learn [...] influence on, improvement or advancement of career prospects [and] increased self-confidence," (p. 119). These examples demonstrate that study abroad programs contain a multitude of benefits for the participating students.

Service Learning

Service learning, as defined by Heather Carpenter, is "an educational methodology that combines community service with explicit academic learning objectives, preparation for community work, and deliberate reflection." Service learning projects provide an ethical base for learning while allowing students to engage in real-world problems. These projects allow for students to work in groups and apply classroom knowledge while working with communities.

Rutti and colleagues (2016) explain service learning as a way to bridge theory and application to human affairs, as well as the student benefits of service learning in, "The service learning projects: Stakeholder benefits and potential class topics." Amongst these benefits is a way of better applying analytical thinking to comprehend and solve problems. Due to the amount

of research and effort that goes into solving real-world problems while engaged in a service learning project, students have a better understanding of what is required to solve a problem. In addition to this, service learning has been effective in supporting content mastery. Casile and colleagues (2011) found service learning to be superior to traditional research projects in terms of student development, as well as achieving socially valuable outcomes. Students are able to gain knowledge while also developing a greater appreciation of ethical concerns, the environment, and community. Heightened empathy was the last effect discussed by Casile and colleagues, which results due to the fact that numerous service learning projects are conducted for communities of those in need.

Project-Based Learning

Project-based learning, as defined by the Buck Institute for Education (BIE), is "a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem or challenge," (bie.org, n.d.). The BIE explains the necessary requirements of project-based learning, include (but are not limited to): authenticity, meaning, featuring real-world applications; student voice and choice, which means students should be largely in charge of how they work and what they create; and a public product which will be explained and/or presented to persons beyond the classroom (*Id.*). It has been proven that this approach to learning has various benefits to student growth, and many colleges are looking to incorporate project-based learning into their curriculums.

"Project-based Learning" by Kevin Gary also discusses the benefits of adopting project-based learning in a classroom setting. Gary states that "intense, short-term learning activities may rapidly build technical skills, but these skills have a short half-life," (2015). In contrast to

this, "project-based learning is an approach particularly well suited to achieve more durable, contextual outcomes [...]," (*Id.*) which results from the required factors of project-based learning including the need for sustained collaboration and establishing a working process to solve a complex problem (*Id.*). The resulting benefits of this process, as explained by Gary, are the ability of students to learn to solve problems in the context of previously obtained knowledge, as well as preparedness for professional design processes.

A study was conducted at the University of Calgary, on teams of four students enrolled in a design course with open-ended projects. The course outlined that students must be organized and pace themselves, as opposed to being lead throughout the process. The study was compared to a control group of students which did not utilize the project-based approach, and "the results suggest that project-based learning experiences do have a positive impact on self-directed learning readiness," (Eggermont et. al, 2015). Since the projects were of an open-ended and self/group-guided nature, they provided opportunities for students to define their own workflow, delegate tasks to the various group partners in order to produce a final product. A project-based learning approach provides the benefits of self-directed learning readiness and fosters an atmosphere in which students learn to collaborate at a professional level.

G. Fuertes and colleagues (2015) also discuss the benefits of project-based learning within group settings. They establish that, within a university community, there exists a great deal of diversity and unique skillsets which, when put together, provide the benefit of multiple viewpoints when faced with an open ended problem. This requires students to listen to one another and provide their own inputs, then adapt those ideas to work on creating a final product. Social skills and adaptability are prominent throughout the project designing process, and are strengthened by it.

Impacts on Communities

Extensive studies have been conducted on the impacts that innovative learning experiences have on students, but students can also leave a lasting impression on the societies and organizations they dedicate their time to. This concept of impacting the community is a newly researched topic, however, scholars such as Robbin Crabtree explain that, "...it is critically important to explore the impact of [projects] and partnerships not only on student learning, which has received ample attention, but also on the host communities" (Crabtree, 2008).

Positive Experiences with Communities

Research that investigates community perspectives often reflects positive views of the students, and that organizations have many motivations for involving students in their work. Some of these motivations include: the opportunity to serve as co-educators, satisfaction with student volunteers and their partnerships, improved functionality, and a decrease in "town-gown"[5] divide (Reynolds, 2014). Projects completed while abroad may come up with new products, or, at the very least, put forth research that can help companies and communities make educated decisions in the future. The problem with evaluating these projects is that not much literature has looked at the impact of those projects on the communities in which those services were conducted (Carpenter, 2011). Heather Carpenter, however, in her article "How we could measure community impact of nonprofit graduate service learning projects," has identified three studies that evaluated the impact students' work has had on communities. One of these studies concluded that 86% of organizations saw significant improvements since they received support

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[5] In a college town, the relations between "town and gown" are those between the residents of the town and the students and faculty associated with the school, who in the past wore academic gowns. Such relations are often not friendly or pleasant (Dictionary.com)

from students (p. 116). Another study concluded that 4.2 out of 5 organizations expressed high satisfaction with the work of students (p. 117).

Reynolds suggests: "those involved in [partnerships] need to intentionally involve the community in as many ways as possible with a project - from conception to implementation to evaluation." This partnership dynamic is essential for students and the community to gain the most from their time and have a lasting effect on all stakeholders.

Potential Negative Experiences with Communities

While completing project work in a country that is not one's home country, it is crucial to successfully immerse oneself in the culture. Without a deep understanding of the society and the problems they are facing, it is difficult to know if the project work being completed is actually beneficial to the community. There is a tendency to view the problem as easily solvable if one does not have a thorough understanding of underlying complexities, which could lead to a "solution" that is actually ineffective or even detrimental to the community. Martin (2016) refers to this tendency as "reductive seduction." Although this is not done in a malicious manner, the reductive seduction tendency can harm the local community, businesses, and inhabitants. When addressing the problems at hand it is also important to address the problem with the locals as opposed to solving it for the locals (*Id.*). This can be achieved by partnering with organizations in the country and gathering information from the people there to formulate a plan of action. Maximizing benefits and minimizing harm of a project can be accomplished by immersing into the culture, understanding deeper issues, and working with the community to achieve a sustainable solution.

In addition to the reductive seduction drawback, studies also reveal downfalls and challenges associated with students working alongside organizations, including the time it takes

to prepare students, and lack of communication. Although early exploration is making strides in understanding the perspectives of the community, literature mainly focuses on domestic experiences. Crabtree and colleagues warn that "[...] such perspectives remain limited as a result of additional challenges related to language, distance, and the time and resources required to spend abroad building trust and gathering data" (Crabtree, 2008). Another issue involving community impacts is that studies mainly incorporate the voices within a partnering organization, while omitting the perspectives of community residents. Communities include a wide range of perspectives such as participants, residents, organization leaders, etc. (*Id.*).

Heather Carpenter investigated how to measure a project's impact on communities, identified several shortcomings of the previous research on community impacts and explained the reasons more studies have not been conducted. She summarizes these limitations into the following points: (1) it is difficult to define a community - is a community the organization, those who fund the organization, or those who the organization affects? (2) There are disagreements in appropriate methods for data collection and which analyses will be useful (p. 118).

Melbourne Project Center

The Kulin Nation is home to the Wurundjeri, Boonerwrung, Taungurong, Djajawurrung and Watharung tribes. In 1835, the area was settled by Europeans, and took the name "Melbourne" ("Heritage - City of Melbourne," n.d.). As of 2016, Melbourne is home to about 4.5 million people and covers an area of 9990.5 square kilometers ("Facts About Melbourne - City of Melbourne," n.d.). In 2016, Melbourne was recognized for the sixth continuous year as the "World's Most Livable City" by The Economist Intelligence Unit and in 2015, the city was

named the "second best student city in the world" by the Quacquarelli Symonds Best Student

Cities Rankings ("Accolades - City of Melbourne," n.d.).

The Melbourne Project Center was established in 1998 by WPI Professors Jonathan

Barnett and Matthew Ward as a place for WPI juniors to complete their Interactive Qualifying

Projects. After their initial investigation, fifteen students were sent to complete their IQPs. The

MPC has been housing students since. The project center has partnered with government

agencies, nonprofits, and private enterprises to work on projects spanning fields such as fire

safety, educational programming, and disability services among other topics (Callahan et al.,

2016). Figure 6, below, shows a timeline of the MPC from the founding of the center in 1998, to

the conclusion of 2016.
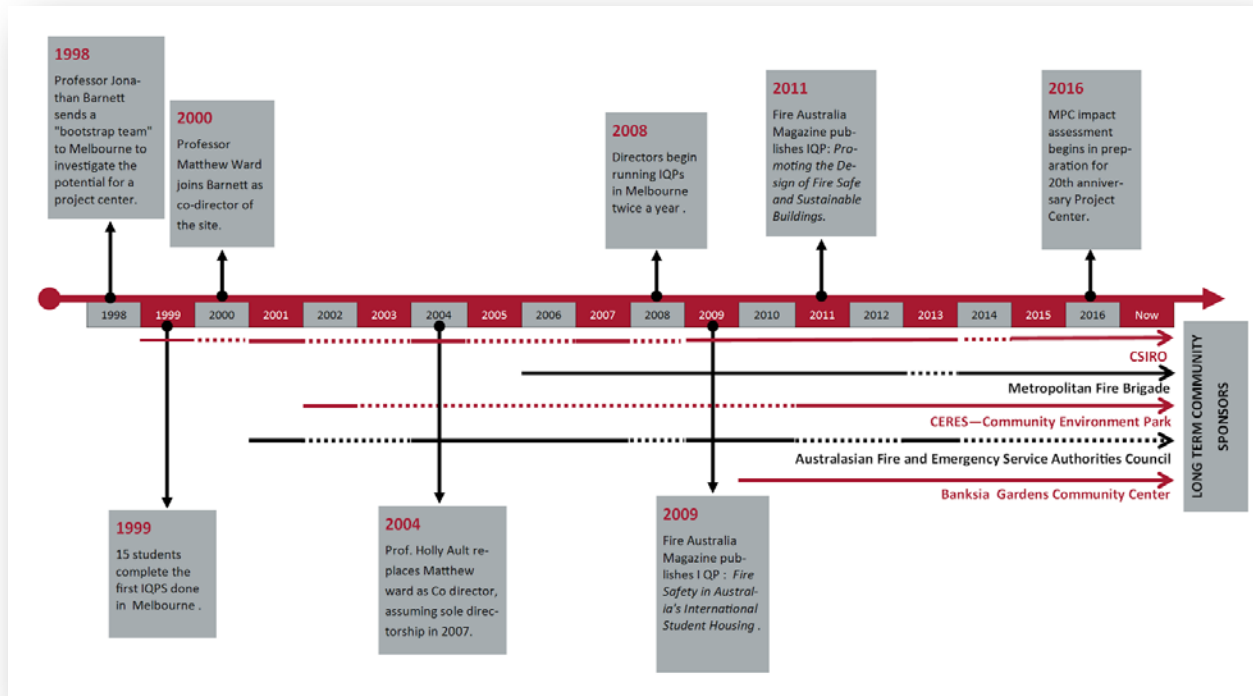
Figure 6 Timeline of the MPC, showing the initial investigation of the project center in 1998 to the conclusion of the 2016 fall semester IQPs. Figure created by: (Callahan, et al, 2016).

Understanding the Impacts of the Melbourne Project Center

The Callahan et al. (2016) IQP team compiled information from previously completed MPC projects and their sponsoring organizations, as well as MPC alumni and their satisfaction with their IQP experience. The team found that since the project center opened in 1998, 572 WPI students have worked on over 150 projects sponsored by over 35 different companies and organizations.

The team worked closely with WPI Archives and the Gordon Library staff to calculate the total number of IQPs completed at the MPC and find copies of electronic MPC IQP reports. The team created a Microsoft Excel database that allows readers to search for projects by author, title, and words in the abstract. Additionally, the team surveyed MPC alumni on how the IQP experience impacted them in a personal and professional manner as well as how they felt they impacted the Australian community they worked in. The team also collected testimonials from the survey.

While in Australia, the team interviewed past and current sponsors about the impacts the IQPs had on the sponsoring organizations and ways WPI could improve the relationship between the MPC and the sponsoring organizations.

In addition to the database of MPC sponsors and projects, the team created a booklet that documented their findings, a brochure for current and potential sponsors, charts, maps, and a new logo for the MPC. The team recommended that future projects focus on documenting and promoting the MPC, continue to complete the project and sponsor database, interview MPC alumni, create a website to allow past IQPs to be accessible to the public, and create videos to aid in explaining WPI's Plan and the purpose of the IQP to potential sponsors (Callahan et al, 2016).

Transmedia Marketing for Educational Programs

This project will utilize several facets of transmedia marketing to improve communication among MPC stakeholders. Web-based platforms are useful tools for reaching a wide audience: they allow for two-way communication between the intended audiences and organizations. Nearly 89% of people in the United States and 85% of people in Australia utilize the Internet (Internet Live Stats, 2016). The Internet allows for millions of people to access much of the world's data and communicate with people around the world. It is beneficial for an organization to create a website to maintain contact with their constituents as well as create online communities.

Social Media Marketing

Social media platforms enable the development, deployment, and management of social media services which can be used to market to target audiences. Social media accounts are usually free to create and reach many people, making them a great marketing resource. Social media has become increasingly popular in Australia, and Facebook is the most popular social media platform among Australians (Roy, 2015). Facebook pages allow the owner of the page to gain more exposure to target audiences, lower marketing expenses, build a following, increase web traffic, and be easily accessible from not only computers but also mobile devices. Additionally, multiple administrators can be assigned to Facebook pages, making editing and updating easy to delegate, and allow for change of ownership in the future. Facebook also has multiple tools embedded in their site such as GPS and search engines, requiring little set up for an informative page (Id.). Over 15 million businesses, companies, and organizations are utilizing Facebook pages worldwide (Tune, 2013); these accounts allow the 1.71 billion users of Facebook (Smith, 2016) to stay informed and connected with their cause or business.

Engaging Video Creation

Informational videos are an effective communication and promotional platform for target stakeholders. Before beginning a video, creating a storyboard and shooting script are essential for ensuring a comprehensive plan for almost every shot included. Storyboards are often small sketches of different shots to be included in a video, and include small blurbs of writing explaining what information will be presented at approximate times. Additionally, a shooting script can be helpful for the organization of the overall video, and saves time during the shooting process (Shewan 2015). Videos should also have proper lighting and sound in order to appeal to an audience. These aspects are particularly important when collecting video testimony during an interview. The lighting in the room must be even, so it is advised to avoid windows or other "secondary lighting" to ensure the subject is clear of unwanted shadows or bright spots (Id.). Although sound quality can be adjusted in video editing software packages, it is important to check if there are any echoes or other noises that could disrupt an interview in process (Id.).

There are various aspects to video advertising that affect viewer engagement, including the length of the video, speaking rate of the narrator, and enthusiasm of the narrator (Guo et al., 2014). Short videos in the zero to three-minute range have the highest engagement amongst viewers. Six-minute videos offer the second highest engagement level and the best engagement level to video duration ratio (Id.). Additionally, it was found that viewers were more engaged when the narrator was speaking fast and the video was not strictly a headshot of one person speaking. Furthermore, transitions between content and headshots kept the viewers engaged; this technique is accomplished by having one camera focused on the speaker, with the camera angle varying between shots (Id.).

Video production should differ in content and presentation depending upon the intended audience. Videos being presented to professional organizations should have a serious and informative tone and focus on what the service or product being promoted can offer them. Video advertising for a young audience, such as students, may be more humorous, as this has proven to be an effective way to convey information. Using emotion and humor in videos can increase the chance of success of a marketing video, as emotional and humorous videos are also the most frequently viewed genres of online videos.

The most popular category of humor used in video advertising is incongruity, which is when the information presented is incongruent with viewers' predictions, which makes the situation laughable. This is also the most widely comprehended form of humor (Hsieh, J. K.et. al, 2012). Additionally, videos that seem to be intended for viewing by friends make viewers feel more comfortable watching them (Id.). Viewers also prefer to not be persuaded. When the video is structured in a way such that the viewers believe that the person or company producing it has nothing to gain from encouraging said video, the message tends to be more persuasive

Some of the most valuable insights and tips for video creation can be discovered by watching and evaluating other effective videos that are working to promote something similar to the goal of one's project. Videos aimed at students looking to travel abroad often focus on the best sites to see in the foreign country, as well as highlighting the people and cultural differences. When using video testimony from interviews, almost all videos utilized a two camera technique where they start the audio of the speaker while showing other video clips or pictures, then after a few seconds change to the video of the interviewee speaking in a different setting. Utilizing a variety of shots including slow motion, time lapse, and wide shots of bright and eye-catching sites are almost always featured in enticing videos. It has also been found that focusing on small

details such as zooming in on someone's hands while typing or opening a door creates an interesting mix of wide shots as well as small details of the country and how the people live that may go unnoticed.

Informative Website Creation

Another effective tool for use in transmedia marketing is website creation. Websites are widely accessible by multiple audiences worldwide, making them an essential factor in communication between different parties. A website representing a reputable university project center would allow for the communication of the outcomes of projects, and connect all stakeholders. This website must include effective content, promote its intended purposes, and be formatted in a way which allows for high website traffic. Background research suggests a few essential factors for successful website creation, including: an effective layout, multimedia, and optimization for search engines.

Layout and Content

Certain website layouts are more impactful than others in terms of maintaining viewer engagement. Donghua University conducted a study in which 100 undergraduate students wore an eye tracking device as they browsed various websites. Three website layouts were given: a three-column layout, a layout similar to Ebay, and a layout similar to Amazon. The results of the test showed that the layout similar to the E-Bay site kept user's attention on the important information. The test concluded that a website should: contain the majority of important information in the middle, have an appropriate blank space on either side of the site, and put important information near an image, as the tracker found that hotspots on websites were often next to images (Ze et al., 2014). Another source claims that in addition to these facts, a website

should also contain a bright hue, a clear layout, a controlled number of images, and aid illustrations or icons (Teng et al., 2015).

David Lee King, otherwise known as the "Internet Librarian" had a presentation entitled "How to Make Your Website UX Rock," in which he described the "3 C's," to improve the user experience of a website (Hawkins, 2014). The first C is the construction of the website, which refers to much of what was previously discussed. In addition to that information, however, King points out that almost ¾ of the US population owns smartphones, so websites should be designed with cell phone compatibility in mind (Id). There should also be a consistency in the construction of the website, and should be similar in layout to those which are frequented by internet users. Such websites, like CNN or Apple, contain adequate white space on either side of the website as well as a navigation bar at the top. The second C stands for content. Content should be presented in a way that makes it easy for users to obtain information quickly and without difficulty. Content should be written in a conversational way and important information should be at the top of a page so people can get information at a glance. Finally, the third C stands for customers. The customers are those who the website is designed for. User experience is heightened when the information on the website pertains to what that they are seeking. Customers can be utilized to provide feedback to website effectiveness through surveys, polls, and e-mails, providing a basis for updating the website.

Multimedia content is another important aspect for website creation. Information on websites is presented in a multitude of ways, generally through videos, text, audio and images. These media types are not equal in terms of information perception, since people can process information in different ways. However, a study of arbitrarily chosen subjects at the University of Macedonia and the Technological Educational Institute of Thessaloniki showed that gender

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and education level did not affect information apprehension or multimedia type experience (Papaioannou et al., 2014). Informational content was best understood in video format, followed by text, then audio, and lastly, images.

Search Engine Optimization

Having a website is only an initial step toward effective online marketing. A website must be optimized to allow for as much traffic as possible. A common and free method is Search Engine Optimization (SEO). SEO is the process of setting up a website so that it ranks well for particular keywords within the organic search results of major search engines (Jones, 2013). When a keyword is typed into a search engine, the top results for that search are the most optimized.

To determine how to go about optimizing a website, it is important to understand how a search engine determines its top results. Before the days of Google, search sites such as InfoSeek and AltaVista used a very simple algorithm to determine what generally constituted the top ten search results. A webpage that had the searched keyword in the title as well as that word disseminated throughout the text in the page was very likely to be found quickly using this algorithm. However, when Larry Page and Sergey Brin founded Google in 1998, they implemented an algorithm which indexes the "entire web and then analyze[s] who links to whom [...] those web pages with the most links to them from highly relevant web pages must be the most relevant pages associated with a particular search," (Id.). Therefore, the more sites that link to a particular website pertaining to a particular keyword search, the more relevant its place will be on a Google search. Google also has a system called PageRank which counts not only how many links point to a particular page but also the quality of those links, so trustworthy websites are more likely to appear. In addition to this, if a website is not updated frequently or is stagnant,

its listing within a search engine will drop. Therefore, it is important for a website owner to frequently update their website with information, whether that be in relation to a live blog on the site or new pages.

When creating a website, it is important to make a website "search engine friendly," meaning that the page should be highly relevant for particular keywords users are searching for. In addition to this, social media should be developed in relation to the website, containing links to reach the main website. This not only increases the links between known websites and the newly created website, but also increases user traffic. The more traffic that goes to the website the more relevant it becomes; a great example of this is the website Upworthy. It is important to note that Upworthy's articles do not contain much in terms of text content; most of the articles consist of a few hundred words of text flanked by videos and screengrabs. With an algorithm that only searches for keywords, Upworthy would not appear at the top of the lists due to not having substantial content containing those words (or many words in general). However, the site has earned its relevance through a high amount of click through from social media to the Upworthy website, generally by using 'click-bait' titles and images, which many people like, comment on, and share on Facebook. The traffic coming into the Upworthy website from social media platforms allows the website to be very search engine optimized (Runyon, 2015).

Mark Runyon, in "How to Increase Website Traffic Without Focusing on Text Content Creation" offers four tips on how to increase website traffic. The first tip is that indexing is very crucial for SEO. A website should contain many pages, each with a bit of relevant information for users. A website creator should be fully aware of what their intended audience will be searching for. Secondly, if a website does not have much content, it should have something else to offer. Generally, the insubstantial content is text, therefore, audio, video, and images should be

used in its place. These mediums should be engaging and interesting to the audience to ensure that more visitors will frequent the website. Thirdly, a website should contain user generated content, for example live blog entries, or picture uploads. User generated content allows a sense of multiple inputs, thus allowing the website to appear more legitimate. Lastly, social media should be utilized. A website is more optimized, in terms of Google's searching algorithm, if it has more high quality links that connect to it. Therefore, having several links from social media connecting to a website allows for that website to have a higher ranking within Google's searches. Social media also allows for two-way communication between the website owners and their audiences, engaging the users in the website more and increasing traffic.

Worcester Polytechnic Institute Project Center Website Examples

All Global Project Program project centers have information housed on the GPP website. Recently, individual project centers have begun developing websites with content specific to their site. These sites typically contain information on past projects, sponsors, and content for potential GPP students. The following examples demonstrate the range of material presented on these websites.

The Cape Town Project Center

The Cape Town Project Center (CTPC) was established in 2007 and typically hosts projects that support collaboration between community groups, local government, nonprofit organizations, and academic and business partners (Global Projects Program). In 2015, the CTPC challenged each IQP team to document the work they had done at the project center through a user friendly website. The website's homepage, in Figure 7, directs visitors to the pages: "Home", "About the CTPC", "Projects", "Resource Library", and "Contact Us" ("Cape Town Project Center," n.d.).

On the "Home" page, viewers are greeted with a warm welcome and the mission of the CTPC. Following the welcome is an explanation about the website. The section presents the stakeholders of the CTPC, and describes how the project center is working to reach the goals of the major stakeholders. At the bottom of the homepage is a blog about the project center. The blog was last updated in March of 2015, and seems to have been updated solely by the CTPC's program director, Scott Jiusto. On the left hand side of the page are announcements about the project center.

In the section, "About CTPC", viewers can locate information about the culture of the Cape Town area, the reason the project center focuses on the Shared Action Learning Project Development method, and a section which explains how WPI receives and utilizes funding for the project center. Additionally, there is an overview of the CTPC which provides links to all of the other sections of the "About CTPC" section.

The "Projects" tab allows users to access IQPs completed between 2007 and 2015, and an overview of how the CTPC operates. The overview section includes information on what time of year the students prepare for the IQP and when the students travel to South Africa. Additionally it explains how the students document and present their work, and provides access to another portion of the website that will give the viewer more information. The IQPs are organized by year, with each year having an overview of the projects and sponsors. From there, viewers can select a project from the informative title. Once directed to the project-specific page, viewers will see a photo as well as the project abstract. The project reports are broken into website pages that are linked into the project page. The team's final presentation, pictures, and any deliverables are also linked to the page. The project teams also uploaded weekly reflections in a section entitled "Acts and Scenes." Website users can access these reflections to get a better understand of what

was going on each week at the project center. Each project page directs website users who are interested in learning more to the students, the project center, and the contact information for the sponsoring organization. Lastly, the project pages include information on how to cite the project.

In the "Resource Library" page, users can find information pertaining to Community Development, Educational Resources, Student Resources, and Academic and Published Resources. This page has a promise to users that more information will be coming soon. Lastly, the "Contact Us" page lists the general contact information for the project center as well as the center director's information.

Figure 7 The Cape Town Project Center Home Page

The Worcester Community Project Center (WCPC) is an off-campus project center located in downtown Worcester, Massachusetts. The WCPC works with charitable, educational and civic organizations in the Worcester area. The WCPC website includes a page for "Home", "About", "Projects", "Student Resources", "Sponsor Resources", and "Community Resources" ("The Worcester Community Project Center," n.d.).

On the "Home" page, as seen in Figure 8, The Worcester Community Project Center's Home Page, visitors are able to see multiple pictures with brief titles and captions scroll across the top portion of the screen. Below, visitors are greeted with a "Welcome" and background information on the WCPC. On this page, viewers can find links to information on how to become a sponsor, and e-mail address for the project center, and an interactive icon that allows users to sign up for periodic emails.

The "About" page allows visitors to find information about the project center. It explains that the center was founded in 2000 with project goals focused around one of three topics, including environmental justice, environmental policy, and social justice. The "About" tab also links viewers to information about the director and assistant director, and includes their passions about project-based learning and other professional highlights. Additionally, the viewers can find information about awards and accolades the center has received, and contact information for the project center.

The "Projects" tab gives an overview of the projects and statistics about the number of projects students complete each year. Following the overview, projects can be found based on the sponsor of the project, term the project was completed in, or by the theme of the project. To

ensure the projects are updated each term, it is a requirement for project teams to produce information specific for the website, as well as a video for their project.

In the "student resources" tab, viewers will find information about the WPC including when the project center operates, estimated expenses, and the types of projects students typically work on. Additionally, there is information about Worcester, MA and a six-minute video/slideshow that showcases the projects and experiences from the WCPC.

The website provides information for sponsors under the "Sponsors Resources" tab. This information includes a brief overview of the IQP and important information about how sponsors play a role, focusing on the fact that the IQP is not an internship, but that students spend 40-50 hours a week, over a period of seven weeks, to complete their projects after completing a preparatory social science resource course ("The Worcester Community Project Center," n.d.). A contact link is provided for potential sponsors who have a project they would like to work on with a team of WPI students. From this tab, viewers can find information on dates for the WPI academic terms (the seven-week time frame students will have to complete their projects). This section of the website was last updated for the 2015-2016 academic year.

The last tab on the WCPC website is "Community Resources". This section provides links to projects that fall under specific categories. Additionally, there is information on how to properly cite the papers. This section's most current IQP is from the Fall of 2014.

Figure 8 The Worcester Community Project Center Home Page

Methodology

The ultimate goal of this project is to communicate the impacts of past Interactive Qualifying Projects to current and potential sponsors of the Melbourne Project Center and the Worcester Polytechnic Institute community. This project was divided into three main objectives: investigating and documenting how the IQP process has impacted sponsors and the Melbourne community; investigating and documenting the perspectives of the MPC from past, present, and potential MPC participants; and creating promotional material to inform sponsors and students of the MPC. Figure 9 shows the objectives and deliverables of the project.
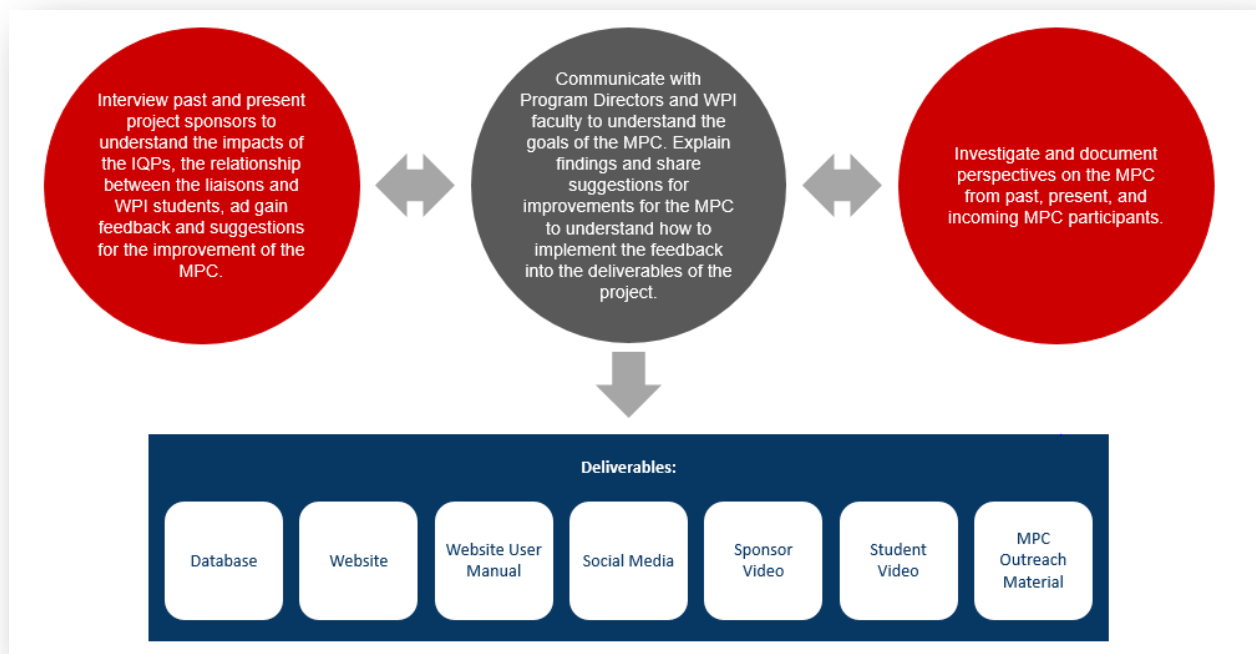
Figure 9 Objectives diagram for Methodology

First, we had to understand the needs of the MPC Program Directors and the IGSD. This allowed us to better understand the goals of this project, and how our findings and deliverables could assist in the program's goals of strengthening the partnerships WPI has formed in the

Melbourne community and better communicating with the program's stakeholder groups. We had regular meetings with Program Director Stephen McCauley and with the other on-site faculty Co-Advisor, William Michalson. We were also in contact with Program Director Lorraine Higgins as needed. We regularly discussed initial findings from the interactions with stakeholders, including recommendations for program improvement. Additionally, recommendations for improvement were discussed regularly. These conversations ensured that our project outcomes would be valuable for the MPC, sponsor, and student stakeholder groups.

Objective 1: Interview past and present project sponsors to understand the impacts of the IQPs, the relationship between the liaisons and WPI students, and gain feedback and suggestions for the MPC.

The MPC has partnered with 40 sponsoring organizations. These organizations can be categorized as government, nonprofit, or private enterprise. We conducted semi-structured interviews with these organizations in order to gain an understanding of sponsors' relationships with WPI, the MPC, the impacts the IQPs have had in their communities, and suggestions for the IQP process.

This objective is a continuation of the interviews completed by the Fall 2016 MPC Team. A complication that occurred with the Fall 2016 MPC Team while attempting to conduct these interviews was scheduling conflicts with the sponsors. Our team aimed to address this obstacle by reaching out to sponsors well in advance of the desired interview date. In the preparatory term, our team contacted Jonathan Chee, the MPC Local Coordinator, who began reaching out to past project sponsors to schedule interviews. This proved to be extremely effective as we had

five scheduled interviews before we left for Melbourne. Our team contacted all 39 past or present sponsors to schedule interviews during the first five weeks of the project.

We conducted in depth, semi-structured interviews with 13 sponsor liaisons using similar questions as the Fall 2016 MPC team. The questions asked in the interviews, found in Appendix A, address the experience the sponsors had with the student team and WPI, the impacts the project(s) had on the sponsor and their stakeholder groups, and improvements the sponsor would like to see with the MPC. In total, 27 sponsor liaisons were interviewed, representing 22 sponsoring organizations

Each interview was analyzed for the level of impact on the sponsoring organization, the level of impact on the project stakeholder groups, impact longevity or perceived longevity, overall experience with the WPI IQP, experience with the WPI students work ethic and professionalism, and suggestions for improvement of the MPC. The interviews allowed us to code the impacts of the projects for each sponsoring organization into high, medium, and low levels. We separately assessed the level of impact the IQP(s) had on the sponsoring organization and the stakeholder groups of the IQP. "High impact" projects were utilized by the organization and beneficial to the organization or stakeholders. The "medium impact" projects were helpful to the organization and stakeholders, but not fully implemented. "Low impact" projects had little to no effect on the organization and stakeholders after the IQP was completed. We also included a "could not determine" category of impact, for the interviews conducted in the Fall of 2016 that had incomplete notes. This category was also used when the project was used for the organization's own internal purposes.

To further develop our impact study, we coded the projects in regards to the longevity of their outcomes and impacts. The longevity of a project was determined by how long the project

was utilized by the sponsoring organization, and how long it impacted the stakeholder communities. A "long-lasting" project is still in use or the organization still uses the suggestions/data from the IQP. A "medium-lasting" project was utilized for some time, but the organization has since moved on to different approaches. A "short-lasting" project was only briefly utilized by the sponsoring organization, and "non-existent" was for the projects that were never implemented or when the interview data was inconclusive. First time sponsors working with the MPC in the Spring of 2016 were asked how long they see the project having an impact on their organization. This information was categorized according to the above coding scheme, but was noted as having speculated longevities.

In order to evaluate a sponsor's experiences with the IQP and WPI students, each interview was coded into positive, neutral, and negative experience. In a "positive" experience, the sponsoring organization enjoyed working with WPI and the students and found the work to be beneficial and rewarding for both parties. Sponsoring organizations that had a "neutral" experience did not have strong feelings about working with WPI and the students, or were not directly involved with either the IQP or the students and therefore could not form an opinion. In a "negative" experience the sponsor did not find working with WPI and students to be a beneficial or enjoyable experience.

To ensure future success and lasting sponsor relationships at the MPC, we collected suggestions from sponsors, and categorized them as: needing more specific information about WPI and the IQP, more specific information about the commitment of a sponsor, increase/better communication, restructuring the time frame of the IQP, and modifications to the reports or deliverables. Specific suggestions from past and current sponsors were used in creating our deliverables and in providing recommendations for improvement of the MPC.

Objective 2: Investigate and document perspectives on the MPC from past, present, and incoming MPC participants.

At the end of the 2015-2016 academic year, approximately 580 WPI students had completed their IQP through the MPC (Callahan *et al*, 2016). A goal for this project is to create deliverables that will make MPC information more accessible to students. This objective focuses on understanding the needs of the student stakeholder groups of the MPC, to provide us with valuable insight into what information sources and content should be included in our deliverables.

To understand student needs and collect student feedback, we distributed a survey regarding topics relevant to the GPP's IQP process and information to the three main student stakeholder groups: past, current, and future MPC students. The complete survey can be found in Appendix C, and a screenshot of question on can be found in Figure 10. In order to support the information sources and content we include in our deliverables, we divided the survey into three main questions:

1. Rating information sources on their importance during the MPC application process.
2. Rating information content on their importance during the MPC application process.
3. Ranking new information that students believe would be helpful in informing future students about the MPC.

Figure 10 Question 1 of the Student Survey

The survey asked students to rate each topic on how important or useful they were in informing their decision to apply to the MPC, with 5 being of extreme importance and 0 being of no importance. From the responses, the mean score of each question was calculated. The topics were then ranked by mean score to determine which topics the MPC past, present, and future participants thought were most important for us to address in the deliverables outlined in Objective 3. Results from this survey can be found in the Findings section.

To gather more suggestions from MPC participants, the final page of the survey includes open ended questions, allowing students to elaborate on any information they wish they received during the MPC experience, as well as any suggestions they have to better market the MPC to incoming students.

To gain the perspectives of students currently participating at the MPC, and collect student testimonials for our deliverables, we conducted video recorded semi-structured interviews with the Spring 2017 MPC project teams. During these interviews, we asked students for their thoughts on the project-based learning and social science research aspects of the IQP, why they applied to the MPC, their experiences with the MPC, and teamwork dynamics. The specific questions asked in these interviews can be found in Appendix D.

Objective 3: Create promotional materials to engage sponsors, students, and other stakeholders of the MPC.

After completing Objectives 1 and 2, we were able to gain an understanding of the needs and views of the sponsors and students. This served as the backbone for creating promotional material. These deliverables include: a database that includes a complete list of past projects and sponsor contacts, a website with a format that is compelling and informative to key audiences, videos that capture the accomplishments and goals of the MPC, as well as embody the culture the project center seeks to promote, informational packet content for potential sponsors, and a social media campaign to generate interest and remain viable beyond the project term.

MPC Project and Sponsor Database:

Before beginning work on promoting the MPC, our team understood and completed the database started by the Fall 2016 MPC Team. Their original database included sponsor contact

information, project titles, abstracts, authors, and term completed, amongst other project information. This database allows for the organization and search ability of projects completed with the MPC. We completed the database by adding the projects completed in Fall 2016 and filling in missing projects from previous years. Additionally, we were able to provide more information and notes on contacts within the sponsoring organization, and we inserted the coded impacts from the sponsor interviews. At the completion of the sponsor interviews, we added in a portion of what specific sponsor liaisons were interviewed. By completing the database, we are able to provide a complete history of the projects of the MPC from 1999 to 2017 to those who will be updating it in the future. The IQPs completed prior to 2006 were found to be inaccessible through the WPI library website. This meant that when creating projects on the MPC website, the projects could not be linked. These projects are documented in the database. For the IQPs that do not have an accessible final report we directed the website visitors to contact the WPI Gordon Library.

During the prep term our team met with the Fall 2016 MPC Team to discuss the database to understand their project coding techniques (classifying the sponsor type and theme of the project), interviewing strategies, and data collection (including notes from interviews the Fall team completed). We continued the coding scheme, found in Appendix E, and used it to code the B-Term 2016 projects and the missing projects we added to the database. Analyzing this completed database allowed us to create visuals, facts, and statistics pertaining to how many projects have been completed at the MPC, how many sponsors the MPC has partnered with, and the impacts of the projects. These summary statistics were used in the other deliverables.

A user-friendly and visually pleasing website was created as a way to connect past sponsors, potential sponsors, WPI students, and the WPI community to the Melbourne Project Center. This website provides a vehicle for communication about the MPC to online audiences, by presenting past IQPs, addressing questions that students and sponsors may have, outlining what the MPC is, and displaying the benefits of participating in the MPC.

The MPC website is designed in WordPress, using a template created for WPI project centers. Our team utilized the WPI Project Center WordPress Manual for Administrators (2015) for instructions on how to edit aspects of the website without directly editing the HTML code, including: how to create a custom menu, how to embed videos, and how to utilize widgets. These features helped ensure that our website is easily navigable and dynamic.

Content for the website was developed based off the recommendations collected in Objectives 1 and 2, and the recommendations developed by the Fall 2016 MPC team. The WordPress template is limited, however. In the area we placed our videos (next to the sidebar), there is a limitation in the width of the plugin set to 600 pixels. To address this, we included the "embed width" parameter in the HTML code to ensure that the video will not exceed size constraints.

In addition to designing the skeleton of the website, content needed to be made. Program Directors McCauley and Higgins assisted in writing content for the website. They focused mainly on explaining their vision for the project center, and information for sponsors. Our team generated content for the students, impact pages, and created graphics. While discussing the sponsor section of the website with WPI Local Coordinator, Jonathan Chee, we found that the word "sponsor" may not be the proper terminology. Jonathan explained that he often used the

word "host" or "partner" to better describe the relationship between the organizations and the students, and that "sponsor" insinuated that the organization would be paying for the students to travel to Australia, which is not the case. This was reflected in the website's navigation bar as well as throughout the content in the site.

To ensure the MPC website is easily found in search engines, we developed a Search Engine Optimization (SEO) plan. Utilizing SEO is an important part of website creation, as it ensures that a website will be search engine friendly. For our purposes, this means our website can be easily found by whoever is interested in the Melbourne Project Center at WPI, including past, present, and future sponsors and students. WordPress provides a plugin called the "WPZOOM: Social Widget," which allowed us to provide links directly from our website to our social media pages. This SEO plan allowed for us to increase website traffic as much as possible without cost.

Videos:

In order to portray information about WPI, the IQP, and specifically the MPC, two informational videos were created, one aimed at sponsors and potential sponsors, and the other for students interested in attending the MPC. The videos are engaging, informative, and easily accessible. We used the information gathered in Objectives 1 and 2 to provide informational content to the sponsors and students.

There were two distinct steps to creating these videos, preparation and production, both of which are crucial to their success. Preparation involved creating a storyboard with the details of each shot including length, desired visuals, background music, potential scripts, and transitions. This step ensured that all of our ideas and information for the video were included in a logical order. During the production stage, there were a multitude of videography techniques

we kept in mind, including, collecting a variety of shots, ensuring the shots allowed for transition times at the beginning and end, and making sure the audio did not include too much echo. We utilized Adobe Premiere Pro to edit the videos. To better understand the basic functions and features of this software, we completed practice videos and watched tutorials on topics such as: video transitions, audio gain, clip speed/duration, overlaying music and voiceover, white balance, and other coloring effects. All of these features were utilized in the student and sponsor videos to ensure they were high quality and professional. During the production phase of the the videos we included all of the shots and video testimonials collected during the first five weeks, and included placeholder footage, as seen in Figure 11. After the videos had a clear direction and structure, we collected the remaining shots to complete the video in the last couple of weeks. We also listened to royalty free music on various sources including YouTube and SoundCloud to find background music for the videos. We aligned the various shots and transitions to match with the beat of the background music, as well as lowered the volume of the music when necessary.
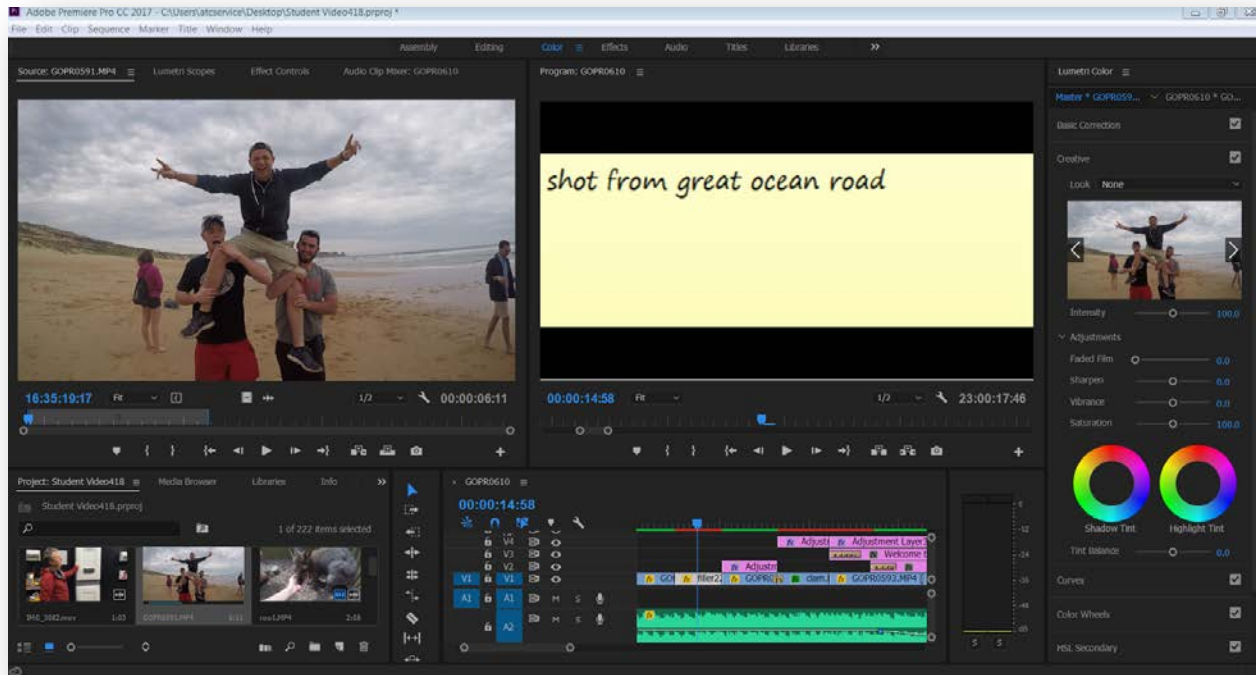
Figure 11 Screenshot of Adobe Premiere Pro video editing software including filler shots shown on the top right, color editing on the ride panel, and music and voice over overlaying in the bottom right.

MPC Outreach Material:

The current process of creating a partnership with WPI entails a conversation between the MPC director(s) or the Local Coordinator and a representative from a potential sponsor. In order to better inform future sponsors of WPI, the IQP, and the positive experiences other organizations have had with the MPC, content for an informational packet was developed. To ensure we produced the necessary content for this packet, we remained in contact with Professor Higgins and Professor McCauley (MPC Co-Directors), as well as WPI marketing. WPI marketing completes brochures and information packets for a majority of WPI's activities, and we provided them with content to create a packet for the MPC. The content is divided into the following sections:

1. Pictures of students working on their projects

2. Videos we create or any additional videos of students working / life in Melbourne

3. Sponsor vignettes

4. Student testimonials

5. Summary Statistics

Through this collaboration, and our Objective 1 findings, we continually edited the content in our draft until it adequately reflected the needs of MPC stakeholders. The written content of the deliverable can be found in Appendix H.

Social Media:

Through our background research we have found that Facebook is the easiest, most affordable, and most effective social media platform to utilize for our purposes. We created an MPC Facebook page for sponsors and students to visit to see pictures and videos from the MPC, posts about student experiences, and updates for potential student applicants and potential sponsors. The Facebook page is easily accessible from both computers and mobile devices, and can direct users to the MPC website, increasing web traffic. To make our informational videos easily accessible and easy to embed into the MPC website, we created a YouTube channel for the MPC.

Findings

A key aspect of this project was to understand the impacts the MPC IQP had on the major stakeholder groups of sponsors and students. We sought to understand the impacts the IQPs had on the sponsors, how long the impacts lasted, and what their overall experience with WPI was. Additionally, we asked for recommendations for improvements of the sponsoring process. In general, the liaisons of the sponsoring organizations claimed the projects had high, long-lasting impacts on the organizations. The other major stakeholders of the MPC are the students who have, or will, participate in the MPC. We surveyed students to ask about how they have found information regarding the MPC and the GPP process, and which sources were the most useful.

Sponsor Interviews

As described in Objective 1, we interviewed the past and sponsors of the MPC to gather information about their experience with the IQP. Between 1998 and Spring of 2017, WPI partnered with 39 Australian organizations to complete over 155 projects. In total, all 39 of the sponsoring organizations were contacted, and 27 liaisons were interviewed, representing 22 organizations. The interviews consisted of three main sections: impacts of the projects, experience working with WPI, and suggestions for improvement of the MPC. In this section, only the responses from liaisons who had completed a project prior to the Spring of 2017 are discussed. All completed interviews can be found in the Supplementary Materials.

Impacts and Experiences of the Projects

Through interviewing liaisons of sponsoring organizations, we gained an understanding of the perceived impacts the projects had on the sponsors and on the project's stakeholders. The impacts were broken into three categories: impacts on the sponsoring organization, impacts on

the stakeholders of the sponsoring organization, and the longevity of the impacts. The projects were analyzed according to the coding scheme in Appendix B. A "High Impact" means the project(s) were utilized by the organization and provided a benefit to the organization/stakeholders. A "Medium Impact" recognizes that the project(s) were helpful to the organization/stakeholders, but not fully implemented or the information was unable to be used. A "Low Impact" is assigned to project(s) that had little to no effect on the organization/stakeholders after the IQP was completed.

After coding the interviews, it was seen that most projects had a high impact on the sponsors and stakeholders. Through coding interviews, it was found that 83.3% of interviewees described the projects as having had a high impact on their organization and 75.0% of interviewees found the projects had high impacts on the stakeholder groups. 16.7% of the liaisons described the impact on their organization as "Medium" and 12.5% felt the impact on the stakeholders were "Medium". The impact on stakeholders of one of the interviews could not be determined, due to limited information provided in the interview.

The longevity of the projects were categorized into "Long-Lasting," "Medium-Lasting," "Short-Lasting," "Non-Existent," and "Could Not Determine." The categorization was based off of the liaison's explanation of how long the projects were used or an estimation of how long they will be used, and how long they affected or will affect the stakeholders. 70.8% of the projects were classified as "Long-Lasting," and 25.0% were classified as "Medium-Lasting." One project was classified as "Could Not Determine" due to the limited information provided in the interview. There were no projects that had short or non-existent impacts. An overview of the impact findings can be seen in Figure 12.

Figure 12 Perceived impacts of the IQPs on sponsoring organizations and their stakeholders

The experiences of the liaisons were divided into two categories: their experience with the WPI IQP, and their experience with the WPI students. Overall, sponsor liaisons have had a positive experience with the WPI IQP and WPI students. 92.6% of liaison's had a positive experience with both the WPI IQP and 88.9% had a positive experience with the students, specifically with their work ethic and professionalism.
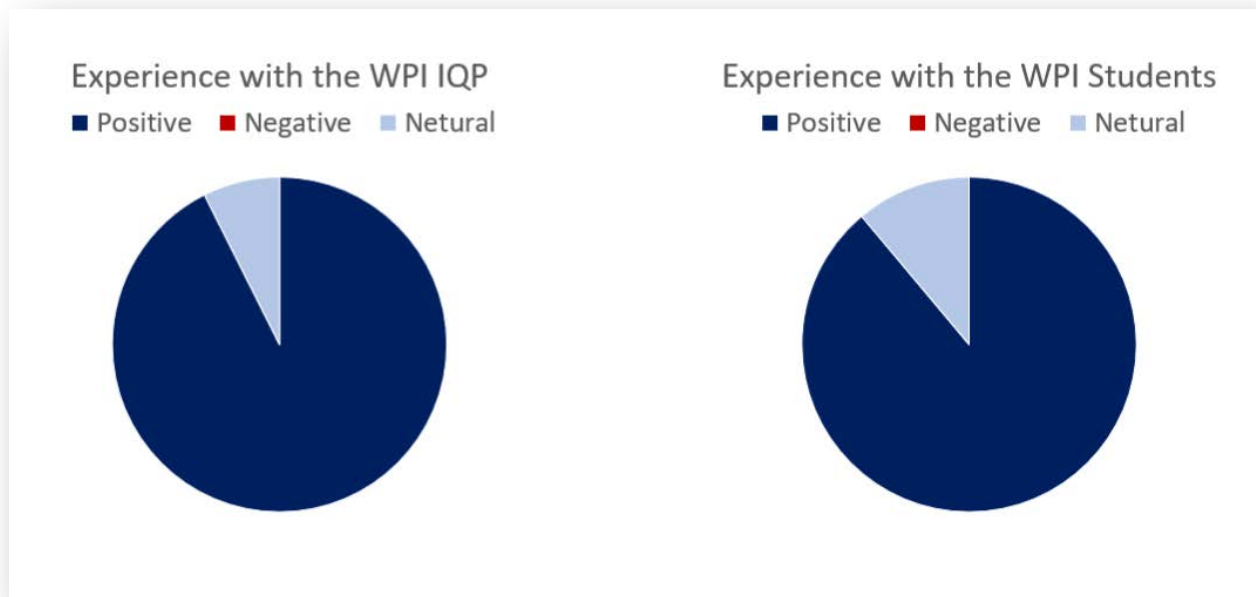
Figure 13 Liaison experiences with the WPI IQP and with WPI students

The Metropolitan Fire and Emergency Services Board, also known as the Metropolitan

Fire Brigade (MFB), sponsored ten MPC IQPs between 2006 and 2015. Geoff Kaandorp and

Julie Harris have acted as MFB liaisons to WPI for a handful of the projects. They explained that

the MFB's approach to creating projects for WPI is creating them with a specific purpose in

mind. Julie stated, "I haven't done one study that I haven't had a purpose to use it for." The MFB

fire protection projects have covered topics such as hoarding analysis, electrical fires, and smoke

alarm compliances, amongst others. One project focused on how the MFB and other fire services

communicated safety measures with the members of the community. WPI students conducted a

study to understand the demographics of the individuals the MFB was reaching by distributing

brochures and manning booths at community events. The students compared this audience with

the demographics of "typical" victims of fire incidents. They found that people who typically die

in fires are generally elderly, disabled, living at home, often alone, or live with social services. Geoff explained that, "As a result of those findings [...], MFB has changed its approach to how we try to mitigate fire risk in the community." Julie continued to elaborate on the large impacts that the WPI projects have had in the fire protection community. She explained that some of the work the students have done, specifically the research behind the hoarding studies, have been some of the first studies done in that particular topic. "[IQPs conducted with the MFB have] been used in the Coroners Court of Victoria; they've been cited in the press; they've been cited in international journals; they've been cited in international publications."

Rob Llewellyn has worked with the MPC through the Australian Fire Authorities Council (AFAC) and the Fire Protection Association Australia. He echoed Julia and Geoff's statements of the impact of the fire protection reports, stating, "In Australia some of our reports have even been used in senate inquiries." He shared that he had been contacted by universities within Australia and New Zealand to discuss the findings of the reports. He also explained that the MPC's former director, Jonathan Barnett, was a valuable asset to the fire protection projects. "When Jonathan was supervising, and when Jonathan signed off on a fire protection report that gave that report a lot more credibility in the fire industry, rather than a professor who is not internationally recognized in the field." Rob explained that some of the projects have had an impact on the careers of some of the students who have worked on them as well.

> "I can name about half a dozen kids who have been out here for WPI projects that have finished up fairly high up the tree in fire protection. And a lot of it has to do with the fact that they came here and got that on their CV, and some of them got introductions. One of them came out and worked in Australia."

In 2014, the MPC partnered with the Fawkner Community House for the Project "Solutions to Decrease the Amount of Food Insecurity in Fawkner, Victoria, Australia." The team gathered information from members of the community, and showed the significant level of food insecurity in the community. Meredith Lawrence, the Fawkner Community House liaison, explained that the information the team collected has been very impactful. One of the recommendations of the IQP was to provide transportation to inexpensive grocery stores for underprivileged families in the Fawkner community. Meredith explained that the recommendation was implemented, and eventually grew into a more sustainable community market. "In terms of the impact, it gave [service providers in Fawkner] the evidence base to gain funding to set up a small community market. It helped them to show that food insecurity needed to be addressed. Now fresh fruit and vegetables are sold at discounted prices." She shared that almost three years after the IQP was completed, the information from the report was still being utilized, "We used it really as evidence about the level of food insecurity in the area. We use it in submissions [for grants]. We got a grant for cold storage for the food bank. It's enabled us to expand the food bank." This IQP continues to impact stakeholder groups when it is used for evidence for funding, continually helping to reduce food insecurity in the Fawkner community.

Shane French, from CERES Community Environment Park, spoke very positively of the WPI students. He recognized that they were hard working, focused, and extremely flexible. He explained that the projects often evolve throughout the fourteen weeks. Students begin their background research in the United States, and come to Australia ready to begin their projects. Often the teams have to make modifications to their projects once they meet with their sponsors. Shane explained the students have always worked well with CERES as their projects changed from what they expected in the preparatory term to the project that ended up being completed

while in Australia. He shared that the most extreme case of student flexibility was through a unique instance where CERES adopted a project team once the team arrived in Australia. The team's sponsoring organization had shut down between when the prep-term started and when the project term started.

> "There was another project, which was great with CERES, and these students were incredible as well, where the group was in the air, in the plane coming to Australia to do their project at a neighborhood center, and the neighborhood center closed down. In between them starting their seven weeks in America and arriving here and starting, they got on the ground to the news that their project didn't exist anymore, the center had gone, had closed down. So we took them in, and they worked with CERES, and we just made something up on the fly for them, and they had to start from scratch. […] Those students had the flexibility to get off the plane, not completely lose it, and go 'okay, so we're doing a whole new project at a whole different place now.'"

Jason Cox of Moreland Energy Foundation Ltd. explained the amazement he had while watching the students develop over their seven weeks in Australia. He explained that he was working with a group of four students and within that group, three of the students were very confident, but one was not confident at all. In the team's first presentation, the team updated the viewers on the progress they were making. Jason explained that he could see the pressure and anxiety on the shy student's face. Just a few weeks later, Jason said the student was able to present his part of the presentation properly. He explained, "It was quite amazing for me [...] It was like: 'just by coming here you were jumping in the deep end. And now you're swimming.'" This project proved to be beneficial for both the organization and for the professional and personal development of the students.

Three liaisons from two sponsoring organizations who were completing their first IQP with the MPC in the Spring of 2017 were interviewed. The liaisons were asked to speculate the impacts they believed their projects would have once completed. Anthony Gallacher from the EcoCentre explained that the project the students were working on was laying the foundation for awareness of microplastics in the Port Phillip Bay area.

> "This microplastics research that the WPI students are undertaking is really a foundational project for the EcoCentre. The Port Phillip Baykeeper has been working on a litter auditing method which targets microplastics, which are plastics that are less than 5 mm in size. He has been developing a particular method for a number of years […] The wpi students have done the bench mark […] the first survey of the [nine] sites and also set up the particular transit lines in which the surveys will be undertaken. […] This project in-and-of-itself will set the scene [of an] ongoing monitoring program which will bring in enough data and information to then take to legislators or politicians to start to look at ways in which we can create larger scale change and legislative change to address this particular issue."

Anthony and his partner, Neil Blake (the Port Phillip Baykeeper), speculated the impacts of this project could last more than fifty-years. They also expressed satisfaction with the performance of the WPI students and that they have had a positive experience working with WPI.

Liaison Suggestions for Improvement of the MPC

A key element of the interviews with sponsor liaisons was asking for suggestion for improvements that could be made to the MPC. The suggestions were categorized into the following topics: more specific information about WPI and the IQP, more specific information

about the commitment of a sponsor, increase/better communication including communication between teams and sponsors in the prep-term of the IQP, restructure the time frame of the IQP, and modifications to the IQP reports/deliverables. The complete notes and quotes about suggestions can be found in the Program Director Information Packet in Supplementary Material.

More specific information about WPI and the IQP

Five of the sponsor liaisons had mentioned they would have liked to have more information about WPI and the background of the IQP. Meredith Lawrence of the Fawkner Community House had mentioned that she felt bad about having the students complete a social science project since they were studying engineering and science in school. It was explained to her that the projects were indeed supposed to be social science based in order to provide a more well-rounded education to the WPI students.

Carly Siebentritt of CSIRO stated, "I don't [understand] what you get tested on or marked on." Other liaisons had similar comments, questioning the purpose of sponsoring a project if the students listen more to the advisors than the opinions of the sponsoring organizations. Geoff Kaandorp of the Metropolitan Fire and Emergency Services Board explained, "There's often a little bit of tension between your course requirements and what we actually want…The students are getting pushed two ways."

Moreland Energy Foundation Ltd's Jason Cox explained to the Fall 2016 students that it was interesting to have engineers working on social science projects, and that some might argue that social science students should be performing this research. He acknowledged that it is important to have well-rounded engineering students, and that they can bring other things to these projects that social scientists couldn't.

Banksia Gardens has partnered with WPI for 9 IQPs from 2010 to 2016. Jaime De Loma-Osoria Ricon, Banksia Gardens' liaison, stated, "It is very hard for the organization to understand what WPI does. At the moment, there is nothing that can give an organization a really good snapshot of what WPI does […] this is why your project is really important." He went on to say, "[To improve the program] align the objectives of the organization with the objectives of WPI."

Peter Johnson of Over Arup & Partners stated that the MPC could benefit from, "Some more effective networking in Melbourne […] There's actually quite a group of WPI people here in Melbourne who will be passionate about their time at WPI and the [benefit] that WPI students can bring. Perhaps take advantage of that WPI network that exists here, as well as other people who have seen the benefit before."

Through our deliverables we were able to incorporate this suggestion from sponsors; it was addressed through both the MPC Website and the Sponsor Video. In the "About" page on the website, visitors can find information about WPI including the location of the school and it's "theory and practice" based educational program; for more information, visitors can follow a link to direct them to the WPI website. Additionally, information about the Interactive Qualifying Project can be found on the "About" page. This section explains what the IQP is, how it fits into students' educational requirements, and emphasizes its social-science nature. Information on how sponsors can participate in the IQP can be found on the "Partners" page. Details about how the IQP is beneficial for both the sponsors and the students can be seen in the "Impacts" page. Program Co-Director McCauley and Spring 2017 MPC IQP Advisor Michalson spoke about WPI's project based curriculum and how it encompasses the IQP in segments of the Sponsor Video, which sponsors can access on the MPC website, Facebook, or YouTube.

Four liaisons explained that they were unprepared to take on the role of a sponsor because there was a lack of information about what the commitment would be. Rob Llewellyn has partnered with WPI through two different organizations. He explained, "I think it needs an outline for the sponsors. It needs a pretty well spelled out time frame." He provided the suggestion, "I reckon you need almost a set of procedures written up for the sponsors." This was a suggestion that Meredith Lawrence of the Fawkner Community House expressed would have been helpful. Additionally, she requested that the MPC provide more information regarding the amount of time that sponsors need to commit to supervising the students. "This location is understaffed so the supervision aspect would have been helpful to have more of the information."

Rob Llewellyn explained that sponsors might not understand that they should be involved during the preparatory term, "I don't think a lot of sponsors realize that they need to be involved in the pre-work. The pre-work is critical. [...] I think emphasizing that to the sponsors, getting the research question right. What are you trying to answer [...] I don't think sponsors realize that that all needs to be done before the students arrive."

Anthony Gallacher from the EcoCentre stated that he would have liked to have received a written contract that explained the partnership between WPI and their organization. This contract should have information about the expectations of WPI and the expectations off the sponsoring organization. Anthony explained that this type of contract is typical in forming partnerships at the EcoCentre.

Jonathan Chee, WPI's Local Coordinator for Melbourne, Australia, explained that it would be helpful to provide information for sponsors regarding how to sponsor a project. This

would include establishing guidelines for the project - specifically that it is a social science based project, and make a timeline available that contains information about the preparatory term and term abroad. Additionally, explain the commitment of the sponsor including that they must provide unlimited Myki cards, must supervise the students, the hours students are expected to work, attend weekly meetings with the program directors, and what their role is in the project versus the role of the advisors.

Working with Jonathon, we were able to create "Partner" page on the MPC website. On the page, visitors will be able to find a timeline, sponsor requirements, and information regarding the sponsoring or "hosting" process.

Improve communication, including communication between teams and sponsors in the prep-term of the IQP

Ten of the sponsor liaisons requested that the MPC increase the amount of communication students have with their sponsors during the preparatory term. Julie Harris of the MFB explained that the communication needs to be increased with both the students and the advisors. The sponsors should have a call with the students where they give a more clear idea of what they would like the students to accomplish, but a similar conversation needs to be had with the advisors to try and get everyone on the same page. When there is miscommunication in the project goal, the work completed in the preparatory term is unable to be used. Julie's partner, Geoff Kaandorp explained, "[During the preparatory term] we give you a brief of what the project is, and the students are required to do some writing and do some background research…In the past few years, from the ones that I've seen, that process has really missed the mark."

Neil Bibby from Emergency Services Foundation explained that the prep work probably isn't done as effectively as it could be. He strongly emphasized that the sponsor should be the ones directing and guiding students during the literature search (preparatory work).

The Victoria Building Commission's Dennis Hogan shared that it would be helpful for the sponsors to have more information about the students, such as their names, majors, and backgrounds, so that they can gear the projects towards their interests.

Restructure the time frame of the IQP

Three of the liaisons suggested the timeframe of the IQP be modified and extended to allow the students more time in Melbourne. Shane French of CERES spoke very passionately of this.

"There's almost a guilt that you guys have flown all the way over here and you're just working for us. I think if there could be an extra week somewhere and actually stop in the middle, for you to have a solid break and just leave the project and go away and actually go and spend a solid week somewhere […] as opposed to weekends. Have that ability to refresh and recharge and then hit the ground again [...] You have to have eight weeks with a week off in the middle [...] A little bit longer in Australia and maybe a little bit less of the pre-project work, because I find the most value happens when we're all together, working as the group, in the same room, having the meetings, all that stuff. I think that's where the real magic happens, that's where your projects really start to roll [...] That cultural exchange is really good, and I like keeping that going, that's a really valuable part of it. And that's why that's another part of why I think if you're here, take a bit longer. If there's a way to spend longer in the country, in any of your projects, and actually have time in the middle to just actually go and just immerse yourself somewhere

for a week or so, and forget about all your projects and your studies and you don't have to be back on Tuesday to finish your thing. Just go, for a little while. That would be really valuable."

Jarrod Edwards of the Metropolitan Fire and Emergency Services Board also mentioned having a break mid-term to reenergize, and that students should have more free time to appreciate their experience.

Emergency Services Foundation's Neil Bibby suggested that after the term ends WPI should see if there's anywhere in the country where the students could present their work (such as a conference).

Modifications to the IQP reports/deliverables

Jaime De Loma-Osoria Ricon of Banksia Gardens stated that for his organization, "The final reports, in the best case scenario, are read by six people…and that's a shame, because there is so much valuable stuff in there." He also suggested to have an active reflection of the project as part of the academic requirement.

Neil Bibby of the Emergency Services Foundation provided some suggestions on how to showcase the work that students are doing with their report. He said to take some of the better reports and write a 1,500-word summary and then publish them in a magazine (he offered to have them published in a magazine he is involved in). He explained that publishing them is the best way to get the information out there. Additionally, if the paper is good, the students should be brought back to Australia/their organization. When it comes to giving the information/reports to sponsors, there should be more of a "package" that's presented. It should contain a 1,500-word summary of the project and three or four good photos.

Student Surveys

As outlined in Objective 2, surveys were distributed to the MPC alumni from the Fall of 2016, Spring 2017 participants[6], and the accepted students for the 2017-2018 academic year (AY 2017-2018). The survey focused on asking students what informational resources and content they found helpful when choosing to apply to the GPP, specifically the MPC. Each set of students were able to offer a different perspective to the application and GPP process: students who are reflecting on their experience, students who are currently participating in the program, and students who are accepted and looking for information about their upcoming involvement.

Information Sources and Content Utilized during the IQP Application Process

In the survey, students were asked to provide a score, on a scale of 0 (not important or useful) to 5 (very important or useful), to sources in regard to how helpful they were in informing a student's decision to apply to the MPC. On average, the most popular resources were word of mouth from peers and the site-information session hosted by the program directors. The least helpful resource, with the lowest scores from each student group, was the IQP Database available through the Gordon Library website. The data can be seen in Figure 14.

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[6] The Spring 2017 participants include the authors of this paper.
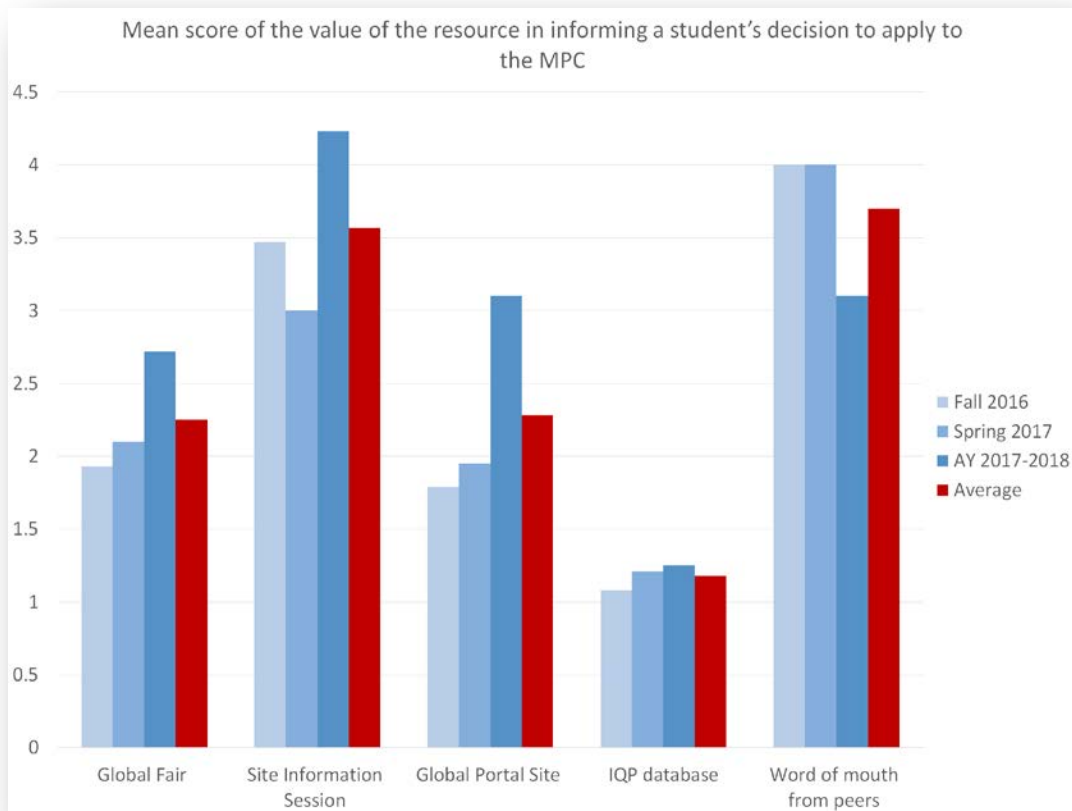
Figure 14 Mean score of the value of the resource in informing a student's decision to apply to the MPC, including responses from Fall 2016 participants (alumni), Spring 2017 participants (currently participating) and accepted students to the AY 2017-2018 MPC.

Students explained through open ended questions that some of the major sources they utilized were talking to MPC alumni, WPI faculty, and conducting independent research. All three student groups provided comments on how they turned to their peers for insight on the MPC. A Spring 2017 participant explained that they wished there was more information provided by WPI, "... but all the gaps were filled by 'alumni.'" A Fall 2016 alumni explained, "... [their decision to choose the MPC] was heavily based on word of mouth by peers. I didn't attend the site session nor did I look at the Gordon Library records." An incoming MPC participant stated "I spoke with students who have been there before and found it very helpful. The

information session was the most useful source." A Fall 2016 participant explained that his fraternity advisor "came and spoke on the cost comparisons between sites and gave firsthand accounts of different project centers." Another Fall 2016 participant recommended, "... talking to professors that have advised the site before would be good to[o] since they will know the projects and the lifestyle as well." A handful of students from all three groups of students explained that they conducted independent research on Australia which helped them make a decision to apply to the MPC.

Students were also asked to rank on a scale of 0 to 5, identical to the ranking system previously used, how important or useful the content regarding specific project locations was. This included: start and end dates, cost of attendance, project descriptions, past IQP reports, activities to do at the project center, housing descriptions, information about the city/region, and alumni testimonials. All three groups ranked information about the city/region as the highest importance, and activities to do at the project center as the second highest. . The complete data can be seen in Figure 15.
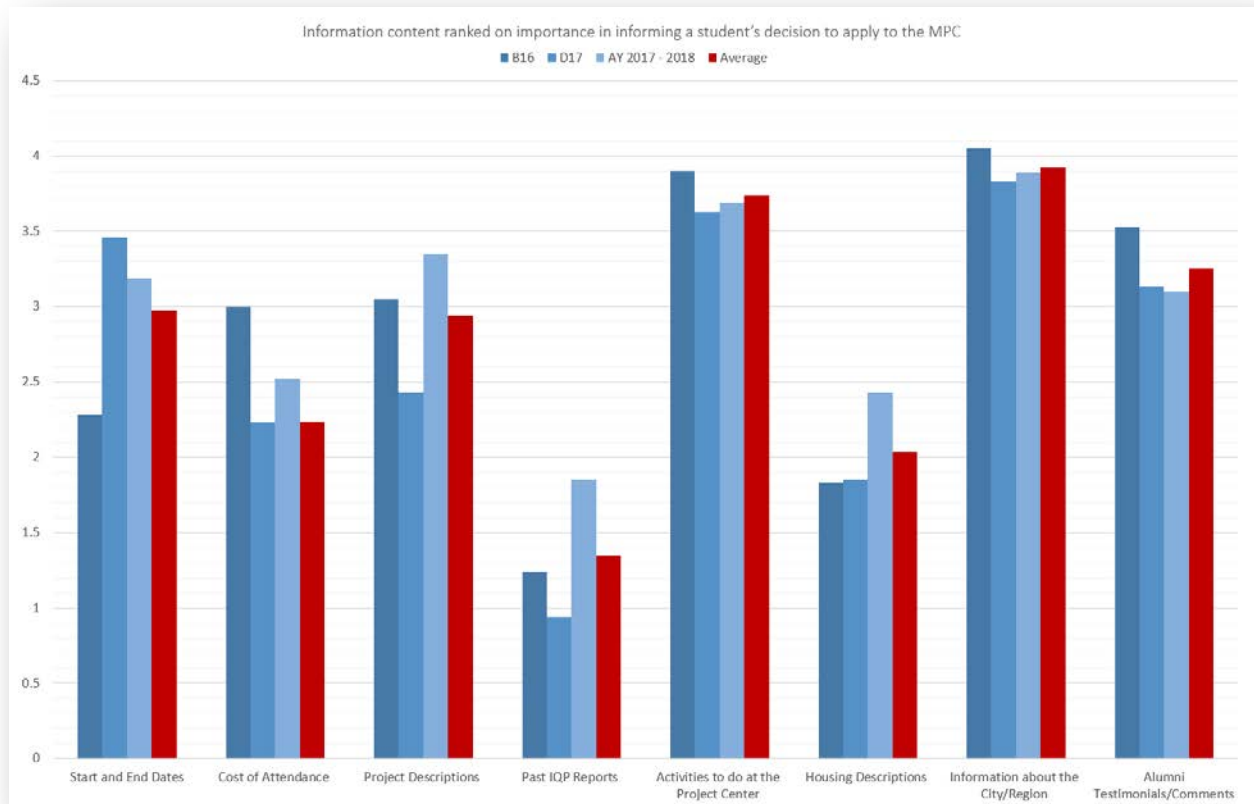
Figure 15 Mean score of the information content ranked on importance in informing a student's decision to apply to the MPC. Information about the city/region and activities to do at the project center were ranked, on average, the most important.

Through open ended questions, it was found that project reports, although their average rank was fifth (out of eight), were the most discussed topic. A Fall 2016 participant explained, "I put that project descriptions didn't help because they aren't released until after application and acceptance. Also, some of the historical trends in types of projects seem to be shifting (mainly fire projects) this leads some people to have false expectations." An accepted student for the AY 2017-2018 program explained they wished they would have known "what the projects would be and what majors were recommended of the projects[.] I really wanted to know more in-depth

about the kinds of projects being done. Travelling is definitely a highlight of Australia but I also really wanted to know what kinds of projects are exactly offered here [...]" A Spring 2017 participant felt that the most important part of the IQP was the information about sponsors and the projects that are completed at the center. They continued to say, "I feel like WPI does a poor job at illustrating the types of projects involved at each site, i.e. sustainability, fire safety, etc. and that this should be emphasized more considering IQP is an important part of the WPI education and is one of the things they advertise on student resumes."

The students were asked to rank which information they would find most helpful in communicating information about the MPC to future generations of participants. As seen in Figure 16, all student groups ranked "List of Activities to do at the Project Center" as the most helpful resource. This was followed by a video directed towards students, and a comprehensive website, respectively. These findings solidified that the deliverables we completed for the project were of value for the student stakeholder groups. Within the student video and the website, students can find information about things to do within Melbourne such as places to shop and dine, as well as trips the students can take while participating in the MPC.
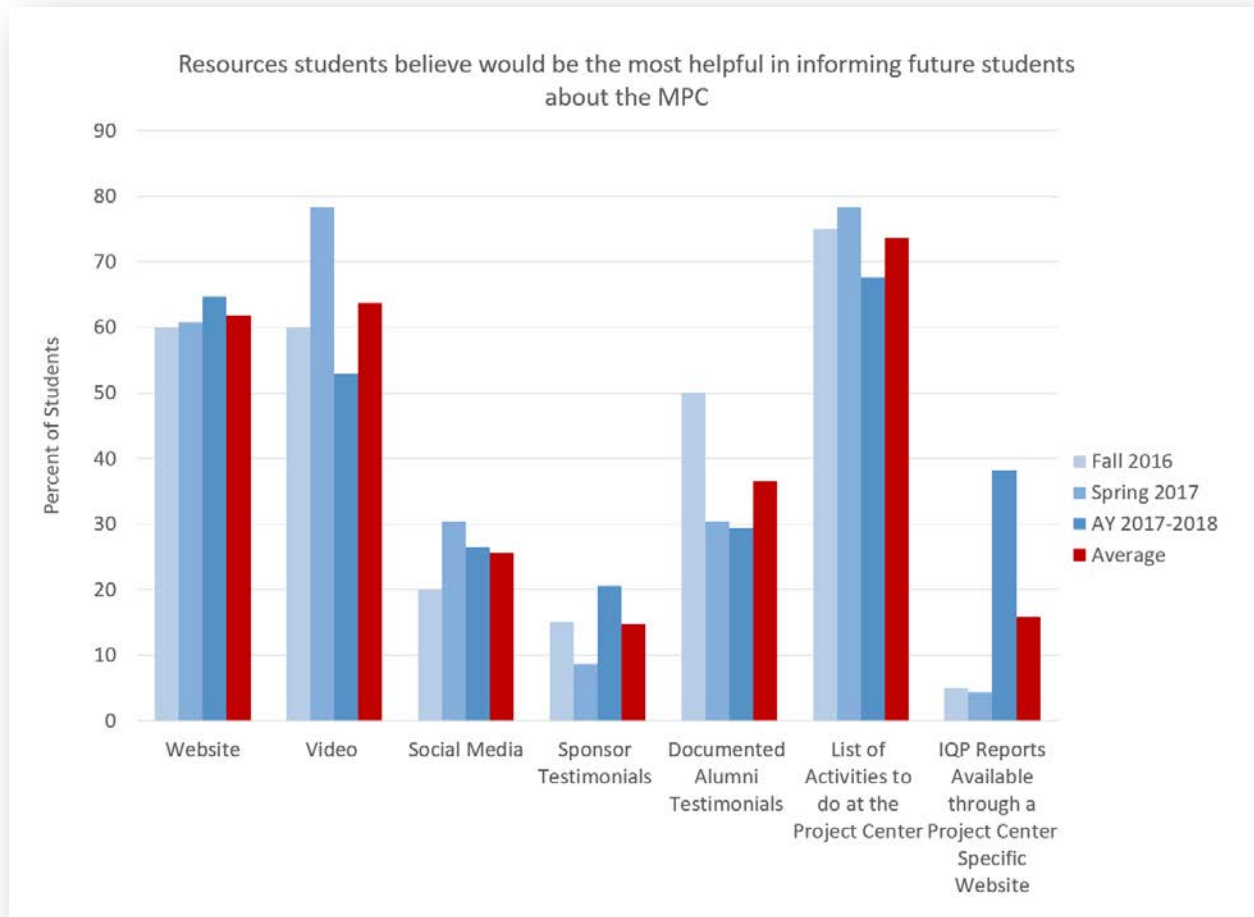
Figure 16 Mean score of resources students believe would be the most helpful in informing future students about the MPC.

Deliverables

By conducting semi-structured interviews with sponsor liaisons we were able to gain

insight on ways to improve the relationship between the MPC and sponsoring organizations.

Through student surveys, we were able to understand what content is important to students

applying to the MPC, and what media platforms would be best suited for the individuals. All of

the deliverables we created contribute to the goal of better documenting and promoting the

impacts of the Melbourne Project Center. The deliverables include a comprehensive database of projects and sponsors, a promotional video for students, an informational video for sponsors, a project center website, a user manual for editing the website, social media including Facebook and YouTube, and informational content for WPI marketing.

MPC Project and Sponsor Database

We completed a comprehensive database of projects completed over the 19-year history of the Melbourne Project Center and the organizations it has partnered with. The database includes sponsor tabs and a project tab. The description of each section of the database is described in Table 2 below. The sponsor tabs include contact information, an overview of each sponsoring organization, the liaisons who were interviewed for this project, and data from completed sponsor liaison interviews. The project tab includes information from all projects completed at the MPC including titles, authors, abstracts, advisors, sponsoring organizations, term completed, and links to each final report.

Table 2 Description of tabs and information found in the Database.

Database Tab Title	Description
Projects	This tab includes information for each project from 1999 to 2017 including authors, sponsors, abstracts, and links to final reports. This allows the MPC to keep an organized and searchable record of all projects completed. This information was utilized in this project when we uploaded project information

	to the MPC website.
Sponsor Overview	This section of the database includes information including how many projects each sponsor has done with WPI, if they have been contacted for an interview, and if they have been interviewed. This information will be helpful for similar projects in the future when deciding which sponsoring organizations to reach out to for their purposes.
Project Sponsors 1998 - 2017	This sponsor tab includes sponsoring organizations, how many projects they have completed with WPI, when those projects were completed, and contact names and number or emails of people at the organization. There is also a place for comments including if the contact has left the organization, if they do not wish to be contacted, etc. This tab will be useful in the future to keep an up-to-date list of contacts for interview and partnering opportunities.
Sponsor Impacts	This section of the database is where our team put in the coding information from each sponsor interview conducted. It includes the name of the liaison and the sponsoring organization they represented in the interview and how the interview coded for level of impact on sponsoring organization, level of impact on stakeholder groups, impact longevity, overall experience with the WPI IQP, and experience with students work ethic and professionalism. This will be useful in the future as students interview more sponsor liaisons and want to update the data we have thus far gathered.

Promotional Video for Potential MPC Participants

We created a promotional student video for those who are interested in applying to the MPC, to be shown in site information sessions and to be put on the website we created. This video is lighthearted and seeks to promote the benefits of going abroad for an IQP, specifically at the MPC, and capture the experience. This video includes information potential students will find useful to know before applying to or participating in the MPC, including: information about the City of Melbourne, and the many activities students may do in or around the city including festivals, riding public transportation, and visiting the many landmarks of Melbourne. Facts about the MPC history and explanations of how the IQP is different from a standard study abroad program are also included. The video highlights the importance of the IQP and teamwork experiences for the students. A screenshot of this video can be seen in Figure 17 below.

Figure 17 Screen-capture from the Student Promotional and Informational Video

Potential Project Sponsor Video

We created an informational video for sponsors that explains what the IQP experience is and promotes the benefits of hosting an IQP at their organization. This video will be useful to show in a staff meeting setting or during the project site director's conversation with the potential sponsor(s). We included information potential sponsors will find useful to know in the initial stages of planning an IQP including information about what the IQP is, how sponsors are involved in the process, and how it can be beneficial for both students and sponsors. The video also includes sponsor and advisor testimonials regarding the work ethic and professionalism of

the students, as well as the impacts of the completed projects. A screenshot of this video can be

seen in Figure 18 below.

Figure 18 Screen Capture from the Sponsor and Informational Video

MPC Project Center Website

We developed a website for the MPC, which presents the accomplishments of the project

center and communicates important information for all stakeholder groups of the MPC. The

website houses the videos we created, all of the projects included in the database, and other site

specific information. The website is divided into tabs on the front page of the website as seen in

Figure 19.

Figure 19 Home Page of the Melbourne Project Center Website

The "Home" page includes a moving slideshow of images from Melbourne and a welcome statement, which includes a brief summary of the Melbourne Project Center for site visitors. The "About" tab houses information regarding Worcester Polytechnic Institute, the Interactive Qualifying Project, and the Melbourne Project Center in an effort to inform potential sponsors of the purpose of students completing an IQP at the MPC. The "Student" tab includes the student video, student testimonials and statistics, a comprehensive list of activities to do in or around Melbourne during their time at the MPC, information about the current student housing and cost of attendance, and a Frequently Asked Questions (FAQ) page containing answers to questions students may have from the application process to preparation of arriving in Melbourne. The "Partners" tab includes the sponsor video, sponsor testimonials and statistics,

information for potential sponsors regarding their role in an IQP, sponsor guidelines which discuss the specifics of the IQP from preparation to completion, and an FAQ page. The "Projects" tab of the website allows visitors to select to see the projects sorted by sponsor, year, or theme. Within the "Projects" section of the website, each IQP has its own page, with information including the authors, sponsor, term completed, abstract, and link to direct users to the full PDF report provided by the WPI Electronic Projects Collection, when applicable, as seen in Figure 20.

The Future of Fuel Cells in Australia

Authors

Rachel A. Winsten, Gawain M. Thomas, Erik Klinkhamer, Eric J. Dickinson

Sponsor

Alternative Technology Association

Advisor

Holly K. Ault

Term

January – March 2011

Abstract

The Alternative Technology Association, a consumer advocacy group in Australia, requested a comprehensive review of the current status of fuel cell technologies in support of a policy recommendation regarding the possible application of fuel cell technology in a residential setting. We conducted interviews with key informants and a literature review to explore fuel cell technology in depth, as well as comparable alternative energies and how social, political, and environmental factors affect the further development and implementation of the technology. We implemented a strategic survey to assess the knowledge, opinions and concerns of the ATA membership about fuel cell technology. We then analysed these data to create a detailed recommendation to the ATA about the present and future applicability of fuel cell technology in Australia.

Final Report

The Future of fuel cells in Australia.

Figure 20 Project Page of "The Future of Fuel Cells in Australia"

The "Blog" section of the website can be used to post updates and announcements from the advisors and students. We incorporated Search Engine Optimization (SEO) by providing high quality links from known websites to the MPC website. We created these links by utilizing social media, providing click-through material from websites such as Facebook to allow an influx of traffic.

Melbourne Project Center Website User Manual

We documented the processes we utilized to create website content into a user manual to be used by future website administrators and editors. This manual includes information on how to grant editor and administrator access to the website, post a new project page, create a blogpost, and edit the sidebar to include the new projects. Additionally, this handbook contains information explaining why we have utilized the features we included, as many of them serve a functional purpose, in addition to an aesthetic one. This handbook, a page of which can be seen in Figure 21, will ensure that the website layout and content remain uniform when information is added in the future.

Once logged in, you will be brought to the 'Dashboard' page. There is a navigation bar on the left side of the screen, which contains tabs such as 'Posts,' 'Media,' and 'Pages.' Generally, student usage of this site will only require these three tabs. The 'Posts' tab is where all blog entries can be created and edited. The 'Media' tab contains the entirety of the media utilized by pages on the website, and the 'Pages' tab is where all of the pages of the website are contained, including project pages.
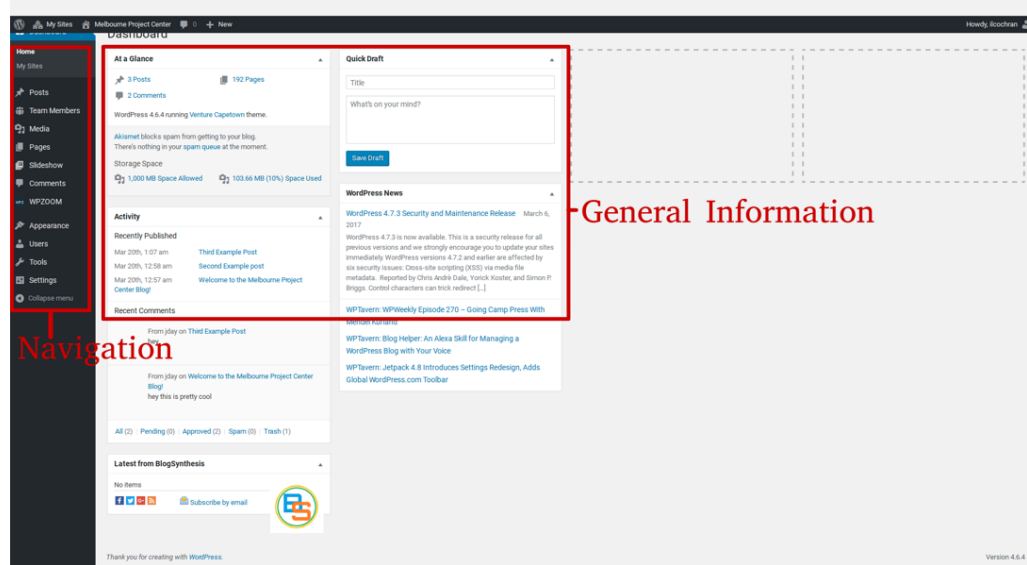
Figure 21 Page from the MPC WordPress Guide explaining how to navigate the Dashboard page

Social Media

We created a Facebook page to connect the stakeholders of the MPC in an informal setting. MPC alumni, perspective MPC participants, their families, and sponsoring organizations can find up-to-date information on the Facebook page. The content on the page will be generated primarily by MPC teams and moderated by the Program Directors. We also created a YouTube account for the MPC to upload videos to, as it is easy to embed YouTube videos onto the MPC WordPress Website.

MPC Outreach Material

We gathered and created informational content for WPI Marketing to use for future materials. This information includes sponsor and student testimonial quotes, pictures, videos, summary statistics, infographics, and sponsor vignettes. A total of 6 vignettes were created. Each one focused on a different sponsor and featured a specific project which was impactful on the organization. In some cases, direct quotes from the sponsor liaisons were utilized.

Recommendations

After completing interviews with sponsor liaisons, receiving feedback from MPC student stakeholders, and completing various promotional-based deliverables, our team was able to understand the needs of various stakeholder groups. After understanding these needs, we compiled the following list of recommendations. The recommendations are sorted into two groups: recommendations for MPC Program Directors and recommendations for the Interdisciplinary Global Studies Division and Global Project Program Centers.

MPC Program Directors:

Communicate with sponsoring organizations to understand what specific skills students on their projects should possess

Some projects, although social-science based, require a specific set of skills (technical, interpersonal, etc.). To better meet the needs of sponsors and their goals for the project, program directs should understand the types of skills the projects will require before assigning students.

Have student teams communicate with their sponsors before beginning significant background research, and throughout the preparatory term.

To ensure that the project proposals contain useful information, students should gain a deep understanding of their project prior to conducting research. By having conversations with their sponsor early and often during the preparatory term, students will have a better understanding of the task they are being asked to complete, and they will be able to ask their sponsors questions as their project develops. Additionally, project advisors should have conversations with the sponsors so they are also well aware of the project.

Interview students after submission of their project ranking

Conducting interviews before putting students into teams, will allow the advisors to understand the personalities and skills of the students prior to placing them into teams. This could help ensure positive team dynamics.

Create a detailed contract outlining sponsor requirements and expectations

There was some confusion amongst sponsors about their role in the IQP was and what was expected of them. Having a contract that outlines sponsor expectations, requirements, how the students are graded, and how the sponsors, advisors, and students work together would be beneficial to the sponsoring organization.

Expand the MPC to host MQPs

Many of the IQPs completed at the MPC have a strong technical aspect. Many of these IQPs could be continued into MQPs which implement the suggestions put forth in the IQP.

Create a plan for the upkeep of the website and Facebook page

The website content, blog, and Facebook page can quickly look outdated if they are not updated regularly. Content on the website should be updated when a project is completed, when specific information about the MPC changes, if the process of becoming a sponsor changes, etc. The blog should be updated with announcements during the application process, for potential participants to see on the website and Facebook page. During the preparatory and project terms, teams should be writing blog updates as well.

Interdisciplinary Global Studies Division and Global Projects Program Centers:

Release the project descriptions before the application process

It is difficult for students to apply to a project center specifically for academics/projects without knowing what projects will be offered. The themes of projects at the MPC are broad, and students often have very little information regarding projects they would likely be working on when applying to the project center. Having project descriptions available to potential students earlier will ensure they are able to apply to the project center based on projects they are interested in. We recognize that the projects are often not finalized before the application process, so this recommendation may be interpreted as distributing project descriptions as soon as they are available.

Have all the project centers complete an impact analysis from the time of their opening

It is important for project center directors to look back on what has been completed at their sites and look for areas of improvement. By having a team complete an impact analysis, they can gather recommendations for improvement as well as learn what has been working well for sponsors and students of the project center.

Conduct an impact analysis IQP every five years (following an initial impact analysis)

Interviewing project sponsors every five years to understand the impacts of the IQP(s) and their longevity, as well as gaining suggestions for improvement will be important in ensuring the long-term success of the global partnerships established through the project centers.

Require each project center to create a website

Past IQPs and project site specific information can be difficult for students to find, leaving them reliant on word-of-mouth to learn about project centers. By having a project center website, students will be able to learn about the culture, projects, and logistics of the site in a monitored setting.

Disclose dates of arrival and departure as early as possible

Some students may only be able to participate in the GPP in a specific term, so it is crucial for them to know the dates of when they will be required to be at the site. Additionally, students need to know these dates as early as possible in order to book their flights, pre-order medications, set their internship or work start or end dates, etc.

Provide access to high-quality recording equipment for off-campus IQP students

Our team recognizes how fortunate we were to have had access to Professor Michalson's and Professor McCauley's professional-quality cameras. The equipment provided by the WPI ATC is not of a high enough quality for "professional" level deliverables. We recommend the IGSD invests in high-quality recording equipment, including videography, photography, and audio recording. This will allow students to produce high-quality videos for their projects, which will be important if projects similar to this one are completed in the future.

Conclusions

Through this project, we were able to perform an analysis on the value of students participating in the Interactive Qualifying Project experience in Melbourne, Australia. We found that the work students completed has been highly impactful and long-lasting on sponsors and project stakeholders. Additionally, sponsors have had positive experiences with both WPI and the work-ethic and professionalism of the students. We sought to understand the downfalls of the program by gaining suggestions for improvements of the process through sponsor liaison interviews and open-ended questions in student surveys. The needs of the student stakeholders were analyzed after collecting feedback and addressed in our deliverables. By creating new methods of communicating information about the MPC and promoting its accomplishments through informational packets, a website, videos, and social media, we hope to increase the strength of global partnership between WPI and the stakeholders of the MPC.

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Appendices

Appendix A Sponsor Interview Questions

<u>Before Interview</u>

Hello, our names are _ and _. We are going to be asking you some questions today about your experience with the WPI Interactive Qualifying Project. This interview is being used to further understand the impacts and experiences that the WPI IQPs have had on your organization and the Melbourne community as a whole. Your participation in this interview is completely voluntary. Your identity will be kept confidential; we will not publish or release your name without your permission. By participating in this interview you are consenting to have your responses utilized by the MPC IQP team for deliverables such as a website, videos, and informational packets. We would also like to audio record this conversation; do we have your consent to continue on with this interview and audio recording?

1. How long have you been in connection with the MPC?

2. Please describe your involvement with the WPI IQP. If applicable, please elaborate on how often you met with the students who completed their IQP(s) with your organization. How independent or autonomous were the students while working with your organization? Were they competent at working unsupervised?

3. Is your organization currently sponsoring/planning to sponsor an IQP in the next year? Please note that this response is not binding.

4. What were some of the most notable or memorable projects in terms of their outcomes and specific impacts on your organization?

5. Are you aware of the impacts that other MPC projects have had on the community your organization serves?

6. Do you know of any data or publications that have documented this impact?

7. What aspects of your project experience could WPI work on to help improve the quality of future projects?

8. Were there any negative or unintended consequences of the project(s)?

9. Do you know any members of your organizations or the community you feel we should interview about the impacts of these projects your organization has completed with WPI? If so, we would appreciate any contact information to be submitted below. Is there anyone else in your organization who has worked with the MPC that you can refer us to? If so we would appreciate any contact information.

10. Any last comments or suggestions.

<u>After Interview</u>

At this time, we would like to offer you the opportunity to give a video or verbal testimonial about your experience with the WPI IQP experience if you would like to do so. Do we have your consent to record you if you choose to do this?

Appendix B Coding Scheme for Sponsor Interviews

Level of impact on sponsoring organization:

- High (HSP)

- Medium (MSP)

- Low (LSP)

Level of impact on stakeholder groups:

- High (HST)

- Medium (MST)

- Low (LST)

- Could not determine (STN/A)

Impact longevity:

- Long-lasting (L)

    o Findings continually used

- Medium-lasting (ML)

    o Findings used for a while, but different approaches used now

    o Findings used, but further research was needed

- Short-lasting (SL)

    o Findings used for a brief amount of time before a different approach was utilized

- Non-existent (NE)

    o Project findings were not utilized

- Could not determine (LN/A)

Overall experience with the WPI IQP:

- Positive (POSW)

- Neutral (NEW)

- Negative (NGW)

Experience with students' work ethic and professionalism:

- Positive (POSS)

- Neutral (NES)

- Negative (NGS)

Appendix C Student Survey

This survey was sent to the WPI 2016 Fall Semester MPC students, the WPI 2017 Spring Semester MPC students, the WPI 2017 Fall Semester MPC Students, and the WPI 2018 Spring Semester MPC Students.

C.1 WPI 2016 Fall Semester MPC Students Opening

Congratulations on completing your IQP at the Melbourne Project Center during B term 2016!

We are an IQP team completing a project on documenting and promoting the impacts of the Melbourne Project Center, as a follow up project to the work completed by the B Term MPC team. In an effort to improve the program for you and for future applicants to the program, we would like to understand your experience with the Global Projects Program (GPP). Results from the survey will be used to improve the information students receive prior to coming to Melbourne, including in the design of a project center website and informational videos, which we hope will be of value to you as MPC alumni and to others who are interested in the MPC.

Please note that this survey will only take a few minutes and is completely optional and anonymous. By participating in this survey you are consenting to have your responses utilized by the MPC IQP Team. If you have any concerns about this survey, please send an email to mpc17-mpcspring@wpi.edu for any questions you may have.

C.2 WPI 2017 Fall Semester and 2018 Spring Semester MPC Students Opening

Congratulations on starting your IQP at the Melbourne Project Center during D term 2017!

As you know, we are completing an IQP on documenting and promoting the impacts of the Melbourne Project Center. In an effort to improve the program for you and for future applicants to the program, we would like to understand your experience with the Global Projects Program (GPP). Results from the survey will be used to improve the information students receive prior to coming to Melbourne, including in the design of a project center website and informational videos, which we hope will be of value to you as current participants and to others who are interested in the MPC.

Please note that this survey will only take a few minutes and is completely optional and anonymous. By participating in this survey you are consenting to have your responses utilized by the MPC IQP Team. If you have any concerns about this survey, please send an email to mpc17-mpcspring@wpi.edu for any questions you may have.

C.3 Accepted MPC Participants Opening

Congratulations on your acceptance into the Melbourne Project Center!

We are an IQP team completing a project on documenting and promoting the impacts of the Melbourne Project Center. In an effort to improve the program for you and for future applicants to the program, we would like to understand your experience with the Global Projects Program (GPP). Results from the survey will be used to improve the information students receive prior to coming to Melbourne, including in the design of a project center website and informational videos.

Please note that this survey will only take a few minutes and is completely optional and anonymous. By participating in this survey you are consenting to have your responses utilized by the MPC IQP Team. If you have any concerns about this survey, please send an email to mpc17-mpcspring@wpi.edu for any questions you may have.

WPI

Please rate the following information sources on how important or useful they were in informing your decision to apply to the Melbourne Project Center.

| 0 | 1 | 2 | 3 | 4 | 5 |

Global Fair

Site information session

Global Portal site

IQP databse (Gordon Library website)

Word of mouth from peers

Were there any additional information sources that you found particularly important or useful during the application process? Please elaborate here.

Please rate the following information content on how important or useful they were in informing your decision to apply to the Melbourne Project Center.

0	1	2	3	4	5

Start and end dates

Cost of attendance

Project descriptions

Past IQP reports

Activities to do at the project center

Housing descriptions

Information about the city/region

Alumni testimonials/comments

Please select 3 of the following information sources or content you believe would be helpful in informing future students about the Melbourne Project Center.

- ☐ Project center specific website
- ☐ Project center specific video
- ☐ Project center specific social media
- ☐ Sponsor testimonials
- ☐ Documented alumni testimonials
- ☐ List of activities to do at the project center
- ☐ IQP reports available through center specific website

Is there any additional information you wish you had received during the IQP application process or during your preparation before coming to Melbourne?

If you have suggestions on how we can better market the MPC to incoming students, please elaborate here.

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Appendix D Student Video Questions

Hello, our names are _ and _. We are going to be asking you some questions today about your experience with the WPI Interactive Qualifying Project. This interview is being used to further understand the impacts and experiences that the WPI IQPs have had on your organization and the Melbourne community as a whole. Your participation in this interview is completely voluntary. Your identity will be kept confidential; we will not publish or release your name without your permission. By participating in this interview you are consenting to have your responses utilized by the MPC IQP team for deliverables such as a website, videos, and informational packets. We would also like to audio record this conversation; do we have your consent to continue on with this interview and audio recording?

D.1 Individual Questions

1. Why did you want to come to the Melbourne Project Center?

2. How has the IQP helped you personally and professionally develop?

3. What has the IQP experience been like - something along the lines of: "While it is a project and school you are also able to immerse yourself into an entirely new and exciting culture and you try to fit as much of it as you can into the couple of months that you're here, so every day is exciting"

4. What advice would you give to students looking to apply to go abroad for IQP?

5. What would you suggest in order to improve the IQP process?

1. How has the IQP process helped you with teamwork and what has that experience been like working together with people of different backgrounds?

2. What has been your favorite part of your project so far?

3. Can you explain more about how the IQP is different than a regular study abroad and how your project combines social science and technology

4. What would you suggest in order to improve the IQP process?

Appendix E MPC Database

The complete database can be found in the supplementary materials.

E.1 Sponsor Contacts

Screen shot of the Sponsor Contacts in the MPC Database

Sponsor	Number of Projects	Term/Year	Contacts	Contact Information	Holly Ault Comments	Jonathan Barnett Comments	MPC 2017 and Jono Comments
AECOM	3	D12, C12, C12	Kate Woolley (2012)				No longer works there
			Jonathan Barnet (2012)	(03) 9653 1234			
AFAC	10	C13, D05, D04, D01, D01, D10, D09, D07, D11, C06	Jonathan Barnet (2013)				
			Robert Llewellyn (2001, 2009-201				
			OFFICE	afac@afac.com.au (03) 9419 2388			Best way to contact was through email, email pending
Alternative Technology Association (ATA)	5	D15, D14, C11, C10, D16	Damien Moyse (2015)	(03) 9631 5417			interviews and survey. Not enough people working there currently. Isn't a
			Andrew Reddaway (2015)	(03) 9631 5406			
			Craig Memery (2011, 2014)				
Australian Bureau of Statistics (ABS)	5	D09, D08, D07, D06, D03	Liya Perelman (2009)				
			Gai Mooney (2008)				
			Belinda Sloane (2006)				
			Nick Peter (2006)				
			Soo Kong (2001, 2003, 2006)	0412618882	Retired		confirmed interview
			Ian Wong (2006)				
			Will Mason (206)				
			Mara Rebellato (2006)				
			Ian Sutherland (2003)				
Banksia Gardens Community Centre	9	D16, B15, D15, B14, C13, D12, C11, C10, B13	Jaime de Loma-Osorio Ricon (20 jaime.d@banskia.com.au		Talk to Jaime		contacted via email, He said he would do an interview but he already did one with the B term groups so were holding out on emailing him
			Gina Dougall (2011)				
			Rachel Wood (2015)				

E.2 List of Individuals Interviewed

- Carolyn Meehan – Museum Victoria

- Shane French – CERES Community Environment Park

- Jaime De Loma Osoria Ricon – Banksia Gardens

- Paul Murfit – Moreland Energy Foundation

- Jason Cox – Moreland Energy Foundation

- Julie Harris – Metropolitan Fire and Emergency Services Board

- Geoff Kaandorp – Metropolitan Fire and Emergency Services Board

- Jarrod Edwards – Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council

- Cihan Soylemez – Metropolitan Fire and Emergency Services Board

- Rob Llewellyn – Australasian Fire Authorities Council and Fire Protection Association Australia

- Judith Hemsworth – State Government of Victoria – Capital Management Branch of the Department of Human Services

- Carly Siebentritt – CSIRO

- Peter Johnson – Over Arup & Partners

- Dennis Hogan – Victoria Building Commission

- Meredith Lawrence – Fawkner Community House

- Cyrelle Field – Zoos Victoria

- Paula Jorgensen – Moreland City Council

- Jenny Davis – Emergency Services Foundation

- Neil Bibby – Emergency Services Foundation

- Mike McCumisky – Victoria Fire Services Museum

- Natasha Ace - VCPS

- Soo Kong – Australian Bureau of Statistics

- James Digby – EW Tipping

- Graeme Kelly – EW Tipping

- Peter Young – Snowy River Innovation

- Anthony Gallacher – EcoCentre

- Neil Blake – EcoCentre

E.3 Sponsor Impacts

Screen shot of the Liaison Impacts in the MPC Database

Analyzed by:	Sponsor	Individual Interviewed	Level of Impact on Sponsoring Organization			Level of impact on stakeholder groups				Impact longevity			
			High (HSP)	Medium (MSP)	Low (LSP)	High (HST)	Medium (MST)	Low (LST)	Could Not Determine STN/A	Long-lasting (L)	Medium-Lasting (ML)	Short-lasting (SL)	No
C	Capability Management Branch of the Department of Human Services	Judith Hemsworth	1			1							
C	CSIRO - Australia/Education	Carly Siebentritt	1			1					1		
C	Over Arup & Partners	Peter Johnson	1			1					1		
C	Fawkner Community House	Meredith Lawrence	1			1					1		
K	Victoria Building Commission	Dennis Hogan		1						1		1	
K	Metropolitan Fire and Emergency Services Board	Jarrod Edwards	1							1		1	
I	Zoos Victoria	Cyrelle Field	1			1					1		
K	Moreland Energy Foundation Ltd.	Jason Cox	1			1					1		
K	Metropolitan Fire and Emergency Services Board	Cihan Soylemez	1							1	1		
C	Moreland City Council	Paula Jorgensen	1			1					1		
K	Emergency Services Foundation	Jenny Davis	1			1					1		

E. 4 Coding Scheme for Database (created by Fall 2016 IQP Team)

Sponsor type   (only single coding allowed)

These should be hard coded by sponsor to ensure accuracy and improve efficiency when coding.

- Non-profit organization / Non-governmental organization (N)

  o Charitable groups, community organizations promoting social causes, museums, schools

- Private enterprise (P)

  o Profit-making businesses and industries

- Government (G)

  o Government run agencies, offices, and service (police, fire)

Theme *(Multi coding if needed)*

Theme should include all themes of the project. Even if it is once or twice removed. For example, a project analyzing the effects of an educational program about the environment for the improvement of the organization, would include: ED, and ENV. It would not include OPI because that is reserved for only when it is a major theme for change in a large part of the organization. Additionally, recommendations do count towards the theme on their own, so theme of recommendations is included in the theme.

- Education (ED)

- Environment (ENV)

  o Not all sustainability is ENV, there are types of sustainability other than environmental, so make sure ENV is actually the theme

  o Project must deal with the environment and not just be geared towards another group who deals with the environment

- Energy Resources (ER)

  o Needs to deal with Energy Resources Directly, either through education, products, research, etc.

  o Sustainability relating to energy resources falls under ER not ENV

- Healthcare (H)

  o Hospitals and medical, not disability services

- Social and Human Services (SOC)

  o Racism, Household violence, Disability Services

- Arts/Culture/Historical Preservations (ACH)

- Animal Conservation and Welfare (AN)

- Organizational Process Improvement [Large section of Organization or department] (OPI)

    o Affecting how programs or how the company functions

- Urban Planning and Transportation Infrastructure (UT)

    o This is for large scale city planning only, not small household planning

        ▪ For example, fire alarm implementation does not fall under this

    o Actual design is not required to fall under UT

- Policy and Law (POL)

- Public Safety (PS)

    o Fire related projects, Police, Rail hazards, etc.

Deliverables *(Multi coding allowed, as many projects have multiple deliverables)*

- Training or Educational Materials (TR)

    o Curriculum, activities, workshops, videos, modules, instructions, handouts etc.

    o Visitor handouts

- Promotional Materials and Events (PRO)

    o Promo Strategies

    o ads, brochures, posters, commercials, fliers to advise an org, event, product

    o also for promoting the sponsor's cause

- New Procedures and Processes (NP)

    o This is for if they do it, not if they only recommend it

    o Strategic models are included here

- o Assessment tools and tools for the business to use in the future are included here

    - Including standardized evaluations

- o To improve the way something is done, help work more efficiently, create strategies

- Information Repositories, Databases, Website (DB)

    - o Editing a website goes here too, along with design for websites

- Computer Programs or Apps (COM)

- Built Structures or Products (BLD)

- Designs for Built Structures or Products (DES)

    - o Including floor plans

- New Collaborations and Partnerships (PAR)

- Research Study and Recommendations (RSR)

    - o Only big detailed analysis, not standard background research

    - o Data analysis (only if they did it, not if they gave data to the organization to analyze)

    - o No small recommendations, they must accompany a research study

Intended Impact Group

Name the group (no sponsors included here) or NONE if it was only the sponsor who was impacted.

E.5 MPC Projects

All of the projects completed at the Melbourne Project Center have been added to the database, and have information regarding the following topics:

1. Type (IQP/MQP)

2. Transcript Title

3. Sponsoring organization

4. The term and year of the project

5. Sponsor type (provided in coding scheme above)

6. Deliverables type (coding scheme above)

7. Impact group

8. Complete project abstract

9. Gordon Library URL

10. All authors and their corresponding majors

11. All advising staff with their corresponding department

Screen shot of the Projects in the MPC Database:

IQP/MQP	Transcript title	Sponsor	Term-Year	Title from Emis	Sponsor Type	Theme	Deliverables	Impact Group	Abstract	URL	Division	Author1	Major1	
IQP	Emergency Egres	AECOM	D12	Emergency Egres	P	SOC, UT	RSR	Mobility Impaire	Most people will	http://www.wpi.	Safety Analysis a	Pham, Jessica Th	ECE	
IQP	Analysing Interna	AECOM	C12	Analysing Interna	P	UT	RSR	None	Tunnels vary grea	http://www.wpi.	Urban and Enviro	Read, Megan Dis	BE	
IQP	Mathematical Co	AECOM	C12	Mathematical Tu	P	UT	RSR	None	I use empirical da	http://www.wpi.	Urban and Enviro	Duhaney, Daniel	MA	
IQP	Advancing Solar	Alternative Techr	D15	Advancing the "S	N	ER	COM	None	In partnership wi	http://www.wpi.	Technology and I	Rice, Shannon M	CE	
IQP	Gas or Electricity	Alternative Techr	D14	Gas or Electricity	N	ER, ED	TR	Cooking and Hea	Australian natura	http://www.wpi.	Energy and Reso	Collins, Ashleigh	ME	
IQP	The Future of Fu	Alternative Techr	C11	The Future of fue	N	ER	RSR	None	The Alternative T	http://www.wpi.	Energy and Reso	Winsten, Rachel	CE	
IQP	Developing a Pol	Alternative Techr	C10	Developing a pol	N	ENV	RSR	None	Low rainfall and l	http://www.wpi.	Technology and I	Raczka, Karina	CE	
IQP	Fire Safety of Sol	Alternative Techr	D16	Fire Safety of Sol	N	PS, ED	RSR, TR	General Public	Solar PV systems	https://web.wpi.		Alessandra Chiar	BB	
IQP	Unwanted False	Australasian Fire	C13	Unwanted False	G	PS	RSR	Fire Services	The Australasian	http://www.wpi.	Science and Tech	Martin, Nicholas	ME	
IQP	Property Protect	Australasian Fire	D05	Property protect	G	PS	RSR	None	The objective of	http://gordonlibi		Verrochi, Mark T	CE	
IQP	KPIs for Compute	Australasian Fire	D04	Key performance	G	OPI, PS	RSR	Fire Authorities i	This project, com	http://gordonlibi		Souza, Matthew	ME	
IQP	Water Supplies f	Australasian Fire	D01	Water Supplies fi	G	PS	RSR	None	The purpose of t	http://gordonlibi		Siska, Matthew J	CE	
IQP	Cost-Benefit Ana	Australasian Fire	D01	A cost-benefit an	G	PS	NP, RSR	None	The purpose of t	http://gordonlibi		Woodward, Andi	ME	
IQP	An Investigation	Australasian Fire	D10	Bushfire warning	G	PS	RSR	Fire Services	For most of Aust	http://www.wpi.	Safety Analysis a	Phinney, Barton	ME	
IQP	Fire Safety in Aus	Australasian Fire	D09	An Assessment o	G	PS, ED	RSR	International Stu	An assessment o	http://www.wpi.		Smeal, Ashleigh	MAC	
IQP	Technological De	Australasian Fire	D07	Technological De	G	PS, OPI	RSR	General Public	Community safet	http://www.wpi.		Herrera, Victor N	ME	
IQP	Analysis of Fire F	Australasian Fire	D11	Analysis of preve	G	PS, SOC	RSR	Community Care	This report prese	http://www.wpi.	Safety Analysis a	Murdy, Steven T	ECE	
IQP	Central Purchasir	Australasian Fire	C06	Central Purchasir	N	OPI	RSR	None	This project evalu	http://www.wpi.		Pesce, David P	PH	
IQP	Evaluating the PI	Australian Burea	D09	Evaluating the Pr	G	ED	RSR	None	This project rese	http://www.wpi.		Vilders, Arie	ME	
IQP	Evaluation of the	Australian Burea	D08	Evaluation of the	G	ED	RSR	ABS Education Se	The Australian Bi	http://www.wpi.		Morrow, Elyssa R	AE	
IQP	Developing a Sta	Australian Burea	D07	Developing a Sta	G	ED	RSR, TR	Pre-service teach	The goal of this p	http://www.wpi.		Lingenfelter, And	PH	
IQP	Careers in Statist	Australian Burea	D06	Careers in Statist	G	ED, OPI	RSR, PRO	Students, Teache	This interdiscipli	http://www.wpi.		Olloqui, Fernand	MGE	
IQP	Web-Based Stati	Australian Burea	D03	Web-based statis	G	ED	RSR, NP	Students	The project team	http://gordonlibi		Vautin, James E.	ECE	
IQP	Violence Against	Banksia Gardens	B16	Violence Against					Rates of gendere	http://web.wpi.e		Scott Isaac Friedl	MIS	
IQP	Resources to Pre	Banksia Gardens	D16	Preventing Violer	N	ED, SOC	TR, PRO	Broadmeadows (	Violence against	http://www.wpi.	Education in a Te	Ruiz, Conrad M.	BE	
IQP	Updating a Dome	Banksia Gardens	B15	Connecting and I	N	ED	DB, PRO, TR	Community of Bi	The community c	http://www.wpi.	Social and Huma	Tower, Connor Ja	BE	
IQP	Use of Technolog	Banksia Gardens	D15	Using Technology	N	SOC, ED	TR	Broadmeadows (	Banksia Gardens	http://www.wpi.	Technology and I	Thompson, Alec	RBE	
IQP	Banksia Gardens	Banksia Gardens	B14	Banksia Gardens	N	ED, SOC	TR	Children in the B	Banksia Gardens	http://www.wpi.	Education in a Te	Roche, Michael S	ME	
IQP	Sustainability of	Banksia Gardens	C13	Establishing the !	N	SOC, ED	TR, PAR	Students in the E	This project estal	http://www.wpi.	Education in a Te	Wisheart, Daniel	BIO	
IQP	Science at the Cr	Banksia Gardens	D12	Science at the Cr	N	ED, SOC	TR, RSR	Students in Broa	Banksia Gardens	http://www.wpi.	Education in a Te	Tran, Michelle Ph	BE	

Appendix F Website

F.1 Website Manual

MPC WordPress Guide

For Administrators and Students

WordPress Site and Manual Created by Isaiah Cochran, Jennifer Day,

Cara Seely and Kelly Carlson of the MPC 2017 IQP Team

Welcome!

This handbook has been designed to supplement the 2015 WPI Project Center WordPress Manual for Administrators and ensure the success of those wishing to update and utilize the Melbourne Project Center WordPress site. Content is broken up into two sections: students and administrators. Students' involvement with the website will include updating a live blog, and creating pages for completed projects. It is the administrator's' job to approve the content being uploaded or posted to the site as well as adding necessary content. This handbook explains this process, general upkeep, and design decisions made by the MPC 2017 team.

Students

Creating a WordPress Account with WPI

To add content to the Melbourne Project Center website, an account must first be made through the WPI Blogging service. To do this, go to [wp.wpi.edu](wp.wpi.edu) and click 'Log In' on the top bar. This will bring you to WPI's Central Authentication System (CAS), which will require you to sign in using your existing WPI account credentials. Once this is done, the final step is to contact the administrator of the website, who will grant you Editor access.

Logging In

After permission has been granted, go to wp.wpi.edu/melbourne/wp-admin/ to log in.

The Dashboard

Once logged in, you will be brought to the 'Dashboard' page. There is a navigation bar on the left side of the screen, which contains tabs such as 'Posts,' 'Media,' and 'Pages.' Generally, student usage of this site will only require these three tabs. The 'Posts' tab is where all blog entries can be created and edited. The 'Media' tab contains the entirety of the media utilized by pages on the website, and the 'Pages' tab is where all of the pages of the website are contained, including project pages.
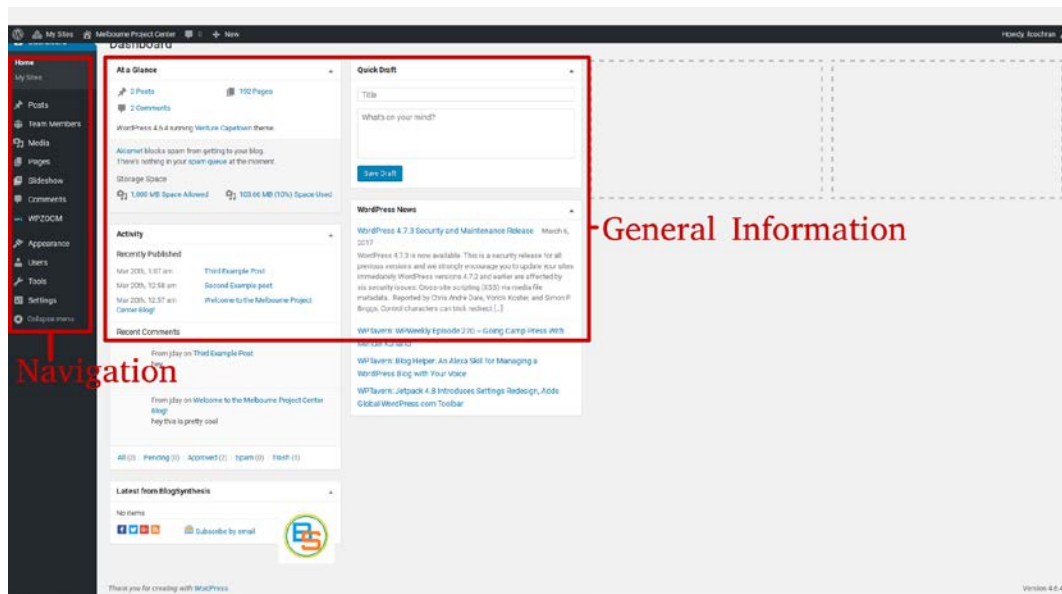
Uploading a Project

Once the executive summary of your project is completed, go to the 'Pages' tab in the dashboard. Click 'Add New' at the top of the page.
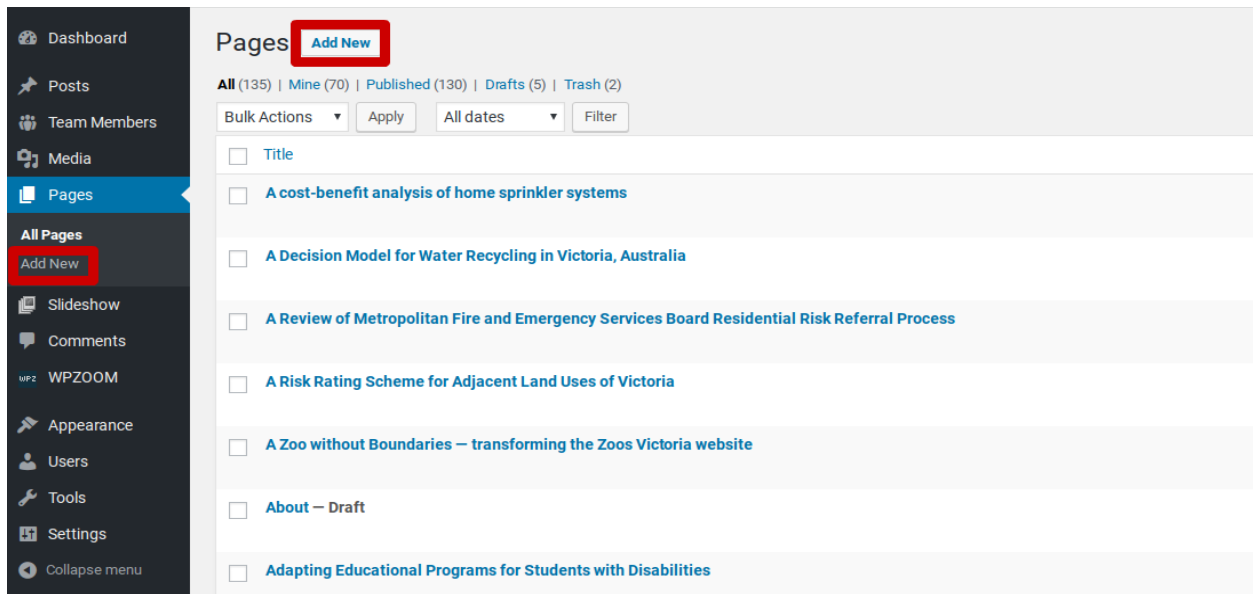
This will bring you to 'Add New Page,' which contains sections for adding a title and the body of the page. Put the entire title of your project in the title box, and the details of your executive summary below it. **Note:** text from executive summaries may be copied and pasted, however, images must be added separately. Click here to see how to add media.

Be sure to include the following information:

One picture pertaining to the project

Authors

(Author if only one)

First Name Middle Name Last Name, (two spaces) First Name Middle Name Last Name, (two spaces) etc.

Sponsor

Sponsoring Organization

Advisors

(Advisor if only one)

First Name Middle Initial Last Name, (two spaces) First Name Middle Initial Name Last Name etc.

Months of the Term

(e.g. March - May 2012, October - December 2016)

Abstract or Executive Summary

Abstract or Executive Summary text

Final Report

Project title with hyperlink to <u>project pdf</u>. If .pdf is unavailable from Gordon Library, write: Coming Soon.

The two spaces in-between authors is entirely for aesthetic reasons. Once you have finished adding the above information, you may publish the page or save the page as a draft and come back to edit the page at any time. This is done by clicking 'Save Draft' under the publish menu on the right. To find your page after saving a draft, go to 'Pages' in the left navigation bar, then search the title of your project in the search bar to located to the right. Click on the page name to resume editing. Once a page is published, it may be accessed at an auto-generated link.


After the page has been published, **notify the Administrators** of the website of your completion, and they will link your project to the main pages.

Creating a Blog Post

The blog page on the MPC website is to be utilized by the students to update any interested parties on the progress of projects as well as any notable activities the students partake in. If there is a particularly notable addition to your project, or your sponsor is taking your group to an exciting place, feel free to make a blog post about it. To draft a blog post, click on the 'Posts' tab in the left navigation bar of the dashboard, and click 'Add New'.
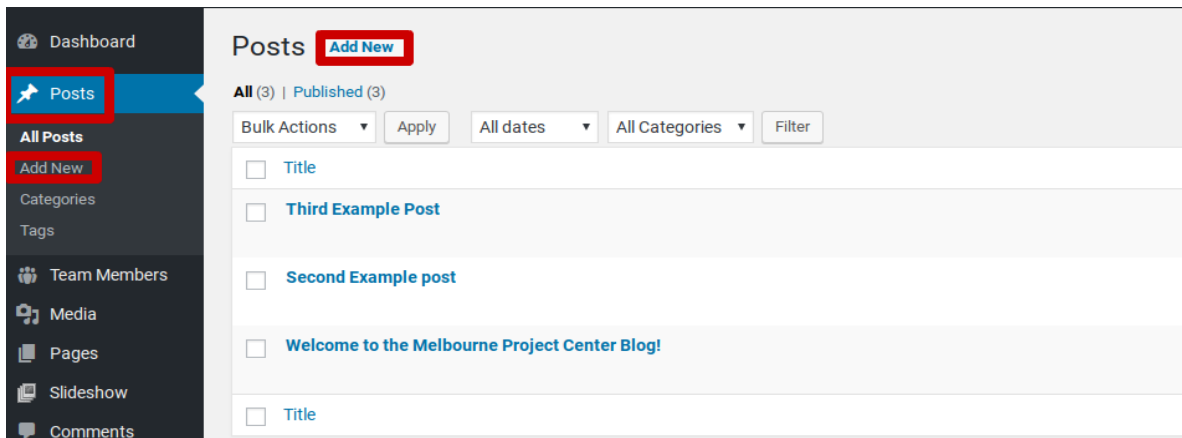

Adding a blog post is very similar to creating a page, as all of the features of the creation page are the same. Video and photos may be added as well (see: 'Adding Media', below). There is no standardized format to creating a blogpost, however, the tone of a blog post should be semi-conversational and informative. Once you have drafted your blog post, **save it as a draft**, then **notify the Administrators** as soon as you save the draft, and the administrators will review and publish it.

Adding Media

Media can be added to both blog posts and project pages. It is encouraged, if there are any videos or photos accompanying your project, to add this media to your project page. Ask your advisors or project center directors for WPI Marketing's **Photography Guidelines** before adding media to your page.

Adding Images

The most direct way to add images to a page on WordPress is to click the 'Add Media' button on the page editor. **Note:** copying and pasting will not work.
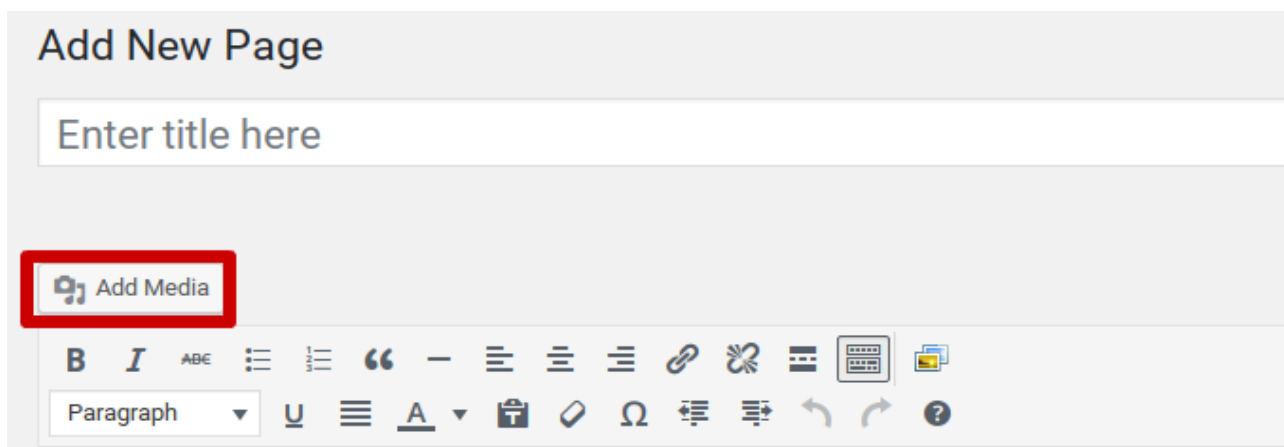
An 'Insert Media' window will appear, click the 'Upload Files' tab at the top of the window. Select the file(s) containing the image(s), make sure the file(s) is/are selected in the window, and click 'Insert into Page' at the bottom right. Images and the link to the .pdf will appear directly in the body of the page. An image can be moved anywhere within the page body by clicking and dragging it, and a single left click on the image brings up a menu to change its formatting. In this menu, by clicking on the pencil icon, you can edit the size of the image.
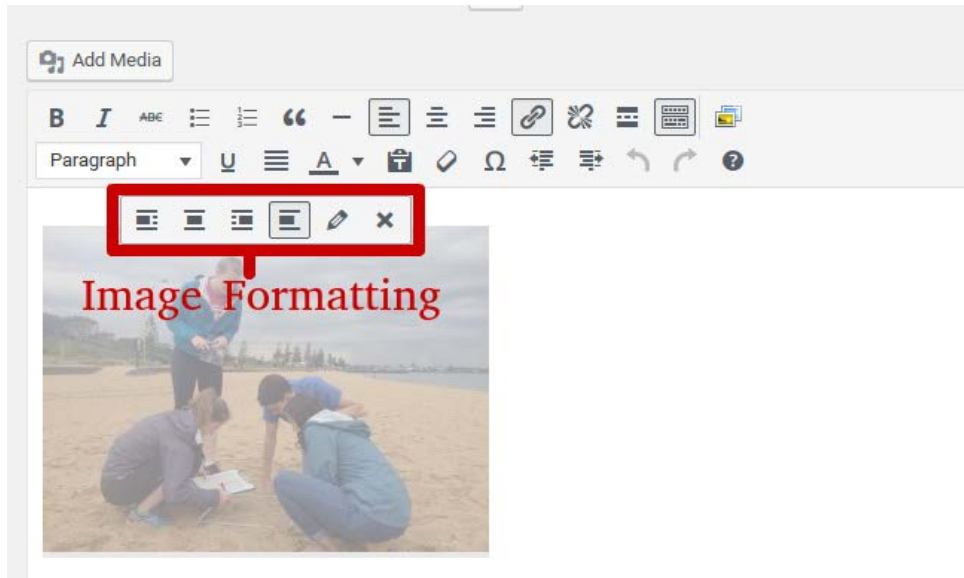
To preview the page before publishing, click "Preview Changes" at the top right. This proves to be beneficial, as the page itself will look very different from what the editor presents.
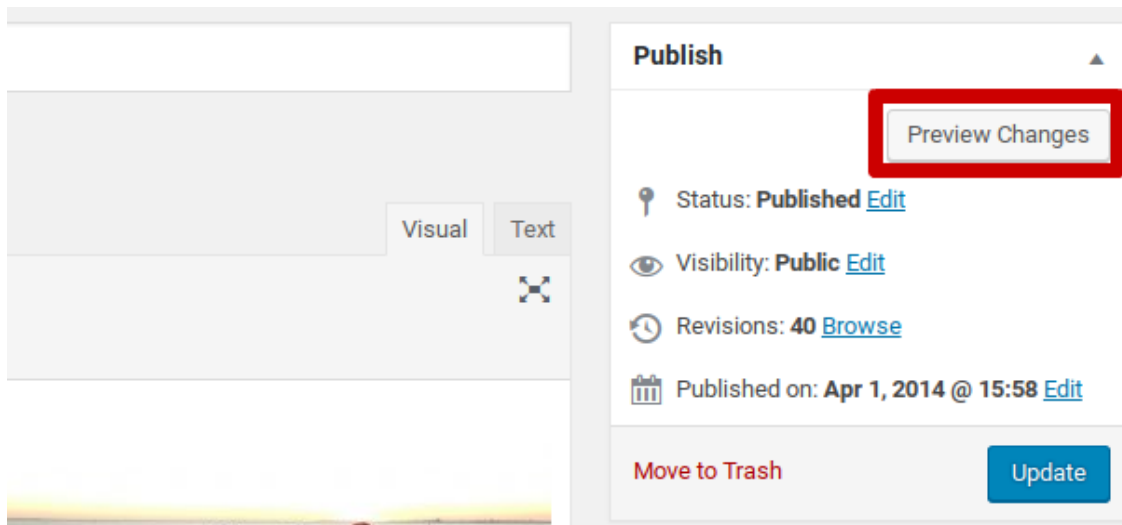

Note: Do not publish a page without administrator permission.

Adding Videos

To add a video to the WordPress site, it must first be published to YouTube. Paste the link of the YouTube video directly into the body of the page, wherever you would like the video to be, and a preview of the title image of the video will load. (Information about the YouTube channel held by administrators.)


The video, by default, will be full sized. Full sized videos do not fit on the page if they are placed next to the sidebar (navigation bar to the left on published page). This means that the video and all content below it will be pushed below the sidebar so the video may fit. The area next to the sidebar has a maximum width of 600 pixels, so the video must be sized accordingly. To address this, go to the text editor within the page editor.
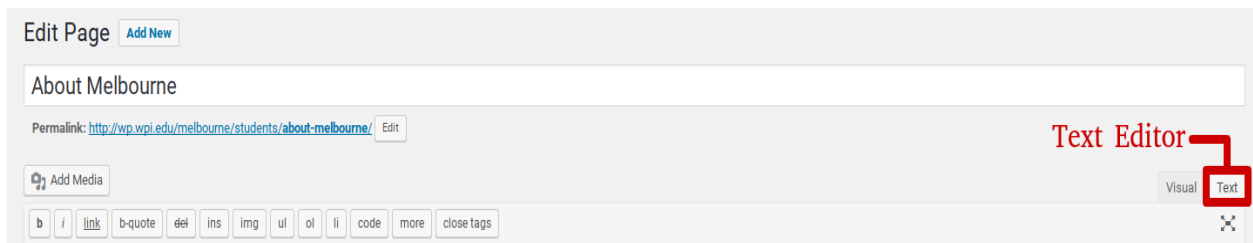
Input the following code wherever you would like the video to be in relation to the rest of the text:

<p style="text-align: center; color: red;">[embed width="600" height="500"]**YOUR_VIDEO_LINK**[/embed]</p>

If you preview the page after doing this, the video should fit perfectly next to the sidebar.
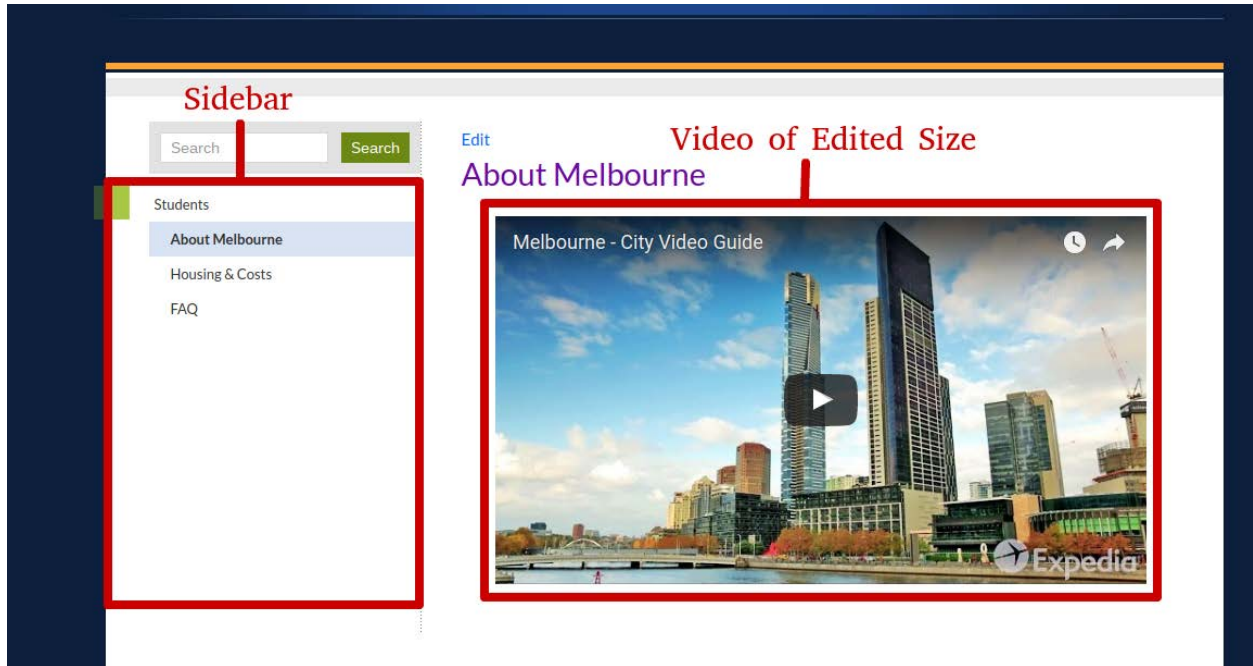
Optional:

By default, videos are aligned to the left side of the screen. If you would like your video to be centered, insert the following code into the text editor:

<div style="text-align: center;">

[embed width="600" height="500"]

YOUR_VIDEO_LINK

[/embed]

</div>

This code centers the video as well as changes the size of the video to 600x500 pixels so the video may fit next to the sidebar.

Administrators

Note: All of the information within this section of the handbook discusses features exclusive to the MPC WordPress site, as well as generally useful information. Other general information can be found in "WPI Project Center WordPress Manual for Administrators" provided by WPI.

Accounts and Access

It is assumed that all WPI faculty have access to the WordPress website of the project center they are representing, however if you cannot log into wp.wpi.edu/melbourne/wp-admin/ with your existing WPI credentials, it is important to contact a previous administrator or WPI Marketing to ask for account access. Go through the process outlined on page 3 under "Creating a WordPress Account with WPI" to ensure that you can be added as quickly as possible by a past administrator.

Granting Student Access

Once a student has contacted you of their completion of the instructions on page 3, on the Dashboard of the MPC WordPress, go to the 'Users' tab on the lefthand navigation bar, and click on 'Add Existing' at the top of the page.
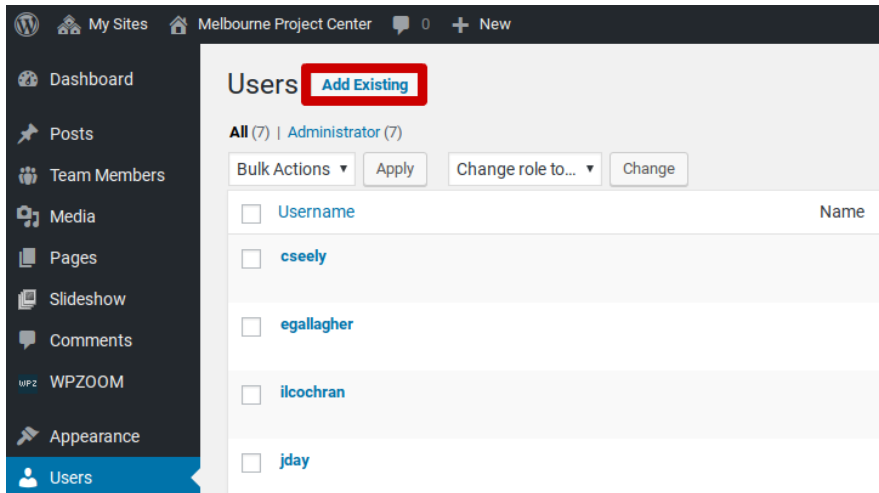
This will take you to a screen which requires you to input the student's WPI email and define a role for them. Please note: if the user's email address does not appear in the email box as you are typing, that indicates they have not yet logged into the WordPress System. **It is advised that student's assume the role of 'Editor'** for the website, as it contains all of the permissions that a student will require to successfully accomplish the directions laid out in the student section. Visit this link for a graphic of user roles and permissions.

Editing Pages

Throughout the process of administering the MPC WordPress, it is important to know how to edit website pages to keep all information as up to date as possible.

In order to access a page to edit it, click on the 'Pages' tab on the navigation panel in the dashboard. A list of all of the pages in the website will come up. Please note: there are over 200 pages on the site, and all web pages are organized alphabetically on multiple pages. Click the arrows above the list to see more. Specific pages may also be searched within the provided search bar in order to save time. Once you have located the page you want to edit, click the page name; this will bring you to the page editor, seen here. Note: the home page is titled Welcome to

WPI's Melbourne Project Center, which is not to change according to the 2015 WPI Project
Center WordPress Manual for Administrators.

Editing Page Content

Once on the page editor, all information must be placed inside of the 'Body', which is the bigger
white box on the screen. This box contains two tabs, 'Visual' and 'Text' which can be seen at its
top right corner. The text tab is used to input HTML code, therefore it is recommended to only
use the visual tab, as it can handle most of what is required of an MPC page.

The toolbar at the top of the box allows for formatting content, similar to creating a document in
Microsoft Word. Here you can align text and images, add text modifiers, and add horizontal lines
amongst other things. To understand what each button on the editor does, hover your cursor over
them and a description will appear.

To preview how information looks before publishing a page, click 'preview changes' on the right side of the page editor. **Note:** if you would like to add a line of white space (like pressing enter in a word document), in the text editor where you would like the space to be, type: ← include the semicolon.

Adding A Hyperlink

To add a hyperlink, highlight the text you would like to link, click the button which looks like two chain links then paste the link you would like to add in the box that appears. If a box does not appear, click the button again. The names of published pages can also be typed into this box, then selected from a dropdown. Make sure to press enter after pasting the link or selecting a page. To break the hyperlink, highlight the hyperlinked text and click the button to the right of the hyperlink button, which looks like a singular link being broken.

Adding Project .pdfs

Project .pdfs can be uploaded to the website via the 'Add Media' button on the page editor, however, this takes up lots of space. Instead it is recommended adding the link to project .pdfs once they are uploaded to the Gordon Library website. **If the projects are recent and the Gordon Library does not have the .pdfs up, on the individual project pages, under 'Final Report' write: Coming Soon.**

Page Layouts

Pages, once created, are made in a default layout, which means that there will be an area for a sidebar on the left, and all information placed into the body of the page will wrap around it. There are several layouts for pages, however. These can be found on the right side of the page editor in the 'Template' drop-down under 'Page Attributes.'

In this dropdown, there are several options for choosing layouts, including the aforementioned default layout, a 'Full Width' layout, and a 'Main Page' layout. These three layouts are the most common on the MPC website. Included below are screenshots of templates that may be of interest.

Default Template
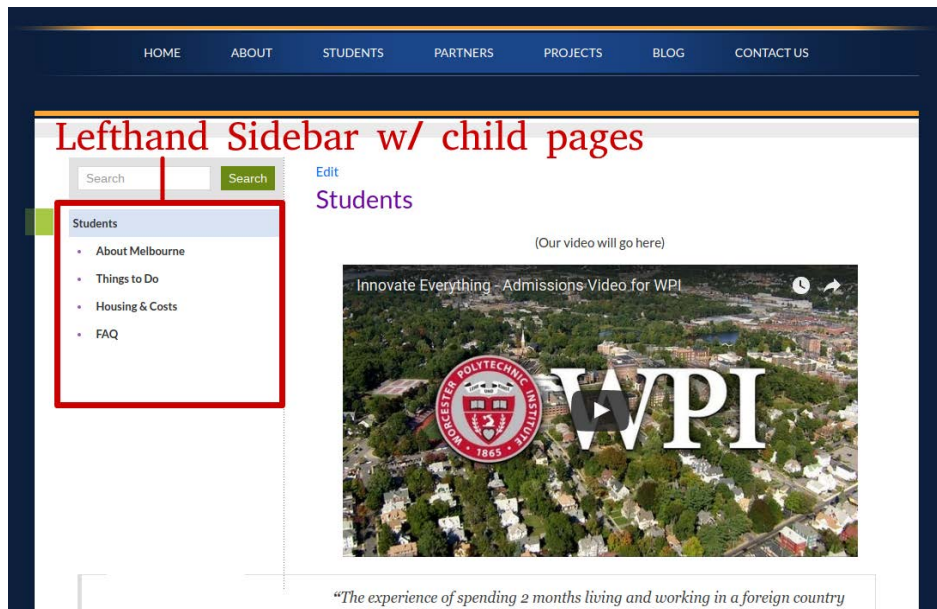
Full Width

Edit

Contact Us

Search Bar (whole site)

| Search | Search |

Please contact us if you would like to learn more about the Melbourne Project Center, or if you would like to sponsor a project in Melbourne.

Co-Directors

Lorraine Higgins
Co-Director, Melbourne Project Center
Director, Communication Across the Curriculum
Webpage: https://www.wpi.edu/people/faculty/ldh
Email: ldh@wpi.edu
Phone: +1-508-831-5503

Stephen McCauley
Co-Director, Melbourne Project Center
Assistant Teaching Professor, Global Studies
Webpage:vhttps://www.wpi.edu/people/faculty/mccauley
Email: mccauley@wpi.edu
Phone: +1-508-831-6164

No sidebars

Blog
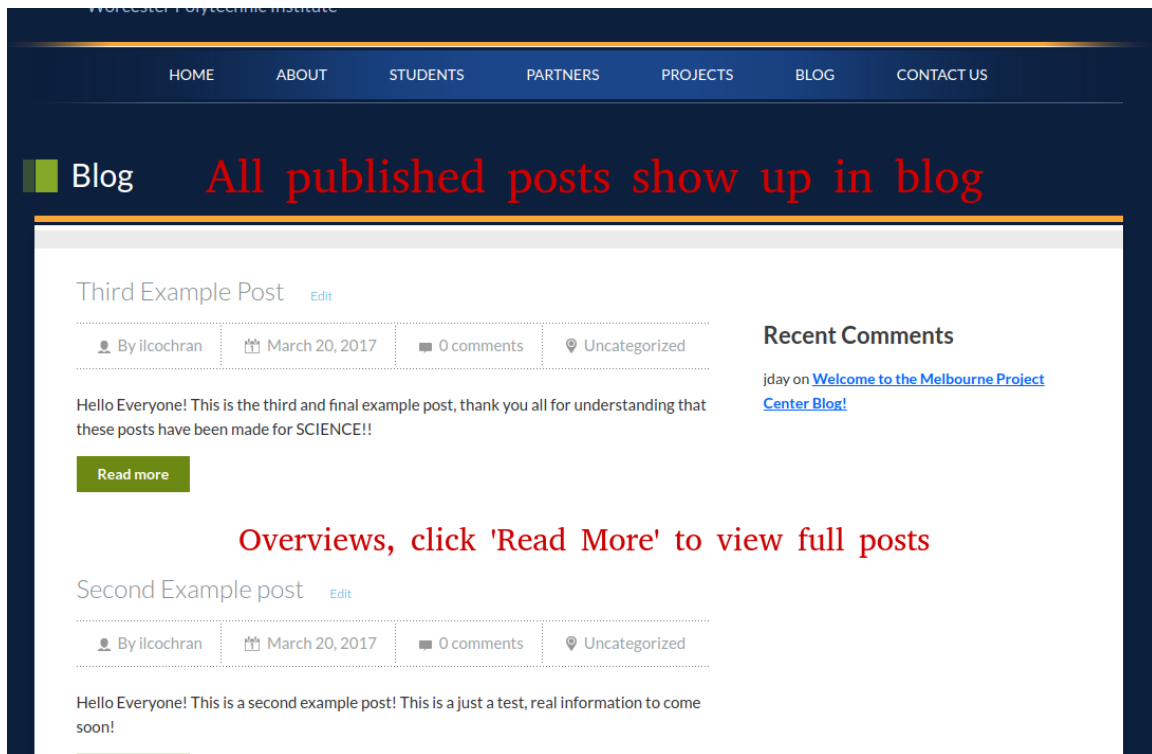
Please note: the Homepage of the website is currently a 'Default Layout' page, though it does not look like one. It is the default layout for home pages, it is recommended to leave the layout as it currently is. Additionally, **all project pages should be left in the default layout.**

Page Parenting

Parenting is a useful way to organize pages within WordPress. If a page is the parent of another, the child page will appear below it in its sidebar. For example, the pages: 'FAQ' and 'Housing & Costs,' are both parented under 'Students,' as seen on page 16. Additionally, all parent and child pages are grouped together when searching through the 'Pages' tab on the dashboard, which simplifies locating them.
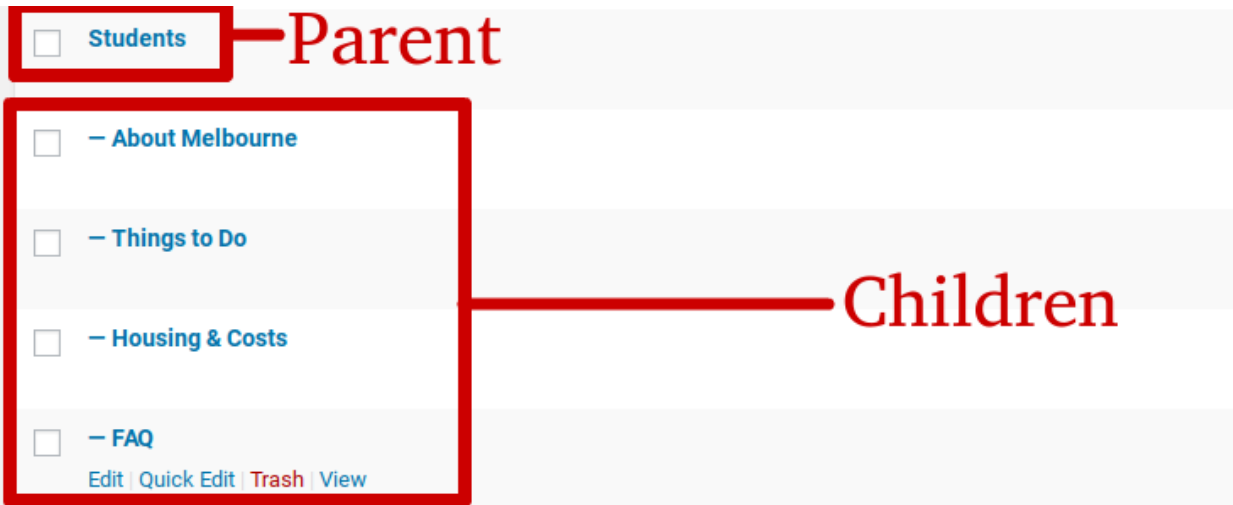
The first step to parenting one page to another is making sure both pages are published. If the intended parent is not published, it will not appear when trying to select a parent page. If the child is not published, it will not appear in the sidebar. Once both pages are published, go to the intended child page in the page editor, and on the right side of the screen, click the drop-down under 'Page Attributes' which says '(no parent).' Select the page intended to be the parent, then click the update button in the top right. Now, if you view the parent page on the website, the child page will be below the title of the parent in the sidebar. If there is no sidebar, the layout has not been set to the default (see: page 15). Note: parenting can be nested (Ex: 'Projects' is the parent of each 'Year' page, which are the parents of the individual project pages).

Page Order

The order of children under a parent page can be determined by entering the number of the spot you wish each child to be in. For example, in the sidebar of the 'Partners' page, the tab 'Project Impacts' is listed first because the number 1 was entered into the 'Order' box in the page editor after it was parented. This must be done for all child pages, unless it is desired for pages to be organized alphabetically, which is the default.
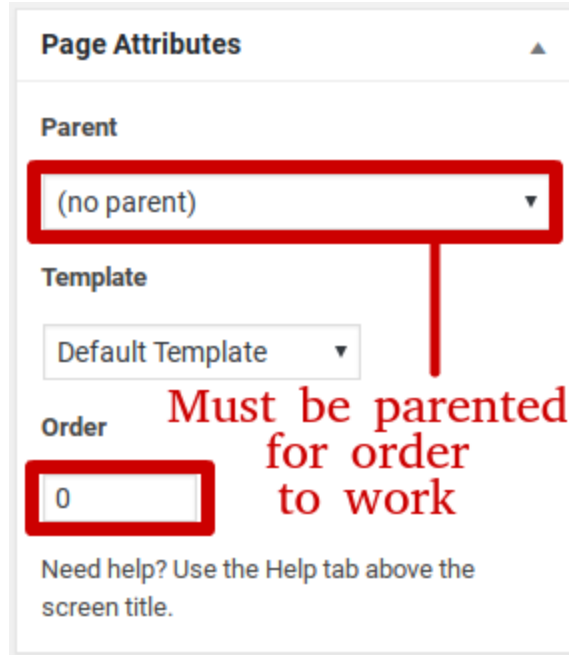
Adding Projects

Once a student has completed uploading their project to the website, they will contact you to alert you of their completion. Once this is done, there are steps that need to be followed to ensure that projects appear where they are supposed to.

Step 1: Edit & Publish Year Pages

Projects on the MPC WordPress are organized into various categories, including Sponsors, Theme, and Year. These can all be found parented under the 'Projects' page. The 'Projects by Year' page is the parent of several other pages, which are the individual years each project was completed. Each project page is parented under its corresponding year.

On each of these year pages is the following information:

Term *(e.g. "B Term (October - December)")*

Advisors

Advisor 1 Name, (two spaces) Advisor 2 Name

Sponsors

(ordered alphabetically)

- Sponsor 1
- Sponsor 2
- Etc.

Projects

(In the order of the sponsors. i.e. Project 1 was done for sponsor 1)

- Project 1 name w/ Hyperlink to project page
- Project 2 name w/ Hyperlink to project page
- Etc.

-Horizontal Line-

(Do this for each term a project was completed, D Term is placed first due to chronology)

Example:

2016

D Term (March – May)

Advisors

Holly K. Ault, James P. Hanlan

Sponsors

- Alternative Technology Association
- Banksia Gardens Community Centre
- CERES Community Environment Park
- CSIRO-Australia
- Metropolitan Fire and Emergency Services Board
- Museum Victoria

Projects

- Fire Safety of Solar Photovoltaic Systems in Australia

Year pages have been created for projects from 1999 until 2025, though not all are published. This has been done due to the fact that adding a page requires reordering all subsequent pages. If the year 2026 was added, for example, the page would have to be ordered as 1, resulting from the fact that the most recent year appears first in the list. The administrator would then have to go to the '2025' page and order it 2nd, then to '2024' and so on. The year 2025 was chosen to give a bit of buffer time before having to reorder every page. All individual year pages are already parented to 'Projects by Year' and ordered correctly, so if the year that you are looking for is before 2025 but does not appear in the sidebar, that is because it has not yet been published.

	Projects By Year
☐ — Projects By Year	· 2016
☐ — — 2025 – Draft ← In Dashboard	· 2015
☐ — — 2024 – Draft	· 2014
☐ — — 2023 – Draft	· 2013
☐ — — 2022 – Draft	· 2012
☐ — — 2021 – Draft	· 2011
☐ — — 2020 – Draft	· 2010
☐ — — 2019 – Draft	· 2009
☐ — — 2018 – Draft	· 2008
☐ — — 2017 – Draft Currently Available →	· 2007
Edit	Quick Edit	Trash	Preview	· 2006
☐ — — 2016	· 2005

Insert all relevant information into the year page that represents the projects completed during that year. There is already draft text on these pages, so information just needs to be pasted in. Hyperlinking the projects will be the last step, so at this point it is of no concern. Once everything has been added, publish the page, and it will appear on the sidebar on the 'Projects' page.

Step 2: Edit the 'Projects by Sponsor' Page

The 'Projects by Sponsor' page contains a list of all of the projects completed under each sponsoring organization the MPC has worked with. Sponsors are listed alphabetically, but the projects under them are in no particular order. If the sponsor organization you are currently working with is not on the list, enter its name on the page (in the correct spot, alphabetically) in

bold font. Add a bullet point below it with the title of the project completed for the sponsor. If the sponsor name already exists on the page, add another bullet point under it with the project's title. Click the 'Update' button.

Step 3: Edit the 'Projects by Theme' Page

The 'Projects by Theme' page is very similar to the 'Projects by Sponsor' page, in that, it is organized similarly. A list of themes was created by the B16 MPC team, and each project has been labeled under a specific theme based off of this list. You may determine the theme of a project by utilizing the list or ask the team to choose an appropriate theme. If there are no applicable themes, a new theme may be added to the list, and therefore the website. Each theme is placed alphabetically with the project titles bulleted under them. Add the new project titles under the appropriate themes. Click the 'Update' button.

Step 4: Parent Project Pages

Once a student has contacted you about completing their project page, and the previous steps have been completed, locate the project in the list of pages on the Dashboard. The name of the page should be the exact name of the project, so searching the project title in the search bar on the 'Pages' tab will save time finding it. Click the page name to edit it. Once in the page editor, preview the information on the page to make sure it is satisfactory, and parent the project to the appropriate year page. For more information on parenting pages, see . There is no particular order of pages under the year, so ordering them is not necessary. Click the 'Update' button, or, if the page is not yet published, the 'Publish' button.

Step 5: Add Hyperlinks

Only **after the project pages are published** should this step be followed. Adding the appropriate hyperlinks to the correct pages is an important step (see: Adding a Hyperlink), which can be done in two ways (the first is recommended, as it requires less page traversal):

1.) Navigate to the appropriate Year page. Hyperlink the previously entered project titles using each page name rather than the link. Do the same for both the 'Projects by Sponsor' and 'Projects by Theme' pages.

2.) While still on the project page editor, right click on the generated URL under the title bar and select 'Copy Link Address' in the menu that pops up.
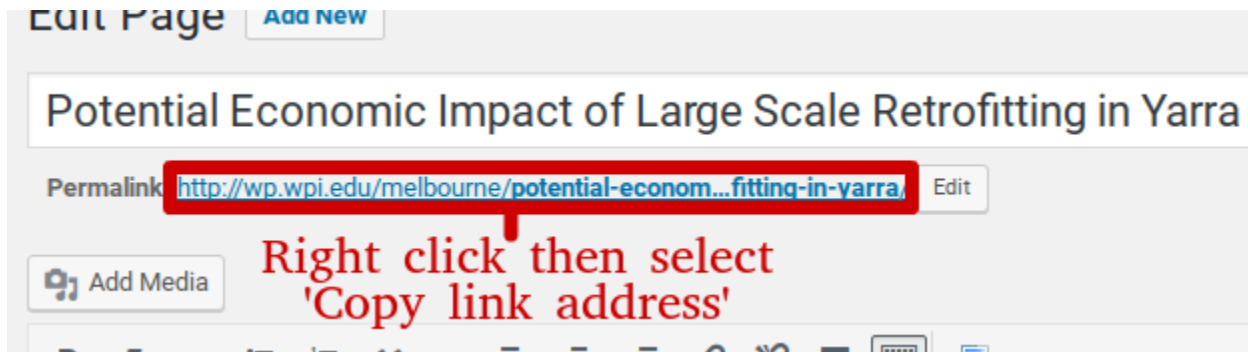
Go to the appropriate year page in the dashboard and add a hyperlink to the title of the project. Do the same for both the 'Projects by Sponsor' and 'Projects by Theme' pages.

That's it! You've done it!

Moderating MPC Social Media

A blog page has been created as a way of keeping outside parties updated on progress and activities occurring at the Melbourne Project Center. Blog posts are also linked into social media posts, which bring traffic in from Facebook to the MPC website.

Blog Posts

When students are done drafting their content, they are told to contact the administrators of the site. Students, due to having editor privileges on the website, have the ability to publish posts, though they should not do so. Blog posts must be approved by administrators before they are

posted, which ensures that all information is appropriate to both WPI guidelines and advisors' wishes. To view blog posts and drafts, click the 'Posts' tab on the left navigation bar on the dashboard. Posts are organized by the date they were most recently modified, so it should be rather easy to find the draft pages. Read through the blog post and make any necessary changes. Once done, click the 'Publish' button at the right side of the page.

Comments

WPI has set up a system on their WordPress sites which does not allow for users who are not members to comment. Only registered MPC students and administrators can leave comments on blog posts, so there is no way for the comments to be pushed to pending; all comments by members are immediately posted. Therefore, it is recommended that administrators check the comments a few times a week, to make sure that all comments are appropriate. To view all comments, click on the comments tab in the left navigation bar on the dashboard.

Facebook Integration of Blog Posts

A Facebook page has been created for the MPC in order to provide updates and a communication platform between MPC stakeholders. Posts from the blog on the WordPress should be linked from the Facebook page to allow traffic to enter the MPC site. This process, due to the WPI template, does not allow for the automation of this process, nor the integration of social media directly to the site. Once a blog post is published to the WordPress, copy the link of that post found on the post editor under the title bar, as seen on page 24. On the Facebook page, post text along the lines of, "Hey everyone! Check out our newest blog post!" Paste the link to the blog post below it, then click post. The resulting post will allow Facebook users to go directly to the MPC site to read the newest posts. To see how to log in to the MPC Facebook, go to Notes.

Widgets and Menus

Widgets have been added to the MPC WordPress for both aesthetic and well as practical reasons. This section explains all of the widgets utilized by the MPC WordPress and situations where it is the most appropriate to use them.

Managing Widgets

To access widgets, on the Dashboard, go to Appearance → Widgets. A screen will appear with various boxes. The left side of the screen contains all of the widgets available to use, and the right side contains all of the areas that widgets can be added to.
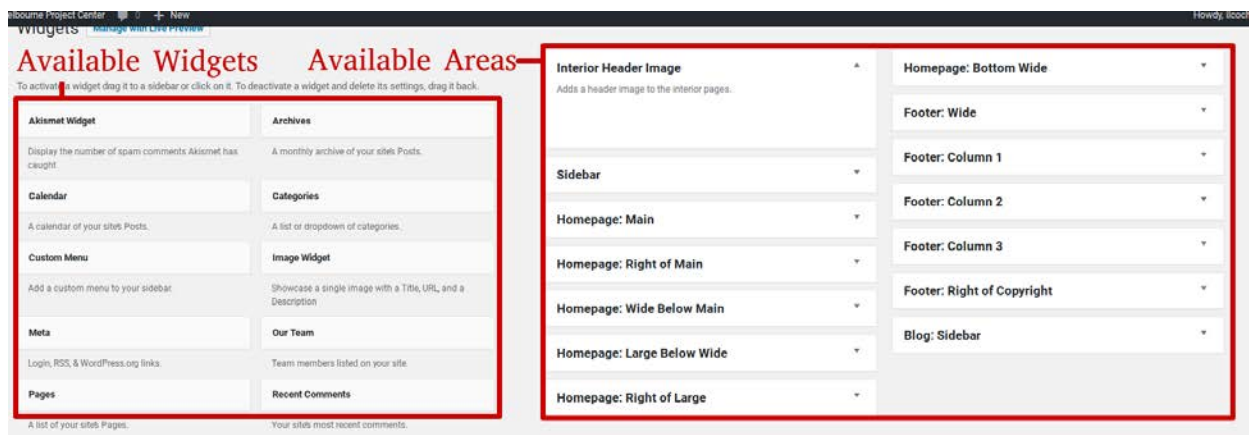
On this screen, widgets can be dragged from the available widgets section to the available areas. Once dragged over, each widget has certain settings that can be edited. A notable setting in these menus is the 'Show Widget for' menu, which allows the widget to be shown to certain users on certain pages. This can be done by selecting either 'Hide on Checked Pages' or 'Show on Checked Pages' then selecting the pages you wish each page to hide or show the widget on.

All of the widgets on the MPC site can be seen by all users, but not on all pages. The MPC WordPress utilizes this feature because a lot of the sidebar widgets are used for placeholders. Placeholders are needed in the sidebar due to the fact that, if there is not much information in it, content on the page will wrap around it, which generally is not aesthetically pleasing.

Without Widgets

With Widgets

Here it can be seen that once a widget was added into the sidebar, the sidebar was made longer, so the text on the page did not immediately wrap around it. The text does eventually wrap around the sidebar, however, as widgets are not infinitely scalable. Content and spacing must be planned out in order to address this. Certain pages, such as the 'About Melbourne' page have videos

placed in the space next to the sidebar, and the text content starts below it, so there is no text wraparound.

WPZOOM: Recent Posts

The 'WPZOOM: Recent Posts' widget contains a limited amount of text from the most recently published blog posts. The widget updates automatically, once a blog post is published. Currently, the widget is set to display the first 140 characters of the 3 most recent blog posts, and allows users to click on the post to view the entirety of the text. This widget is currently only set to be in the sidebar of the 'Projects by Sponsor' and 'Projects by Theme' pages. Settings for this widget can be found in the 'Widgets' page, under the sidebar.

WPZOOM: Single Page

The 'WPZOOM Single Page' widget displays a page wherever it is placed. This widget has been placed on the homepage, and should under no circumstances be edited. This widget is currently set to display the "Welcome to WPI's Melbourne Project Center" page, so whenever the page is edited, the Home page is as well.

WPZOOM: Social Widget

This widget is used to bring people from the MPC WordPress site to any linked social media sites. Currently, Facebook is the only social media account linked to it. It has been placed on the home page under the main page content. To add a social media account, on the edit widgets page, locate the widget under **Homepage: Bottom Wide**. Click on the widget, and paste the social media link into its appropriate box.

Image Widgets

The image widget is currently being used in two ways in the sidebar: one as a placeholder, and the other for the picture of the local coordinator. The first image widget in the sidebar is simply a white box, which blends into the white background of pages. There is no title of the picture, and users cannot click on it. This widget has proven to be very versatile in regards to increasing the sidebar length where needed. There are three of these in the sidebar, the first white box a

medium size, the second is a bit bigger, and the third is the smallest. The fourth image widget is found on the sponsor page, which shows the picture, phone number, and email of the MPC local coordinator.

Recent Comments

The recent comments widget has been placed into the sidebar of the blog. The widget is set to display the 5 most recent comments added to the blog, though this can be changed. This widget was simply used as a space filler for the blog page.

Managing Menus

To edit a menu, go to 'Appearance' → 'Menus' on the dashboard. The only menu currently is the main menu. Only one menu can be used for the main menu; other created menus can be used for the 'Custom Menu' widget, though, currently, there is no need for this feature. Pages, posts, and custom links can be added to menus. These elements can be selected on the left side of the screen, and added to the right side (the actual menu) by clicking 'Add to Menu' after clicking the checkbox next to the element(s) you wish to add. Pages, on the right side of the screen, can be dragged to reorder the menu. If a page is dragged under another and indented a bit, it will be placed in a dropdown. The image below shows three pages under 'Projects', which, on the website, appear on a dropdown under it.

Notes

- Currently (May 2017), projects that were completed before 2005, do not have any links to project .pdfs on the MPC WordPress site. This has resulted because these projects were scanned into the library site and made unavailable due to not having consent by the project authors to have their projects accessible by all. If access is granted, missing information must be added to the pages.
- Administrator access to the MPC Facebook page must be granted from current administrators, and those wishing to edit/manage the page must have a Facebook account. The current administrators of the page are professors Higgins and McCauley.
- There is an MPC Youtube account for any videos that pertain to the MPC, students may utilize this account or their own to upload videos to; the login information can be given by an administrator.

Melbourne Project Center

Worcester Polytechnic Institute

WPI

HOME   **ABOUT**   **STUDENTS**   **PARTNERS**   **PROJECTS**   **BLOG**   **CONTACT US**

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- The Interactive Qualifying Project
- Our Hosts

Edit

About

The Melbourne Project Center (MPC)

History and Goals

The Melbourne Project Center is one of over 40 international project centers established by Worcester Polytechnic Institute as part of its Global Projects Program. Established in 1998, the MPC's goal is to challenge small teams of engineering and science students to broaden the technical lens of their disciplinary training, and to account for the social, cultural and political factors of real-world problems within specific cultural contexts. In undertaking projects sponsored by local organizations in and around Melbourne, WPI students learn to understand new cultures, apply and adapt their technical knowledge, manage complex projects, work with diverse partners, and innovate in ways that meet real community needs. Early projects were advised by former WPI professors and MPC founders, Jonathan Barnett and Matthew Ward. Partnering with (name the early fire organizations we worked with) and CSIRO, Australia's leading science agency, early project teams ...(explain some of the bigger outcomes)—collected fire data that helped mitigate.. that led to new policies within... etc.) Now directed by Professors Lorraine Higgins and Stephen McCauley, the MPC has expanded its focus, having worked with over 37 community partners in Melbourne and across the state of Victoria, to complete projects that:

- Educate the public about climate change
- Foster sustainable community practices for energy use
- Support the work of public safety organizations (fire, police)
- Help Arts and Educational organizations adapt to new roles and technologies
- Advocate for social justice in underserved communities

MPC Process and Timeline

Today, the MPC sends 12-13 interdisciplinary project teams to Melbourne each year (six teams in the March-May term and six in the October-December term).

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Worcester Polytechnic Institute

Worcester Polytechnic Institute (WPI) is a science and engineering university and a pioneer in innovative, project-based learning. In 2016, WPI received the prestigious Gordon Prize for "Innovation in Engineering and Technical Education" for its project-based undergraduate curriculum. The uniquely structured project-based learning curriculum at WPI, the WPI Plan, prepares students for the real world by engaging them in professional environments and team settings. Universal graduation requirements for WPI students include a humanities Inquiry Seminar, an Interactive Qualifying Project (IQP), and a Major Qualifying Project (MQP). Students have the opportunity to complete these requirements while abroad through WPI's Global Project Program, which consists of a network of over 35 project centers located on six continents.

The Interactive Qualifying Project

The Interactive Qualifying Project (IQP) is one of the most distinctive elements of the WPI Plan and WPI's signature project-based curriculum, giving 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.

Search [Search]

About

Worcester Polytechnic Institute

The Interactive Qualifying Project

Our Hosts

Our Hosts

Worcester Polytechnic Institute's Melbourne Project Center has worked with a variety of organizations throughout the Melbourne Community, ranging from not-for-profit organizations to governmental agencies. These project hosts have provided projects to WPI students on a variety of themes, including (but not limited to): education, organizational process improvement, disability services, energy resources, and domestic violence.

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The Interactive Qualifying Project

Our Hosts

A number of the organizations who have hosted IQPs between 1999 – 2017

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Students

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Students

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- FAQ

> *"The experience of spending 2 months living and working in a foreign country really broadened my understanding of the world and its different cultures. Working every day in an interdisciplinary team helped me learn how to collaborate with people of differing backgrounds and areas of expertise."*
>
> *— D Term 2013, MPC Alum*

The Melbourne Project Center works alongside organizations and non-profits focused on important social topics, utilizing the technical backgrounds of WPI students to put forth helpful research beneficial to various stakeholders. Some common themes of IQPs completed at this project center are: Arts and Education, Public Safety, Organizational Process Improvement, Social and Human Services, and Energy Resources. Students work with organizations all over the city of Melbourne in office spaces, immersing them into professional environments. A typical work week of a WPI student in Melbourne consists of 40 hours of work, generally, 9AM – 5PM Monday through Friday, and a typical lunch break can range from a half hour to one hour. Students are free to do as they choose when their working hours are satisfied, including going to one of Melbourne's various parks, or exploring all the city has to offer. Unlimited public transportation passes are given to students upon arrival to the Center, so traversing the city and exploring is made very accessible. If you have any other questions, please consult the navigation bar to the left, which contains information about Melbourne and the activities to do in it, as well as housing information and an FAQ. If you are interested in applying to the Melbourne Project Center for your IQP, click here to transport you to the Global Projects Program application site.

Impacts on Students

Statistics

98% of MPC Alum reported that their project experience helped develop their professional writing skills

68% reported that their project experience greatly enhanced their cultural awareness

73% reported that their project experience significantly enhanced their teamwork skills

58% reported that their project experience had a significant positive impact on their professional work

53% reported that their experience stimulated new interests

29% reported that their experience had an impact on their personal goals

38% reported that their experience motivated personal changes in their lifestyle or attitude

Percentages based off of a survey of MPC Alumni from 1999-2016

Conducted by the B Term 2016 MPC Team

Testimonials

"By working with an interdisciplinary team from varying backgrounds, I was able to develop skills that are vital for teamwork. These are skills that I use to this day in my career which requires interaction with people from various backgrounds. I also learned valuable skills related to project management including setting deadlines for both the team and myself as an individual, as well as learning how to manage deadlines when there is a change to the plan based on information learned during the process."

-D Term 2007 MPC Alum

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Students

Impacts on Students

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About Melbourne

Melbourne - City Video Guide

The Kulin Nation is home to the Wurundjeri, Boonerwrung, Taungurong, Djajawurrung and Watharung tribes. In 1835, the area was settled by Europeans, and took the name "Melbourne." As of 2016, Melbourne is home to about 4.5 million people and covers an area of 9990.5 square kilometers. In 2016, Melbourne was recognized for the sixth continuous year as the "World's Most Livable City" by The Economist Intelligence Unit, and, in 2015, the city was named the "Second Best Student City in the World" according to the Quacquarelli Symonds Best Student Cities Rankings. For more information, consult the City of Melbourne website.

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Housing & Costs

Housing

Currently, students attending the MPC are housed at the CityEdge Apartments located at 60 Gipps Street East Melbourne, Victoria. These apartments include a fully equipped kitchen, living room, bathroom, one or two bedrooms (two people per room), air conditioning, and wifi access.

Costs

WPI		Melbourne
Housing and Program Fee*		**$1,945.00**
	Billable subtotal	$1,945.00
Airfare		$2,100.00
Visa Fee (Australia)		$30.00
On-site commuting costs		$50.00
Food		$1,000.00
Tourist activities and incidentals		$1,500.00
IQP related project incidentals		$150.00
	Non-billable subtotal	$4,830.00
	Total	$6,775.00

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Things to Do

In Melbourne

Queen Victoria Market

This market is a quick tram ride from the apartments, and is a great spot to grab some souvenirs, food for groceries (fresh produce and meat) or eat at a food stand. During the Australian summer (December to March) the market is open at night with more food stands and live music!

Grocery Stores

- IGA – Very short walk from the apartments and has a basic food selection.

- Aldis – 5 minute tram ride away from the apartments with inexpensive food options. Bring your own grocery bags, as the bags and carts provided cost money.

- Woolworths – Right above Aldis in the same building. Woolworths is more expensive, yet more similar to an American grocery store.

- Coles – 15 minute walk from the apartments, very similar to Woolworths.

St. Kilda

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Partners

Partners

- Project Impacts
- Information for Potential Project Hosts
- Host Guidelines
- FAQ

Local Coordinator

Jonathan Chee
jonathan.c@banksiagardens.org.au
+61-410-343-191

Overview

The Interactive Qualifying Project (IQP) is an immersive, 7-week project-based learning experience that WPI students complete in their third year, working on teams and partnering with a sponsoring organization, to address an important issue at the intersection of technology and society. Complementing the Major Qualifying Project that students complete in their final year, the IQP emphasizes interaction with project partners, understanding social context including stakeholder concens and needs, managing open-ended projects in complex, real world situations, and teamwork. The projects culminate in a project report that addresses problem background, research strategies and findings, and evidence-based recommendations, and projects may include other deliverables such as databases, planning documents, designs/prototypes, tutorials and curricula, websites/apps and videos. Please peruse the completed projects on the Projects page.

Project Impacts

Local Coordinator

Jonathan Chee
jonathan.c@banksiagardens.org.au
+61-410-343-191

24 liaisons of sponsoring organizations who had completed at least one IQP with the MPC were interviewed about their experience with the MPC. The following data relates the impacts the IQPs had within their organization and their stakeholder groups.
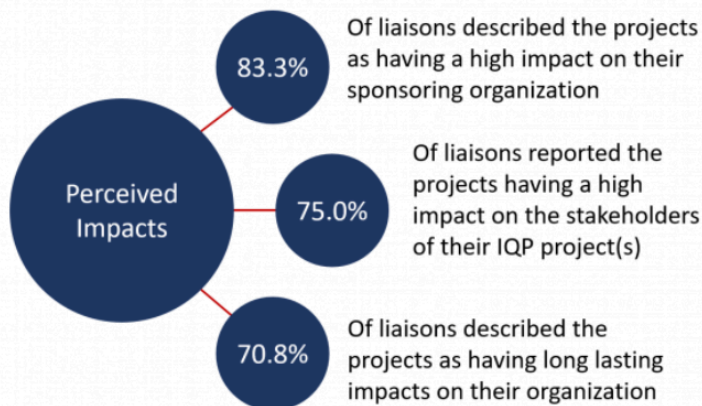
Perceived Impacts

83.3% Of liaisons described the projects as having a high impact on their sponsoring organization

75.0% Of liaisons reported the projects having a high impact on the stakeholders of their IQP project(s)

70.8% Of liaisons described the projects as having long lasting impacts on their organization

Metropolitan Fire Brigade/Metropolitan Fire and Emergency Services Board:

In 2006, a team working with the Metropolitan Fire Brigade researched how the MFB and other fire services communicated safety measures with the wider community. Their work showed that people who typically die in fires are generally elderly, disabled, living at home, often alone, or live with social services. Geoff Kaandorp, liaison of the project, explained that, "As a result of those findings [...], MFB has changed its approach to how we try to mitigate fire risk in the community."

Fawkner Community House:

In 2014, a team working with the Fawkner Community House researched the significant food insecurity in the Fawkner community. Meredith Lawrence, liaison for the Fawkner Community House, has been able to use the students' research while applying for grants and funding for

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Information for Potential Project Hosts

If you are interested in hosting a project with the MPC, please contact one of the project center Co-Directors, Lorraine Higgins or Stephen McCauley, or the MPC's Local Coordinator in Melbourne, Jonathan Chee. We'll have a dialogue about your goals and collaboratively develop a project scope that is appropriate to our project term. We find that the best suited projects are ones that address an important issue with social and technical dimensions, that contribute to a meaningful initiative at the sponsoring organization and have potential to impact a wider stakeholder group, and that have a champion within the organization who is enthusiastic about working with student teams.

We run projects in Melbourne during two terms: from mid-October to mid-December, and from early March to early May.

We generally determine projects for the October term around the previous May, and aim to have final project briefs by late July. For the March term, we identify projects around October and aim to have final project briefs by late November.

Search [Search]

Partners

Project Impacts

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Host Guidelines

FAQ

Local Coordinator

Jonathan Chee
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Host Guidelines

Guidelines and Expectations for Project Sponsors

Myki transportation cards: We ask sponsors to provide daily Myki cards for each member of their project term for the duration of the project term (about 56 consecutive days). This facilitates the students travel for work-related purposes, and it's a great asset that encourages the students to explore Melbourne. We typically collect the cards from the sponsor a couple days before students arrive.

Supervision: Sponsors identify one person (or sometimes two) to serve as the project liaison with the student project team.

The liaison works with the MPC Co-Directors in the months before the project term to develop a project brief (of about 1 page) describing the project goals and context.

During the preparation term, which the students complete on the WPI campus in the 2 months prior to the project term, the liaison is expected to participate in an introductory phone or skype conversation with the team, which the students coordinate and schedule. Liaisons are invited to continue engaging with the team beyond that introductory call, by sending important documents and resources, reading proposal drafts, or continuing communication by phone or email with students. At a minimum, liaisons should read the proposal the students prepare for the end of the preparation term. In our experience, maintaining more communication through the preparation term is better as it allows the students and the liaison to address any misunderstandings about project goals earlier.

During the project term in Melbourne, the liaison is the team's key contact at the sponsoring organization. The liaison is expected to participate in a weekly 'sponsor meeting' which the students facilitate (determining the agenda, distributing minutes, etc.). The meeting is an opportunity for the team, advisors, the liaison and possibly others in the sponsoring organization to come together to discuss the project process and direction. The liaison also facilitates the students' access to resources as needed through the project term. This could involve passing on contact information or making introductions to key stakeholders, ensuring students' work environment is suitable, and meeting with the students as needed to address questions. We also ask the liaison to work with the students to coordinate a final presentation at the end of the project term, to share project outcomes with others at the sponsoring organization or other key stakeholders.

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FAQ

How do I host an IQP?

If you are interested in hosting a project with the MPC, please contact either of the Melbourne Project Center Co-Directors, or the MPC's Local Coordinator, found on the Contact Us page.

When will the students arrive?

The students arrive about 4 days before the project term begins and spend a few days orienting and getting over jet lag before starting project work full time. For the October 2017 term, full time project work begins on Monday, October 24. For the March 2018 term, full time project work begins on Tuesday, March 13.

What kind of deliverables should we expect?

The students prepare a final report that includes background research, a description of their project methods, and their findings and recommendations. In addition, teams often produce a range of other deliverables, including databases, plans, designs, websites, apps, videos, instruction manuals and curricula, built structures, and events.

Will the project be complete by the end of the term (7 weeks)?

Yes. The projects are completed and submitted to project sponsors and WPI project advisors at

Search **Search**

Projects

Projects By Sponsor

Projects By Year

Projects By Theme

Recent Posts

- April 30, 2017

Last Week!

Hello Everyone! Today marks the beginning of our final week! We are a working very hard as the end of the term is approaching. All final

- March 20, 2017

Welcome to the Melbourne Project Center Blog!

Hello everyone! This blog will be utilized in the future by WPI students while completing their IQPs in order update any interested

Edit

Projects By Sponsor

AECOM

- [Emergency Egress for People with Mobility Impairments in Australia](#)

- [Analysing International Tunnelling Costs](#)

- [Mathematical Tunnel Cost Modeling](#)

Alternative Technology Association

- [Advancing the "Sunulator" Analysis Tool to Support Australian Solar Energy Initiatives](#)

- [Gas or Electricity — An Evaluation of Electricity and Natural Gas as a Residential Energy Source](#)

- [The Future of Fuel Cells in Australia](#)

- [Developing a Policy Position on Smart Water Metering](#)

- [Fire Safety of Solar Photovoltaic Systems in Australia](#)

Australasian Fire and Emergency Service Authorities Council

- [Unwanted False Alarms (BCA Classifications 2 & 3)](#)

- [Property Protection Factor — Australasian Fire Authorities Council](#)

- [Key Performance Indicators for Computer Fire Models](#)

- [Water Supplies for Residential Fire Fighting](#)

- [A Cost-Benefit Analysis of Home Sprinkler Systems](#)

- [Bushfire Warning Systems in Australia](#)

- [An Assessment of Fire Safety in Australia's International Student Housing](#)

- [Technological Delivery Methods of Community Safety Messages](#)

Projects

Projects By Sponsor

Projects By Year

- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999

Edit

Projects By Year

Please click on the links in the left hand column to access projects completed at the Melbourne Project Center in any given year.

Search | Search

Projects

Projects By Sponsor

Projects By Year

Projects By Theme

- Animal Conservation and Welfare
- Arts, Culture, and Historical Preservation
- Education
- Energy Resources
- Environment
- Healthcare
- Organizational Process Improvement
- Public Safety
- Social and Human Services
- Urban Planning and Transportation

Edit

Projects By Theme

Please click on the sidebar or the links below to view projects relating to the following themes:

- Animal Conservation and Welfare

- Arts/Culture/Historical Preservation

- Education

- Energy Resources (projects directly related to energy sources, either through education, produces, research, etc.)

- Environment (projects relating directly to the environment, not solely geared towards a group which *deals* with the environment)

- Healthcare (projects related hospitals and medical organizations, not disability services)

- Organizational Process Improvement (projects intended to affect how programs and/or organizations function)

- Public Safety (projects related to fire protection, police, rail hazards, etc.)

- Social and Human Services (projects in relation to racism, household violence and disability services)

- Urban Planning and Transportation (projects related to large scale city planning)

Blog

Last Week!   Edit

👤 By ilcochran   📅 April 30, 2017   💬 0 comments   📍 Uncategorized

Hello Everyone! Today marks the beginning of our final week! We are all working very hard as the end of the term is approaching. All final presentations will be finished by tomorrow, and executive summaries are being edited. The MPC team has created videos which can be seen on the 'Students' [...]

Read more

Welcome to the Melbourne Project Center Blog!   Edit

👤 By ilcochran   📅 March 20, 2017   💬 0 comments

📍 Uncategorized

Hello everyone! This blog will be utilized in the future by WPI students while completing their IQPs in order to update any interested parties to the progress of their projects at the Melbourne Project Center. From this page, you may expect project pictures, written updates, and other information provided by MPC [...]

Read more

Recent Comments

Contact Us

Please contact us if you would like to learn more about the Melbourne Project Center, or if you would like to sponsor a project in Melbourne.

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WPI Global Projects Program

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Appendix G Social Media

G.1 Facebook Page – WPI's Melbourne Project Center
https://www.facebook.com/WPIMPC/?ref=aymt_homepage_panel

G.2 YouTube Channel

https://www.youtube.com/channel/UCsx0yTmLCfaxuNZdx-K6h0w

Melbourne Project Center WPI

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WPI Melbourne Project Center Student Video
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This video was created by the Documenting and Promoting the Melbourne Project Center
Interactive Qualifying Project Team. The purpose of this video is to inform potential students..

Appendix H MPC Outreach Content

H.1 Sponsor Project Vignettes

Metropolitan Fire Brigade/Metropolitan Fire and Emergency Services Board:

In 2006, a team working with the Metropolitan Fire Brigade researched how the MFB and other fire services communicated safety measures with the wider community. Their work showed that people who typically die in fires are generally elderly, disabled, living at home, often alone, or live with social services. Geoff Kaandorp, liaison of the project, explained that, "As a result of those findings [...], MFB has changed its approach to how we try to mitigate fire risk in the community."

(Frost et al., 2008)

Fawkner Community House:

In 2014, a team working with the Fawkner Community House researched the significant food insecurity in the Fawkner community. Meredith Lawrence, liaison for the Fawkner Community House, has been able to use the students' research while applying for grants and funding for transportation for the community to low priced grocery stores. The research was also used to establish a community market, and set up a local food bank.

Zoos Victoria:

In 2013, students worked with Zoos Victoria to understand the effectiveness of the Zoo's after-school educational program. The students concluded that the program that had been in place for forty-years was in need of improvements. Cyrelle Field, Zoos Victoria liaison, explained that, "It

was a huge change, we've been teaching the same way for forty years [...] we went through the process of change following that project because it gave us some data to work with."
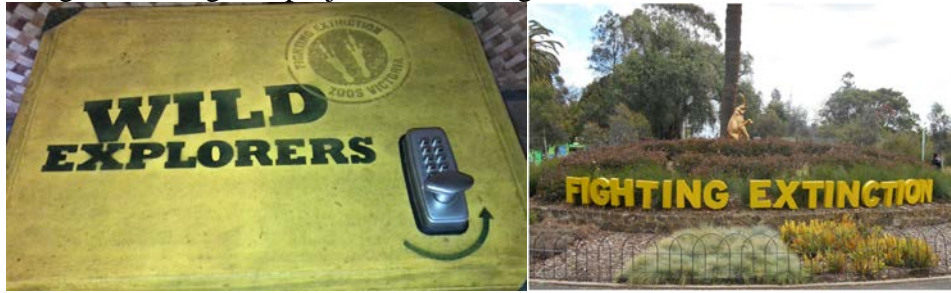
Museums Victoria:

In 2016, students worked with Museums Victoria on the project, "Bringing Audience Segmentations to Life." In the project, students created training materials to help museum employees understand the needs of museum visitors. After interviewing museum visitors about their reasons for visiting and their responses to exhibits, the team produced a series of six videos and infographics that will help staff – from maintenance workers to docents – better meet guests' expectations.

Snowy River Innovation:

In 2013, students worked with Snowy River Innovation to research how to increase engagement in the Mirboo North Community Energy Hub, a community-driven initiative designed to promote sustainability solutions. Their findings showed that the community lacked a trusted source of energy information, so the students created a website that served as a source of information and effectively increased community engagement.
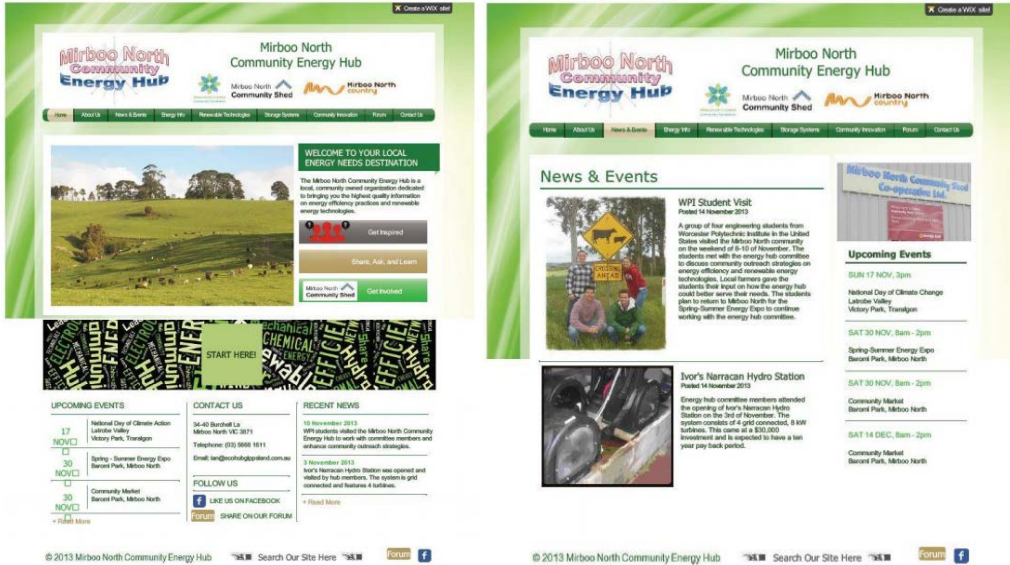
EcoCentre:

In 2017, a team working with the EcoCentre assisted in establishing a long-term monitoring plan for microplastic pollution in Port Phillip Bay. The team implemented and assessed the Baykeeper Beach Litter Audit Method at preselected locations around the bay, and recruited volunteers to perform the method on a monthly basis. Anthony Gallacher, EcoCentre liaison, explained, "This microplastics research that the WPI students are undertaking is really a foundational project for the EcoCentre. The Port Phillip Baykeeper has been working on a litter auditing method [...] for a number of years [...] This project in-and-of-itself will set the scene and ongoing monitoring program which will bring in enough data and [...] legislators or politicians [can] start to look at ways in which we can create larger scale change and legislative change to address this particular issue.

Perceived Impact on Sponsor

- "As a result of those findings from her [Julie's] study, MFB has changed its approach to how we try to mitigate fire risk in the community." - Geoff Kaandorp Metropolitan Fire and Emergency Services Board
- "WPI projects have been catalysts for new initiatives at Banksia Gardens." - Jaime De Loma-Osoria Ricon, Banksia Gardens
- "I would say that all of them had impacts to one degree or another." - Paul Murfit, Moreland Energy Foundation Ltd
- "I haven't done one study that I haven't had purpose to use it for." - Julia Harris, Metropolitan Fire and Emergency Services Board
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australiasian Fire Authorities Council:
  - Mostly projects provided small-scale research that wouldn't be done otherwise
  - Serve as basis for further work
  - Help the organization develop a problem-solving mindset / approach
  - Doesn't require much oversight, no need for peer review (WPI ensures the integrity of the students' work)
- "[Results get implemented] Pretty often. I can't really comment on the assets one, but most of the stuff I have seen actually takes place, or actually happens." - Carly Siebentritt, CSIRO
- "We used it really as evidence about the level of food insecurity in the area. We use it in submissions [for grants]. We got a grant for cold storage for the food bank. It's enabled us to expand the food bank." - Meredith Lawrence, Fawkner Community House
- "In terms of the impact.. it gave them [service providers in Fawkner] the evidence base to gain funding to set up a small community market. It helped them to show that food insecurity needed to be addressed. Now fresh fruit and vegetables are sold at discounted prices." - Meredith Lawrence, Fawkner Community House
- "The project that was done in [...] 2013 was a project that we initiated because we wanted to change the education programs at Melbourne Zoo [...] the results of that project informed the changes to our education program." - Cyrelle Field, Zoos Victoria
- "It was a huge change, we've been teaching the same way for forty years [...] we went through the process of change following that project because it gave us some data to work with." - Cyrelle Field, Zoos Victoria
- "Most of the projects that the students were doing for us [...] it would've been great if we could have implemented them." - Mike McCumisky, Victoria Fire Services Museum

Perceived Impact on Stakeholder Groups

- "In Australia some of our reports have even been used in senate inquiries." - Rob Llewellyn Australian Fire Authorities Council and Fire Protection Association Australia

- "The first [hoarding study, conducted by WPI students] was the world's first study of hoarding in fire incidents in the world." - Julie Harris Metropolitan Fire and Emergency Services Board
- "They've [IQPs conducted with the MFB] been used in the Coroners Court of Victoria; they've been cited in the press; they've been cited in international journals; they've been cited in international publications." - Julie Harris Metropolitan Fire and Emergency Services Board
- Notes from Jason Cox, Moreland Energy Foundation Ltd
  - When team got here, they realized that the survey didn't represent MEFL at all
  - Huge bias within the survey
  - Project changed to reaching out the community through different means
    - Younger people – Facebook, social media, etc
    - Old people – telephone, etc.
  - NOW – they have formalized this process, as a result of the WPI project
    - Refer back to the research performed by WPI students
    - Concrete data and research used to prove that some communication means are more effective than others
    - Social media – something like 90% more effective than calling up on landline
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australiasian Fire Authorities Council:
  - Improve safety and quality of life for hoarders
  - Provide data to help improve regulations
    - Hoarding Study
    - Electrical wiring as a fire hazard

Longevity of the Projects
- "Up til a couple months ago, we were still using that research in our program design." - Paul Murfit, Moreland Energy Foundation Ltd
- "Some of the background work and some of the survey work that was done by the groups we are still using." - Paul Murfit, Moreland Energy Foundation Ltd
- "The Hoarding Project that was done by WPI, helped focus Australia on the hoarding issue, and we still have it, but we are able to manage it much better now." - Rob Llewellyn, AFAC and Fire Protection Association Australia

Working with the WPI IQP
- "It's really good that sometimes [the professors] push some of the students who are very used to the lab existence and that closed kind of existence to go out and have an experience. I just love the cultural exchange." - Shane French, CERES
- "We're careful not to abuse the technical prowess of the students. It's tempting, but at the same time that's not just why they're here. The students aren't coming here just so we

can use their skills, it's good to push them into areas that might not traditionally be their background." - Shane French, CERES

- "Our expectations of what the projects are are much clearer too. When we started, it was trying to get something finished by the time the group left. It had to be finished. The project had to be done, had to be delivered. We realized for us and for WPI that's sort of unrealistic, it's better to go with a project that we can have a few groups working over a period of time. Because we get a better result, but also it's more realistic for the students who actually come and it kind of eases the pressure a little bit. You don't have to have a finalized, built product by the end of this, you do it in stages." - Shane French, CERES

- "A lot of the projects that we have done with your students are observational studies, which are very time consuming, and you need to spend a lot of time. Having three or four people coming for a short period of time, enabled us to be done in a concise way, and that was very beneficial to our organization." - Carolyn Meehan, Museum Victoria

- "You support very well, the projects and the hosts and the teams." - Paul Murfit, Moreland Energy Foundation Ltd

- "We've had no issues at all." - Jason Cox, Moreland Energy Foundation, Ltd

- Notes from Jason Cox, Moreland Energy Foundation, Ltd
  - There was a group of four. Three were very confident, one wasn't at all confident. First presentation – what they were doing here and so forth – Jason could see the pressure and anxiety within the student's face (the shy one). By the end of the project, he was able to do his piece of the presentation properly.
    - "It was quite amazing for me"
    - "It was like: 'just by coming here you were jumping in the deep end. And now you're swimming.'"
  - By the end of the 6 weeks, students learned a lot of valuable problem solving skills. They sorted through problems accordingly instead of immediately asking for help.
  - Social interaction of "How do we do this?" dynamic is interesting
  - "Good testament of the maturity of the people who come out here."

- "When Jonathan was supervising, and when Jonathan signed off on a fire protection report, that gave that report a lot more credibility in the fire industry, than another professor who is not internationally recognized in the field." - Rob Llewellyn, AFAC and Fire Protection Association Australia

- "I felt that there was really good work put forth from WPI." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

- "I thought it was so well-organized." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

- "Depending on the group, and how well the group works, occasionally the supervision levels are the higher than the anticipated which takes times from other projects. It getting

people doing the work and stuff. It's the groups you need to speak to every day because they are not talking to each other, and it's not working so well. Sometimes, it becomes a bit of an issue, but most of the times is your advisors that have to deal with that." - Carly Siebentritt, CSIRO

- "It's great to have you here." - Carly Siebentritt, CSIRO
- "It [the WPI IQP] gives you links to a great university and students who are bright and capable." - Peter Johnson, Over Arup & Partners
- "The teams always work really well together and can work independently, I think they're great." - Cyrelle Field, Zoos Victoria
- "I know that with the education teams here at Melbourne, they've always loved having WPI students." - Cyrelle Field, Zoos Victoria

Working with Students

- "The students are really adaptable, we often find that the project just changes. There was one project they actually got here and it just changed tack totally, because they got here and we had a chat and went 'ah, let's go this way.'" - Shane French, CERES
- "There was another project, which was great with CERES, and these students were incredible as well, where the group was in the air, in the plane coming to Australia to do their project at a neighborhood center, and the neighborhood center closed down. In between them starting their seven weeks in America and arriving here and starting, they got on the ground to the news that their project didn't exist any more, the center had gone, had closed down. So we took them in, and they worked with CERES, and we just made something up on the fly for them, and they had to start from scratch. […] Those students had the flexibility to get off the plane, not completely lose it, and go 'okay, so we're doing a whole new project at a whole different place now.'" - Shane French, CERES
- "And there are people who find that really challenging. There were a couple of guys who part of the project was to go out and talk to people at CERES, do surveys and things like that, and they just would freeze. 'I can't talk to people, I'm in a lab.' Their whole mindset is solo work in a lab, and the professors in that group would try to push them a little bit to get out there, talk to people, get over that fear of needing to work independently. […] And some of them have gone 'that's just not my thing' and that's fine." - Shane French, CERES
- "Students are pretty independent […], and they are very focused." - Carolyn Meehan, Museum Victoria
- "Generally, groups do very good work." - Jaime De Loma-Osoria Ricon, Banksia Gardens
- "That's one of the things that I'm really impressed with you guys when you come over. You are very self directive and motivated [...]" - Paul Murfit, Moreland Energy Foundation Ltd

- "I'm really impressed with the students, who are very self directive and motivated." -Paul Murfit, Moreland Energy Foundation Ltd
- "The work is very high quality and its well done. Thats why we keep going back for more." - Paul Murfit, Moreland Energy Foundatio Ltd
- "All the people who have come have been great." - Jason Cox, Moreland Energy Foundation, Ltd
- "When they come here, they work *incredibly* hard." - Julia Harris, Metropolitan Fire and Emergency Services Board
- "I really enjoy working with them [WPI students]." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council
    - spending a lot of time with students defeats the purpose
    - Pretty good at getting things done themselves, not much need for oversight, able to function autonomously
    - Students were sociable, great for continued desire for projects, interact daily with staff
- "The joy of you, guys, is that you can focus on an activity, or a task, or an evaluation that we tend not to have the time or the resources to actually do it ourselves. It's the wish list of things you want to do, but don't necessarily have the time or the resources to do." - Carly Siebentritt, CSIRO
- "Your perspective is greatly appreciated." - Carly Siebentritt, CSIRO
- "The joy is also that you guys are quite, in some ways, closer to the age groups that we are working with. You are closer to teenagers than most of us." - Carly Siebentritt, CSIRO
- "Bunch of bright students coming, they're gonna bring fresh ideas. They're looking at not only looking at engineering aspects of problems, but looking at social and other aspects of what they're gonna look at. For a small investment, you're going to get a lot of valuable information from a group of students working intensely on a project for a relatively short period of time." - Peter Johnson, Over Arup & Partners
- "I have never ever had a student on a personal point of view that has let me down." - Emergency Services Foundation
- "I get quite excited when there's a new batch coming." - Jenny Davis, Emergency Services Foundation
- "The students were great [...] they spent a lot of hours, after hours." - Mike McCumisky, Victoria Fire Services Museum

Being in Another Country
- "And that's the cool thing about being in Australia, getting that cultural exchange but also a chance to do something a little different." - Shane French, CERES

- "I try to let the students who are here have as much free time as they want. They never tend to take it. […] You don't get many chances to be in another country for 7 weeks."
- "It's a really hard balance between trying to get a lot of work done but also have a good experience. It's always that thing where you're in a country for a limited period time so you want to see as much as possible but by cramming so much you might not even see as much as you could." - Shane French, CERES
- "The groups who are coming and doing the projects seem to have a much clearer understanding of what CERES is, what our philosophies are, what their work situation is going to be like. […] There seems to be a greater understanding of who we are and what we do and why we do it. And I've found that the culture shock of coming to CERES is not as great as it was in the earlier groups." - Shane French, CERES
- "That cultural exchange is really good, and I like keeping that going, that's a really valuable part of it. And that's why that's another part of why I think if you're here, take a bit longer. If there's a way to spend longer in the country, in any of your projects, and actually have time in the middle to just actually go and just immerse yourself somewhere for a week or so, and forget about all your projects and your studies and you don't have to be back on Tuesday to finish your thing. Just go, for a little while. That would be really valuable." - Shane French, CERES
- "I think it's a big ask for people your age to come to this country and do this kind of work." - Julia Harris, Metropolitan Fire and Emergency Services Board
- "The international connection is quite nice. It's nice for us to say that we are working with a group elsewhere. It's nice for outlook to have different bodies wandering around the room and playing and bringing a different perspective." - Carly Siebentritt, CSIRO
- "What I tried to do is make sure to look after them not only in their project work, but, you know, have a barbecue on the weekend […]. Make the whole experience more than just doing the project in a hotel for a couple of months. To actually give them a broader experience. […] And perhaps take back to WPI some broader experience of life in the world." - Peter Johnson, Over Arup & Partners

More Specific Information About WPI
- "It is very hard for the organization to understand what WPI does. At the moment, there is nothing that can give an organization a really good snapshot of what WPI does…This is why your project is really important." - Jaime De Loma-Osoria Ricon, Banksia Gardens
- Notes from Cyrelle Field, Zoos Victoria
  - did not know they projects were called IQPs, just referred to the process as "WPI/ WPI students"
- "I don't [get] what you getting tested on or marked on." - Carly Siebentritt, CSIRO
- "[To improve the program] align the objectives of the organization with the objectives of WPI." - Jaime De Loma-Osoria Ricon, Banksia Garden
- Notes from Jason Cox, Moreland Energy Foundation Ltd

- o Engineers working on social science projects- some might argue that social scientists should be working on the projects. But it's good to have well-rounded engineers that can also bring other thing to the table that social scientists can't
- "There's often a little bit of tension between your course requirements and what we actually want…The students are getting pushed two ways." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board
- "Some more effective networking in Melbourne […] There's actually quite a group of WPI people here in Melbourne who will be passionate about their time at WPI and the [benefit] that WPI students can bring. Perhaps take advantage of that WPI network that exists here, as well as other people who have seen the benefit before." - Peter Johnson, Over Arup & Partners

More Information About the Sponsor Commitment
- "I reckon you need almost a set of procedures written up for the sponsors. To me it seems that a lot of it has been done on a wing and a prayer. And a lot of it has been personal connections, to be able to bring in the projects." - Rob Llewellyn, Australasian Fire Authorities Council
- "I think it needs an outline for the sponsors. It needs a pretty well spelled out time frame." - Rob Llewellyn, Australasian Fire Authorities Council
- "Time that the supervisors need to commit. This location is understaffed so the supervision aspect would have been helpful to have more of the information" - Meredith Lawrence, Fawkner Community House
- "It's been a learning process for us. The first few projects was like 'ah shoot, we need to think of something new, what's a new thing for them to do?' As opposed to 'let's just continue the work that we've done with the last group.'" - Shane French, CERES
- "…To make what they [WPI students] were doing of value to us, required that really close supervision." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board

Restructure the Time Frame of the IQP
- "There's almost a guilt that you guys have flown all the way over here and you're just working for us. I think if there could be an extra week somewhere and actually stop in the middle, for you to have a solid break and just leave the project and go away and actually go and spend a solid week somewhere […] as opposed to weekends. Have that ability to refresh and recharge and then hit the ground again." - Shane French, CERES
- "You have to have eight weeks with a week off in the middle." - Shane French, CERES
- "That cultural exchange is really good, and I like keeping that going, that's a really valuable part of it. And that's why that's another part of why I think if you're here, take a bit longer. If there's a way to spend longer in the country, in any of your projects, and actually have time in the middle to just actually go and just immerse yourself somewhere for a week or so, and forget about all your projects and your studies and you don't have to be back on Tuesday to finish your thing. Just go, for a little while. That would be really valuable." - Shane French, CERES

- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board:
  - More free time here to appreciate experience
  - Break mid-term to reenergize
- Notes from Cyrelle Field, Zoos Victoria
  - Projects weren't as in depth, probably due to the time constraint
- "A little bit longer in Australia and maybe a little bit less of the pre-project work, because I find the most value happens when we're all together, working as the group, in the same room, having the meetings, all that stuff. I think that's where the real magic happens, that's where your projects really start to roll." - Shane French, CERES
- Notes from Neil Bibby, Emergency Services Foundation
  - After the term ends – see if there's anywhere in the country (like a conference) where students could present their work

Better Communication during the Prep-Term (ID2050)
- "I don't think a lot of sponsors realise that they need to be involved in the pre-work. The pre-work is critical. [...] I think emphasizing that to the sponsors, getting the research question right. What are you trying to answer. [...] I don't think sponsors realize that that all needs to be done before the students arrive." - Rob Llewellyn, Australasian Fire Authorities Council
- "I can remember being on emails backwards and forwards to students trying to work things out while doing the prep work. And it was just almost impossible to do." - Rob Llewellyn, Australasian Fire Authorities Council
- Notes from Cyrelle Field, Zoos Victoria
  - Having immediate contact with sponsors before the teams do research to define exactly what type of research needs to be done, things can be misinterpreted from reading only a sheet of paper
  - Skype sponsors before beginning the paper
    - Easier for them to articulate what they want by talking back and forth
  - They feel guilty that all of this research was done but it isn't necessarily what they want
- "[During the preparatory term] we give you a brief of what the project is, and the students are required to do some writing and do some background research…In the past few years, from the ones that I've seen, that process has really missed the mark." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board
- "I don't think a lot of sponsors realise that they need to be involved in the pre-work. The pre-work is critical. [...] I think emphasizing that to the sponsors, getting the research question right. What are you trying to answer. [...] I don't think sponsors realize that that all needs to be done before the students arrive." - Rob Llewellyn, Australasian Fire Authorities Council
- "I used to have a lot of interaction with Jonathan in developing up the questions and developing up that pre-stuff." - Rob Llewellyn , AFAC

- "I can remember being on emails backwards and forwards to students trying to work things out while doing the prep work. And it was just almost impossible to do." Rob Llewellyn, Australasian Fire Authorities Council
- Notes from Julie Harris, Metropolitan Fire and Emergency Services Board
    - "But the professors were telling us to…"
    - Clashing of viewpoint between sponsors and advisors Even the past group who worked with MFB had an issue with understanding what they were going to do
    - ID 2050 – the "prework" – better communication
    - One with the students, then one with the professors (Skype Calls to clarify information and objectives)
    - Miscommunication – students will send in their intro to the MFB during preparatory term, and Julie will say "this isn't what I asked you to do."
    - Fortnightly meeting via Skype or whatever, would be very helpful to better communicate project objectives
- Notes from Neil Bibby, Emergency Services Foundation
    - Pre-work we do is literature search
    - Not sure if it's done as effectively as it could
    - YOUR SPONSOR SHOULD BE THERE TO DIRECT YOU DURING YOUR LITERATURE SEARCH
        - More of an understanding this way – sponsors should be more involved in prep work
- Notes from Jason Cox, Moreland Energy Foundation Ltd
    - When team got here, they realized that the survey didn't represent MEFL at all
    - Huge bias within the survey
    - Project changed to reaching out the community through different means
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council
    - Improved prep term communication to have good understanding of project on arrival
    - Ability to define research question is a challenge, start involvement early, teams arrived without a well-defined problem, waste time establishing it and less time doing actual work
    - Need a more efficient approach to establishing the research questions
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council
    - Ability to define research question is a challenge, start involvement early, teams arrived without a well-defined problem, waste time establishing it and less time doing actual work
    - (If organization has stopped sponsoring projects) Why was the decision made to stop sponsoring MPC projects?

- Matter of resources available and finding projects of value
- Little bit lack of communication
  - o
- Notes from Dennis Hogan, Victoria Building Commission
  - o Give sponsors more information on the students up front. Like names, majors and their background, so that they can gear the project towards their interests.

Reports

- "The final reports, in the best case scenario, are read by six people…and that's a shame, because there is so much valuable stuff in there." - Jaime De Loma-Osoria Ricon, Banksia Gardens
- Notes from Neil Bibby, Emergency Services Foundation
  - o Get some of the better reports – 1500 word summary
    - Publish them – In a magazine that he's involved in
    - Publishing is the best way to get it out there
  - o Biggest failure of sponsors – communicating the outcomes
    - Give the information in a WPI package
    - 1500 word summary of project
    - 3 or 4 good photos
  - o We need to find ways of publishing If it's a good paper, bring the students back (NOTE: not necessarily shorter, but has to do with reports)
- Notes from Julia Harris, Metropolitan Fire and Emergency Services Board
  - o MFB projects have HUGE implications, documents have much scrutiny
  - o MFB does read the report – don't read the content, more just detail checking (smaller things that carry huge meaning)
- "I treat them as a literature review really. It pulls a lot of information together and often you've got to go off and spend a lot more time delving into those reports and picking bits and pieces out." - Rob Llewellyn, AFAC and Fire Protection...
- "Sometimes, there is a balancing act between the report you need to produce, and the physical results." - Carly Siebentritt
- "I think there could be a few elements included in the IQP program where you have the active reflection as part of the academic requirements of the project." - Jaime De Loma-Osoria Ricon, Banksia Gardens

Miscellaneous Notes

- 2 interviewees indicated their organization stopped working with WPI students in order to work with local students.

MFB

Perceived Impacts on Sponsor:

- "As a result of those findings from her [Julie's] study, MFB has changed its approach to how we try to mitigate fire risk in the community." - Geoff Kaandorp Metropolitan Fire and Emergency Services Board
- "I haven't done one study that I haven't had purpose to use it for." - Julia Harris, Metropolitan Fire and Emergency Services Board

- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australiasian Fire Authorities Council:
    - Mostly projects provided small-scale research that wouldn't be done otherwise
    - Serve as basis for further work
    - Help the organization develop a problem-solving mindset / approach
    - Doesn't require much oversight, no need for peer review (WPI ensures the integrity of the students' work)

Perceived impacts on stakeholder groups:

- "The first [hoarding study, conducted by WPI students] was the world's first study of hoarding in fire incidents in the world." - Julie Harris Metropolitan Fire and Emergency Services Board
- "They've [IQPs conducted with the MFB] been used in the Coroners Court of Victoria; they've been cited in the press; they've been cited in international journals; they've been cited in international publications." - Julie Harris Metropolitan Fire and Emergency Services Board
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australiasian Fire Authorities Council:
    - Improve safety and quality of life for hoarders
    - Provide data to help improve regulations
        - Hoarding Study
        - Electrical wiring as a fire hazard

Working with the WPI Students:

- "When they come here, they work *incredibly* hard." - Julia Harris, Metropolitan Fire and Emergency Services Board
- "I really enjoy working with them [WPI students]." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board
- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council
    - spending a lot of time with students defeats the purpose
    - Pretty good at getting things done themselves, not much need for oversight, able to function autonomously
    - Students were sociable, great for continued desire for projects, interact daily with staff

Being in another country:

- "I think it's a big ask for people your age to come to this country and do this kind of work." - Julia Harris, Metropolitan Fire and Emergency Services Board

Banksia

Perceived Impacts on Sponsor:

- "WPI projects have been catalysts for new initiatives at Banksia Gardens." - Jaime De Loma-Osoria Ricon, Banksia Gardens

Working with WPI Students:

- "Generally, groups do very good work." - Jaime De Loma-Osoria Ricon, Banksia Gardens

Moreland Energy Foundation Ltd

Perceived Impacts on Sponsor:

- "I would say that all of them had impacts to one degree or another." - Paul Murfit, Moreland Energy Foundation Ltd

Perceived Impacts on Stakeholder groups:

- Notes from Jason Cox, Moreland Energy Foundation Ltd
  - When team got here, they realized that the survey didn't represent MEFL at all
  - Huge bias within the survey
  - Project changed to reaching out the community through different means
    - Younger people – Facebook, social media, etc
    - Old people – telephone, etc.
  - NOW – they have formalized this process, as a result of the WPI project
    - Refer back to the research performed by WPI students
    - Concrete data and research used to prove that some communication means are more effective than others
    - Social media – something like 90% more effective than calling up on landline

Longevity of Projects:

- "Up til a couple months ago, we were still using that research in our program design." - Paul Murfit, Moreland Energy Foundation Ltd
- "Some of the background work and some of the survey work that was done by the groups we are still using." - Paul Murfit, Moreland Energy Foundation Ltd

Working with the WPI IQP:

- "You support very well, the projects and the hosts and the teams." - Paul Murfit, Moreland Energy Foundation Ltd
- "We've had no issues at all." - Jason Cox, Moreland Energy Foundation, Ltd
- Notes from Jason Cox, Moreland Energy Foundation, Ltd

- o There was a group of four. Three were very confident, one wasn't at all confident. First presentation – what they were doing here and so forth – Jason could see the pressure and anxiety within the student's face (the shy one). By the end of the project, he was able to do his piece of the presentation properly.
    - ▪ "It was quite amazing for me"
    - ▪ "It was like: 'just by coming here you were jumping in the deep end. And now you're swimming.'"
- o By the end of the 6 weeks, students learned a lot of valuable problem solving skills. They sorted through problems accordingly instead of immediately asking for help.
- o Social interaction of "How do we do this?" dynamic is interesting
- o "Good testament of the maturity of the people who come out here."

Working with the WPI Students:
- "That's one of the things that I'm really impressed with you guys when you come over. You are very self directive and motivated [...]" - Paul Murfit, Moreland Energy Foundation Ltd
- "I'm really impressed with the students, who are very self directive and motivated." -Paul Murfit, Moreland Energy Foundation Ltd
- "The work is very high quality and its well done. Thats why we keep going back for more." - Paul Murfit, Moreland Energy Foundatio Ltd
- "All the people who have come have been great." - Jason Cox, Moreland Energy Foundation, Ltd

CSIRO
Perceived Impacts on Sponsor:

- "[Results get implemented] Pretty often. I can't really comment on the assets one, but most of the stuff I have seen actually takes place, or actually happens." - Carly Siebentritt, CSIRO

Working with the WPI IQP:
- "Depending on the group, and how well the group works, occasionally the supervision levels are the higher than the anticipated which takes times from other projects. It getting people doing the work and stuff. It's the groups you need to speak to every day because they are not talking to each other, and it's not working so well. Sometimes, it becomes a bit of an issue, but most of the times is your advisors that have to deal with that." - Carly Siebentritt, CSIRO
- "It's great to have you here." - Carly Siebentritt, CSIRO

Working with Students:
- "The joy of you, guys, is that you can focus on an activity, or a task, or an evaluation that we tend not to have the time or the resources to actually do it ourselves. It's the wish list

of things you want to do, but don't necessarily have the time or the resources to do." - Carly Siebentritt, CSIRO
- "Your perspective is greatly appreciated." - Carly Siebentritt, CSIRO
- "The joy is also that you guys are quite, in some ways, closer to the age groups that we are working with. You are closer to teenagers than most of us." - Carly Siebentritt, CSIRO

Being in another country:
- "The international connection is quite nice. It's nice for us to say that we are working with a group elsewhere. It's nice for outlook to have different bodies wandering around the room and playing and bringing a different perspective." - Carly Siebentritt, CSIRO

Fawkner Community House
Perceived Impacts on Sponsor:

- "We used it really as evidence about the level of food insecurity in the area. We use it in submissions [for grants]. We got a grant for cold storage for the food bank. It's enabled us to expand the food bank." - Meredith Lawrence, Fawkner Community House
- "In terms of the impact.. it gave them [service providers in Fawkner] the evidence base to gain funding to set up a small community market. It helped them to show that food insecurity needed to be addressed. Now fresh fruit and vegetables are sold at discounted prices." - Meredith Lawrence, Fawkner Community House

Zoos Victoria
Perceived Impact on Sponsor:

- "The project that was done in [...] 2013 was a project that we initiated because we wanted to change the education programs at Melbourne Zoo [...] the results of that project informed the changes to our education program." - Cyrelle Field, Zoos Victoria
- "It was a huge change, we've been teaching the same way for forty years [...] we went through the process of change following that project because it gave us some data to work with." - Cyrelle Field, Zoos Victoria

Working with the WPI IQP :

- "The teams always work really well together and can work independently, I think they're great." - Cyrelle Field, Zoos Victoria
- "I know that with the education teams here at Melbourne, they've always loved having WPI students." - Cyrelle Field, Zoos Victoria

Victoria Fire Services Museum
Perceived Impacts on Sponsor:

- "Most of the projects that the students were doing for us [...] it would've been great if we could have implemented them." - Mike McCumisky, Victoria Fire Services Museum

AFAC and Fire Protection Association Australia - Rob Llewellyn

Perceived Impacts on stakeholder groups:

- "In Australia some of our reports have even been used in senate inquiries." - Rob Llewellyn Australian Fire Authorities Council and Fire Protection Association Australia

Longevity of the Projects:

- "The Hoarding Project that was done by WPI, helped focus Australia on the hoarding issue, and we still have it, but we are able to manage it much better now." - Rob Llewellyn, AFAC and Fire Protection Association Australia

Working with the WPI IQP:

- "When Jonathan was supervising, and when Jonathan signed off on a fire protection report, that gave that report a lot more credibility in the fire industry, than another professor who is not internationally recognized in the field." - Rob Llewellyn, AFAC and Fire Protection Association Australia

CERES

Working with the WPI IQP:

- "It's really good that sometimes [the professors] push some of the students who are very used to the lab existence and that closed kind of existence to go out and have an experience. I just love the cultural exchange." - Shane French, CERES
- "We're careful not to abuse the technical prowess of the students. It's tempting, but at the same time that's not just why they're here. The students aren't coming here just so we can use their skills, it's good to push them into areas that might not traditionally be their background." - Shane French, CERES
- "Our expectations of what the projects are are much clearer too. When we started, it was trying to get something finished by the time the group left. It had to be finished. The project had to be done, had to be delivered. We realized for us and for WPI that's sort of unrealistic, it's better to go with a project that we can have a few groups working over a period of time. Because we get a better result, but also it's more realistic for the students who actually come and it kind of eases the pressure a little bit. You don't have to have a finalized, built product by the end of this, you do it in stages." - Shane French, CERES

Working with students:

- "The students are really adaptable, we often find that the project just changes. There was one project they actually got here and it just changed tack totally, because they got here and we had a chat and went 'ah, let's go this way.'" - Shane French, CERES
- "There was another project, which was great with CERES, and these students were incredible as well, where the group was in the air, in the plane coming to Australia to do their project at a neighborhood center, and the neighborhood center closed down. In between them starting their seven weeks in America and arriving here and starting, they

got on the ground to the news that their project didn't exist any more, the center had gone, had closed down. So we took them in, and they worked with CERES, and we just made something up on the fly for them, and they had to start from scratch. […] Those students had the flexibility to get off the plane, not completely lose it, and go 'okay, so we're doing a whole new project at a whole different place now.'" - Shane French, CERES

- "And there are people who find that really challenging. There were a couple of guys who part of the project was to go out and talk to people at CERES, do surveys and things like that, and they just would freeze. 'I can't talk to people, I'm in a lab.' Their whole mindset is solo work in a lab, and the professors in that group would try to push them a little bit to get out there, talk to people, get over that fear of needing to work independently. […] And some of them have gone 'that's just not my thing' and that's fine." - Shane French, CERES

Being in another country:

- "And that's the cool thing about being in Australia, getting that cultural exchange but also a chance to do something a little different." - Shane French, CERES
- "I try to let the students who are here have as much free time as they want. They never tend to take it. […] You don't get many chances to be in another country for 7 weeks."
- "It's a really hard balance between trying to get a lot of work done but also have a good experience. It's always that thing where you're in a country for a limited period time so you want to see as much as possible but by cramming so much you might not even see as much as you could." - Shane French, CERES
- "The groups who are coming and doing the projects seem to have a much clearer understanding of what CERES is, what our philosophies are, what their work situation is going to be like. […] There seems to be a greater understanding of who we are and what we do and why we do it. And I've found that the culture shock of coming to CERES is not as great as it was in the earlier groups." - Shane French, CERES
- "That cultural exchange is really good, and I like keeping that going, that's a really valuable part of it. And that's why that's another part of why I think if you're here, take a bit longer. If there's a way to spend longer in the country, in any of your projects, and actually have time in the middle to just actually go and just immerse yourself somewhere for a week or so, and forget about all your projects and your studies and you don't have to be back on Tuesday to finish your thing. Just go, for a little while. That would be really valuable." - Shane French, CERES

Museums Victoria

Working with the WPI IQP:

- "A lot of the projects that we have done with your students are observational studies, which are very time consuming, and you need to spend a lot of time. Having three or four

people coming for a short period of time, enabled us to be done in a concise way, and that was very beneficial to our organization." - Carolyn Meehan, Museum Victoria

Working with WPI Students:

- "Students are pretty independent […], and they are very focused." - Carolyn Meehan, Museum Victoria

CMB

Working with the WPI IQP:

- "I felt that there was really good work put forth from WPI." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services
- "I thought it was so well-organized." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

Over Arup & Partners

Working with the WPI IQP:

- "It [the WPI IQP] gives you links to a great university and students who are bright and capable." - Peter Johnson, Over Arup & Partners

Working with students:

- "Bunch of bright students coming, they're gonna bring fresh ideas. They're looking at not only looking at engineering aspects of problems, but looking at social and other aspects of what they're gonna look at. For a small investment, you're going to get a lot of valuable information from a group of students working intensely on a project for a relatively short period of time." - Peter Johnson, Over Arup & Partners

Being in another country:

- "What I tried to do is make sure to look after them not only in their project work, but, you know, have a barbecue on the weekend […]. Make the whole experience more than just doing the project in a hotel for a couple of months. To actually give them a broader experience. […] And perhaps take back to WPI some broader experience of life in the world." - Peter Johnson, Over Arup & Partners

Emergency Services Foundation

Working with students:

- "I have never ever had a student on a personal point of view that has let me down." - Emergency Services Foundation
- "I get quite excited when there's a new batch coming." - Jenny Davis, Emergency Services Foundation

Victoria Fire Services Museum

Working with the Students:

- "The students were great [...] they spent a lot of hours, after hours." - Mike McCumisky, Victoria Fire Services Museum

Additional Noteworthy Quotes:

"It's such a unique thing. Most other unis and stuff in America don't do that, and that's why people go to WPI, is because of this program, a lot of people. I've met people who are doing projects with us who chose WPI because of the overseas program. So it should be a focus if that's a key focus. […] Having a few weeks here or there over the course of a university life where you get to embed yourself a bit more in one of your projects in the country that you're in, I think that's a key part of what WPI is." - Shane French, CERES

"More than anything else, it's getting you guys ready for the workplace… You're going to be far more ready to contribute straight away [in the workplace]." - Jason Cox, Moreland Energy Foundation Ltd

Notes from Geoff Kaandorp, Metropolitan Fire and Emergency Services Board:

- A lot more money and investment to have the MFB researchers to do the work

"I can name about half a dozen kids who have been out here for WPI projects that have finished up fairly high up the tree in fire protection. And a lot of it has to do with the fact that they came here and got that on their CV, and some of them got introductions. One of them came out and worked in Australia." - Rob Llewellyn, Australasian Fire Authorities Council

"I felt that they were generally of a very high standard in their presentations…" - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

"WPI students would present, not just in a formal presentation but in a business sense…very professionally." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

"The engineers are so busy. […] Often they haven't got the time. While they've got the interest and have the ideas, they haven't got the time to do it. And you can come along, cost effectively often, and under their direction, they've got the ideas, you've got the brains and the time. It works and you get stuff done that you might not otherwise get done. It's a good model that works for a lot of organizations." - Peter Johnson, Over Arup & Partners

H.3 Summary Statistics

Summary Statistics from Documenting and Promoting the MPC IQP Team (D17):

- 83.3% of Sponsor Liaisons perceived the projects had high impacts on the sponsoring organization
- 16.7% of Sponsor Liaisons perceived the projects had medium impacts on the sponsoring organization
- There were no low or non-existent perceived impacts on the sponsoring organizations

- 75.0% of Sponsor Liaisons perceived the projects had high impacts on the project's stakeholder groups
- 12.5% of Sponsor Liaisons perceived the projects had medium impacts on the project's stakeholder groups
- There were no low or non-existent perceived impacts on the project's stakeholder groups

- 70.8% of Sponsor Liaisons perceived the projects had long-lasting impacts
- 25% of Sponsor Liaisons perceived the projects had medium-lasting impacts
- There were no projects that had short-lasting or non-existent lasting perceived impacts.

- 92.6% of Sponsor Liaisons had a positive experience with the WPI IQP
- 7.4% of Sponsor Liaisons had a neutral experience with the WPI IQP
- There were no sponsor liaisons that had negative experiences with the WPI IQP

- 88.9% of Sponsor Liaisons had a positive experience with WPI students work ethic and professionalism
- 11.1% of Sponsor Liaisons had a neutral experience with WPI students work ethic and professionalism
- There were no sponsor liaisons that had negative experiences with the WPI students

83.3%

Of liaisons described the projects as having a high impact on their sponsoring organization

75.0%

Of liaisons reported the projects having a high impact on the stakeholders of their IQP project(s)

70.8%

Of liaisons described the projects as having long lasting impacts on their organization

Perceived Impacts

	Project-Based Learning	Service Learning	Study Abroad*
Learning Goals	• Manage multiple tasks • Collaborate effectively on a team • Communicate with multiple stakeholders • Create innovative and relevant solutions • Improve understanding of underlying material	• Education via community service • Improve personal efficacy • Enhance individual growth • Combat reductive seduction tendencies	• Improved open-mindedness • Experience learning as a way of life • Intercultural development
Unique Application to the IQP	• Contribute research and recommendations to address open-ended problems • Hands-on group work • Project spanning several months	• Community-based nature • Working alongside organizations and their communities	• Immersion into an unfamiliar culture • Emphasis on ethics and collaborative practice ***Not all IQPs are completed abroad**

27 sponsor liaisons were interviewed about their experiences with the IQPs they oversaw in Melbourne, Australia. The data below is reflective of the perceived impacts and experiences of the liaisons who had completed at least one IQP at the time of being interviewed.

MPC Sponsoring Organizations

- Interviewed - Not interviewed

Sponsor Liaisons Interviewed

- Completed One or More IQPs
- Completing First IQP

Experience with WPI IQP Process

- Positive - Neutral - Negative

Perceived Impact on Stakeholder Organization

- High Impact - Medium Impact
- Low Impact - Could Not Determine

Project Impact Longevity

- Long Lasting - Medium Lasting
- Short Lasting - Non-Existent
- Could Not Determine

Perceived Impact on Sponsoring Organization

- High Impact
- Medium Impact
- Low Impact

Documenting the MPC Team (B16) Statistics:

98%

of MPC Alum reported that their project experience helped develop their professional writing skills

68%

reported that their project experience greatly enhanced their cultural awareness

73%

reported that their project experience significantly enhanced their teamwork skills

58%

reported that their project experience had a significant positive impact on their professional work

53%

reported that their experience stimulated new interests

29%

reported that their experience had an impact on their personal goals

38%

reported that their experience motivated personal changes in their lifestyle or attitude

H.4 Student Testimonials

Q: You mentioned your project experience enhanced one or more of your skills a lot or a great deal. Can you explain which aspects of the project helped you develop that skill?

"By working with an interdisciplinary team from varying backgrounds, I was able to develop skills that are vital for teamwork. These are skills that I use to this day in my career which requires interaction with people from various backgrounds. I also learned valuable skills related to project management including setting deadlines for both the team and myself as an individual, as well as learning how to manage deadlines when there is a change to the plan based on information learned during the process." – D Term 2007, MPC Alum (prefers to be quoted anonymously)

"Working for a company in a real-world context created an environment in which we had to be professional and produce deliverables that were high quality and excellent. Working as a team brought out the strengths and weaknesses of each of the team members allowing some to take leadership roles while other assumed other positions. As a small group each members was visible and provided direct ideas and feedback in all aspects of the project." – D Term 2010, MPC Alum (prefers to be quoted anonymously)

"It was like an internship. We worked for a real company delivering real results. The pressure was on and it was a great experience." – C Term 2010, MPC Alum (prefers to be quoted anonymously)

"The extensive planning and preparation that we did prior to getting to Australia was immensely helpful when we arrived. It made me and my team realize the importance of planning out such a large project and taught us important lessons about time management. Additionally, each team member was in charge of a different aspect of the project. This led to excellent leadership opportunities that enhanced my leadership skills." – B Term 2014, Patrick Thomas

"The skills were developed naturally by the accountability of impact on a company that you work at every day. The final oral project presentation was the most important to me; I give briefings quite often at my current job. My employers were quite surprised at my presentation skills and confidence so early in my career. The final IQP presentation is something that sparked that." – D Term 2009, MPC Alum (prefers to be quoted anonymously)

"My project focused in adapting hands in science programs for students with disabilities. This out of the box thinking applied to a real world problem led me to pursue a graduate degree in rehabilitation engineering." – 2007 (term not specified), Lynn Worobey

"Working with difficult team members in a foreign country taught me patience and how to work with their weaknesses and enhance their strengths. With only that project to worry about while abroad it gave me the sense of what it would be like in a real-world situation." - D Term 2012, MPC Alum

"Working on a team was very beneficial. It fostered collaboration, brainstorming, time management, task distribution, and project management. This has all helped in the real world." - C Term 2005, MPC Alum

"My IQP was the first time at WPI where my writing skills were challenged and my abilities improved. Additionally, all the emphasis on presentations assisted me with nerves and a tendency to talk too fast. I view my IQP as one of the highlights of my WPI educational career." - Helen Hanson, D Term 2005

"The entire structure of the IQP develops each area, from having rigid deadlines of a fast moving and in depth project, to constant informal and formal communication meetings and presentations." - Hannah Gallagher, B Term 2014

"One of the major things not highlighted, is the fact that it prepared me for the working world. Getting use to the '9-5' experience was a big take away from the project. Throughout my life up until that point, even though I was being educated to become an engineer and had worked many different jobs, I had never experienced the world in which my career would be apart of and being able to experience that culture was invaluable." - D Term 2007, Anthony DiOrio

Q: You mentioned your project experience changed your views about one or more topics a lot or a great deal. Can you explain what facet of your project changed your awareness or attitude regarding that topic?

"While working on the IQP I learned a lot more about issues that affect many people throughout the world, both through my own project and hearing about experiences of my fellow students in their IQP projects. By having the hands-on experience of the IQP I was able to gain a better

understanding of the types of issues faced by me fellow man both domestically and abroad." – D Term 2007, MPC Alum

"This was my first experience in a professional, corporate environment. It was a great experience and prepared me for my career, and actually sparked some interest in business. I was studying a lab science so this exposure was really helpful, although I may not have recognized at the time." – D Term 2000, MPC Alum

"Getting out of the United States bubble was certainly the best part of the project - it really helped bring to light that the world is bigger than just the US. I am truly grateful for my first opportunity for exposure to other cultures - I haven't stopped traveling around/learning about/experiencing the world since!" – D Term 2000, MPC Alum

"Working aboard for my IQP requirement allowed me to see that problems we faced at home were truly global problems and should be conducted or at the very least shared on a global scale. My experience fueled my desire for a global community and actually led me back to Australia to complete my PhD." – D Term 2010, MPC Alum

"Project was heavily focused on how decisions engineers make affect safety of the end users of their product. Probably my first exposure to how much grey area there can be in engineering and how important it is to make good assumptions even when facing pressure to arrive at a particular answer." - D Term 2007, WPI Alum

"The interaction with the deaf community we had during our project changed how I saw society and how different people communicate differently. It was one of the coolest experiences of my life being in a room where 90% of the people were deaf and still finding ways to communicate with each other even though my group members and I didn't know sign language." - C Term 2012, MPC Alum

"Simply written - to solve a problem, we do not just need to invent new solutions, but we need the ability to influence others to use that solution." - D Term 2005, MPC Alum

"I felt that the results of my projects were so far reaching. I was significantly impacting elementary school education in all of Australia. For me, this was both humbling and motivating." D Term 2009, MPC Alum

"My appreciation for real world problems and there not always being an 'easy' solution was greatly influenced. It was an enlightening experience which introduced me to the challenges faced by interdisciplinary professionals around the world." D Term 2011, MPC Alum

"My IQP assisted me in developing a better global understanding and an appreciation for how 'similar' cultures could actually be quite different." - Helen Hanson, D Term 2005

"It was my first time out of the country and I learned so much about global viewpoints and cultural differences. In addition, the fact that the project was so incredibly different from what my major is allowed me to think outside the box." - D Term 2008, MPC Alum

"Understanding that what we work on, no matter how small or large, there is an effect on the society." Anthony DiOrio, D Term 2007

"I worked on the education project for CSIRO. That project showed me the importance of how proper education can really shape a young person's life. It also showed me the importance of ethics. How the everything from simple interactions to the delivery of the material can really impact the students we were working with. We were role models for the children we interacted with, so it was imported for us to hold ourselves to a higher standard." D Term 2010, MPC Alum

"The experience of spending 2 months living and working in a foreign country really broadened my understanding of the world and its different cultures. Working every day in an interdisciplinary team helped me learn how to collaborate with people of differing backgrounds and areas of expertise." - D Term 2013, MPC Alum

"Though similar to America, the cultural differences in Australia were still present and provided for new perspective and learning experiences. Along with completing my project, I also joined a local soccer team and found myself having to learn new ways to interact whether it be in the workplace or on the field." - Megan Forti, D Term 2013

"Our project concentrated on attempting to integrate environmental sustainable practices into fire protection. Many environmentally sustainable practices, if carried out properly, actually benefit the fire protection industry. However, there is a strong hesitancy to adopt these practices because of a strong aversion to change in the industry. It takes a strong push from the public to influence change in industries where the norm is considered acceptable." - Nathan Lee, D Term 2011

"To this day I continue to follow advances in hearing aids and hearing loss. A lot of the things we suggested have come to fruition - it's been cool to follow." D Term 2006, Timothy Buck

"By completing an international IQP I learned more about being a better global citizen. Learning about and trying to solve issues from around the world can provide an enlightening experience that makes you realize how much good can be done by people that care." – D Term 2007, MPC Alum

"Looking back and seeing all that we achieved increased self-confidence. Being with the same people all the time formed lifelong friendships." – B Term 2015, MPC Alum

"All of my interactions, both with people in Australia and my WPI peers, changed who I am as a person forever. The friends I made and the social skills I learned have benefitted me in ways I probably can't express. Essentially, I learned more about communication and social interaction on that trip than at any other time in my life to that point." – D Term 2007, MPC Alum

"My project experience was incredibly detrimental to my self-esteem, and destroyed a friendship that I had developed with one of my groupmates. Going into the project, I felt confident in my abilities to get along with a group in a professional, collaborate environment, and my ability to assimilate into a group of peers in a new environment. Throughout the process of completing the project, I felt extremely isolated from my project and peer groups. My project group was not accepting or tolerant of my anxiety, which was piqued by the new environment and different work schedule. It should be noted that I did everything I could think of to create a good work environment, approaching my advisors many times about the issue and asking them what I could do to help. Because I do not drink I was often alone during off hours, since I was the only member of the peer group who didn't drink or like to go out at night. At the end of the three month project period in Melbourne, I felt that I had grown culturally but taken many steps back in the process of managing my anxiety and depression." – D Term 2015, MPC Alum

"The combination of the new environment, people, and projects in a foreign country opened my eyes to a view beyond the suburb of Rhode Island that I grew up in. It broadened my perspectives on people and culture and ultimately made me a more effective team member and better person overall." – D Term 2009, MPC Alum

"This project influenced my self-confidence as I went to a completely new country and lived a completely different life than was "normal" for me, it was imperative I step out of my comfort zone and open myself to new experiences. It helped me grow by expanding my knowledge of new cultures and ways of life." – D Term 2012, Brooke Czapkowski

"My project consisted of determining why students were not studying to be a statistician. I am very passionate about getting more women, and minorities into the STEM fields. This just continued to drive my passion, and has been a great reference as I continue to do volunteer work in this field." – D Term 2006, Vanessa Castro

"I definitely had to learn how to work with challenging people, which had helped me in the long run, or at least helped me so far in the grad school lab. I also just married one of the guys that I started while I was at the project site." - D Term 2013, MPC Alum

"The group of people I went to Australia with will be my life long friends. Spending 2 months with such a small group of people in a foreign country going on amazing adventures exponentially increases the memories with those people and about that location. I now know that I would love to go abroad again for a few months at a time." - D Term 2012, MPC Alum

"I can say that some of the best memories of my life have been on those two trips. Working on these projects influenced my self confidence about working in the business world and motivated me to set personal goals such as getting an internship." - C Term 2005, MPC Alum

"It allowed me to step away from many of the stereotypes that had clouded my views of the world." - D Term 2002, Scott Dolan

"I am now more environmentally conscience and interested in keeping up to date with environmental problems." - D Term 2016, MPC Alum

"After my IQP, I felt much more prepared for the 'real world'. In interviews, you often get questions that start with "Describe a time when you ..." in order to get you to tell about leadership experience, problem solving, dealing with hardships, etc. I was able to use my experiences on my IQP when applying for internships rather than having to talk about a difficult course. I felt very prepared for interviews and confident when I got the job that I would be able to rise up to the challenge." - Jeff Simpson, D Term 2003

"All of my interactions, both with people in Australia and my WPI peers, changed who I am as a person forever. The friends I made and the social skills I learned have benefitted me in ways I probably can't express. Essentially, I learned more about communication and social interaction on that trip than at any other time in my life to that point." - D Term 2007, MPC Alum

"I was most surprised by my ability to thrive professionally and personally in an environment so far removed from that in which I was most comfortable (home)." - D Term 2009, MPC Alum

"I was really able to take a leadership role above and beyond my individual contributor role. This opened my eyes to my skills at managing, which influenced the range of careers that seemed like good fits for me." - D Term 2010, MPC Alum

"The project is really your first test at the 'real world.' High school to college is a huge step, however there are several different support systems and safety nets on campus. With the project, the objective is smaller and focused on one project, but the environmental factors you have to learn to deal with forces you learn how to analyze and process; fostering real self awareness quite quickly." - D Term 2006, MPC Alum

"Being halfway across the world with a group of people definitely creates strong bonds. Being on this project was essentially like having a job - working 9-5 solving this problem. It inspired me to reconsider what career I was preparing for, and I ended up switching majors when I got back from my IQP." - Graham Leto, C Term 2010

"I've always thrived in local, small environments. I went to a small Catholic high school and WPI is a small school as well. Leaving my family and friends behind for 3 months to jump into the unknown halfway around the world was a life changing experience. I've made friends that I still connect with 9 years later - the unique and powerful nature of the experience forged strong friendships." - D Term 2007, Adam Medeiros

"This IQP was such a life changing experience, that I now actually live and work in Melbourne, Australia full time! It introduced me to a whole new culture, and gave me a broader view of the fire safety world (which I work in now). " - Nate Lobel, D Term 2011

"Being able to live and be self sufficient in another country really improved my self confidence. It really confirmed that I love traveling around the world and solidified my desire to do more traveling in the future." - D Term 2010, MPC Alum

"This project affected my attitude towards the global perspective of projects that I had not known anything about in the past. It opened my eyes to many new cultures and differences in peers in how to deal with such problems. It gave me a greater understanding of my work ethic and how to combat challenges in a work or group setting, as well as handle tough reactions in regards to our project, which influenced my self confidence in many ways. It also created lifelong friendships with others in this group, as we worked through these challenges together and also bonded over new experiences in a fantastic place." - Sarah Brockway, C Term 2013

"Working on a real-world project and giving a formal presentation of our work helped to bolster my self confidence. Working on an education-related project helped reinforce my interest in teaching, and has helped lead me to do some volunteer work as a teaching assistant after graduation. Spending weekends in Melbourne gave me a lasting interest in Australian rules football, and a desire to learn more about other sports played around the world." - D Term 2013, MPC Alum

"I learned more about the connections between culture and science, and how different people view the same things in varied ways, and accordingly shouldn't be treated the same." - D Term 2016, Steven Laudage

"Working at an educational center for sustainable living increased awareness of my personal impact on environmental resources and led to changes in my personal habits of daily living such as making a point to decrease water and electricity use and recycling whenever possible. Furthermore, I loved Australia so much after having done my IQP there that I went back and completed my first two years of medical school in Brisbane a few years ago." - C Term 2002, MPC Alum

Q: What improved skill or personal growth from the project aided you professionally? How did that help you in your career?

Researching and writing reports, as well as getting over a fear of asking questions and speaking to new people (which my IQP demanded) has made me more effective when I have to do those things for my job - D Term 2011, MPC Alum

This experience gave me a great talking point pn interviews and the experience made me a better professional - C Term 2013, MPC Alum

My self-confidence growth as well as my experience of learning new cultures that I had experienced from this IQP has helped me become a much more well-rounded colleague in my professional career. - D Term 2012, Brooke Czapkowski

I learned a lot about communicating with people and being able to talk to professionals. This helped in my career by being able to communicate project needs with coworkers. - D Term 2012, MPC alum

The leadership and teamwork skills I used in this IQP made me far better equipped to manage projects in the working world. Since graduating I have had to lead several projects across many different departments with team members who did not necessarily report to me. This project taught me many skills about working with peers with very different backgrounds. - B Term 2014, Patrick Thomas

I was significantly better prepare for technical writing and presentations which allowed me to be more successfully than my colleagues at professional conferences and in my career roles. - D Term 2005, Helen Hanson

Definitely an increase in personal communication and being able to communicate to people with different ideas. We conducted a lot of interviews and surveys with people of different views and perspectives. Learning how to communicate with these people definitely developed into a good skill to have professionally. - D Term 2016, Zachary Hood

Appreciate people for their own personal skill set and how to maximize them to produce the desired results. - D Term 1999, MPC Alum

I decided to pursue international job opportunity right out of college based on the confidence I had developed and also the exposure I had to another culture. - D Term 2000, MPC Alum

The IQP as a whole helped me learn how to work with teams in real life situations that do not have a defined start and end but are continuous improvement projects. In my current role as a project manager the skills learned about timelines, project scoping and teamwork have been paramount. - D Term 2012, Jean Paul Miralda Nasser

In my career, I was not as hesitant or nervous about working for a global company involving project travel directly after leaving WPI. It was as if my first few job assignments were large IQPs; I treated them as such until I had a firmer understanding of my company's approach. This

structured approach really set me up to outshine my fellow junior coworkers. It provided me some referent and expert power within the work group, propelling me into a leadership role I was able to embrace and use to propel my career. - D Term 2006, MPC Alum

My change in career paths due to inspiration found during my experience has benefitted me immeasurably. I am doing something I love in an industry I would not have ordinarily broken into had I not had this experience. - C Term 2011, Graham Leto

I still discuss things I learned from this experience in interviews and bring it into my work ethic. I attribute much of my success post-graduation to the things I learned about other cultures, my work ethic, and other peers while abroad in Australia. - C Term 2013, Sarah Brockway

My IQP strengthened my excitement about working internationally - I have since lived/worked abroad after graduation. - D Term 2007, MPC Alum

Q: Can you elaborate on the specific impacts your project had, or an changes that came about as a result of your project?

"One of the recommendations that resulted from our project was to create a program for young children to learn about healthy relationships to hopefully make them more aware and to minimize future relationship violence. If we start teaching young it could potentially have a huge impact on generations to come. This recommendation was used for the next IQP group that went this past D term and they made it a reality. Our idea was actually implemented so that was awesome!" – B Term 2015, Caroline Medino

"My project in Banksia seemed more like the foundation of a science awareness program for local kids where we setup possible education materials, investigated and spoke with potential external sponsors to help support the program. Meanwhile the programs after our year were able to branch off of our work and further expand and make the program a reality so it's great seeing our work move forward." – D Term 2012, MPC Alum

"This report had information regarding the preventive approaches and accuracy of identification that firefighters were already implementing while responding to emergencies. This process that our report highlighted and analyzed has the potential to grow within global fire services as it showcased the possibility to merge response and prevention into one step. It was significant

because this practice was already in place, but a documentation and analysis of the practice had never occurred prior to our report." – D Term 2016, Elizabeth Coffey

"Before we completed our project, each region operated entirely independently. They were each responsible for maintaining documentation on the fire safety compliance of the facilities within their region, but there was only a minimal process in place for doing so. By asking the right questions of each region and sharing our findings, we were able to improve the process for all regions." – D Term 2003, Jeff Simpson

"We published our project report, "Promoting the Design of Buildings that Are Fire Safe and Sustainable" in FPA Australia's quarterly magazine. This is distributed across Australia so that article had an impact on the Melbourne and Australia community. The goal was to get the conversation started about this complex issue and to eventually get both the fire safety community and the sustainable building authorities to collaborate together to create buildings which exemplify the best of both worlds." – D Term 2011, MPC Alum

"My entire project focused on professional development for statistics education and how it affected teachers, and therefore how it affected young students. I learned that elementary school teachers were hesitant to teach statistics in their classrooms because they were not confident in the subject themselves. By creating professional development for the teachers and making the subject easier for them to teach, we were impacting the education level of the youth. I personally felt I was making a significant impact." – D Term 2009, MPC Alum

"We physically made a product that was implemented into a scientific outreach program run by CSIRO. In addition further alterations to the program were made based on our recommendations." – D Term 2009, Dr. Sally Trabucco

Appendix I Social Media

G.1 Facebook Page – WPI's Melbourne Project Center

Appendix J Informational Packet Content

Sponsor Testimonials

Sponsor testimonials are divided by topic.

The Vignettes will go here

Perceived Impact on sponsor:

- "As a result of those findings from her [Julie's] study, MFB has changed its approach to how we try to mitigate fire risk in the community." - Geoff Kaandorp Metropolitan Fire and Emergency Services Board

- "WPI projects have been catalysts for new initiatives at Banksia Gardens." - Jaime De Loma-Osoria Ricon, Banksia Gardens

- "I would say that all of them had impacts to one degree or another." - Paul Murfit, Moreland Energy Foundation Ltd

- "I haven't done one study that I haven't had purpose to use it for." - Julia Harris, Metropolitan Fire and Emergency Services Board

- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australiasian Fire Authorities Council:

  o Mostly projects provided small-scale research that wouldn't be done otherwise

  o Serve as basis for further work

  o Help the organization develop a problem-solving mindset / approach

- o Doesn't require much oversight, no need for peer review (WPI ensures the integrity of the students' work)

  - o "[Results get implemented] Pretty often. I can't really comment on the assets one, but most of the stuff I have seen actually takes place, or actually happens." - Carly Siebentritt, CSIRO

- "We used it really as evidence about the level of food insecurity in the area. We use it in submissions [for grants]. We got a grant for cold storage for the food bank. It's enabled us to expand the food bank." - Meredith Lawrence, Fawkner Community House

- "In terms of the impact.. it gave them [service providers in Fawkner] the evidence base to gain funding to set up a small community market. It helped them to show that food insecurity needed to be addressed. Now fresh fruit and vegetables are sold at discounted prices." - Meredith Lawrence, Fawkner Community House

- "The project that was done in [...] 2013 was a project that we initiated because we wanted to change the education programs at Melbourne Zoo [...] the results of that project informed the changes to our education program." - Cyrelle Field, Zoos Victoria

- "It was a huge change, we've been teaching the same way for forty years [...] we went through the process of change following that project because it gave us some data to work with." - Cyrelle Field, Zoos Victoria

- "Most of the projects that the students were doing for us [...] it would've been great if we could have implemented them." - Mike McCumisky, Victoria Fire Services Museum

Perceived Impact on stakeholder groups:

- "In Australia some of our reports have even been used in senate inquiries." - Rob Llewellyn Australian Fire Authorities Council and Fire Protection Association Australia

- "The first [hoarding study, conducted by WPI students] was the world's first study of hoarding in fire incidents in the world." - Julie Harris Metropolitan Fire and Emergency Services Board

- "They've [IQPs conducted with the MFB] been used in the Coroners Court of Victoria; they've been cited in the press; they've been cited in international journals; they've been cited in international publications." - Julie Harris Metropolitan Fire and Emergency Services Board

- Notes from Jason Cox, Moreland Energy Foundation Ltd

    o When team got here, they realized that the survey didn't represent MEFL at all

    o Huge bias within the survey

    o Project changed to reaching out the community through different means

        ▪ Younger people – Facebook, social media, etc

        ▪ Old people – telephone, etc.

    o NOW – they have formalized this process, as a result of the WPI project

        ▪ Refer back to the research performed by WPI students

        ▪ Concrete data and research used to prove that some communication means are more effective than others

        ▪ Social media – something like 90% more effective than calling up on landline

- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council:

    o Improve safety and quality of life for hoarders

    o Provide data to help improve regulations

- Hoarding Study
- Electrical wiring as a fire hazard

Longevity of the projects:

- "Pretty often. I can't really comment on the assets one, but most of the stuff I have seen actually takes place, or actually happens."

- "Up til a couple months ago, we were still using that research in our program design." - Paul Murfit, Moreland Energy Foundation Ltd

- "Some of the background work and some of the survey work that was done by the groups we are still using." - Paul Murfit, Moreland Energy Foundation Ltd

- "The Hoarding Project that was done by WPI, helped focus Australia on the hoarding issue, and we still have it, but we are able to manage it much better now." - Rob Llewellyn, AFAC and Fire Protection Association Australia

Working with the WPI IQP:

- "It's really good that sometimes [the professors] push some of the students who are very used to the lab existence and that closed kind of existence to go out and have an experience. I just love the cultural exchange." - Shane French, CERES

- "We're careful not to abuse the technical prowess of the students. It's tempting, but at the same time that's not just why they're here. The students aren't coming here just so we can use their skills, it's good to push them into areas that might not traditionally be their background." - Shane French, CERES

- "Our expectations of what the projects are are much clearer too. When we started, it was trying to get something finished by the time the group left. It had to be finished. The project had to be done, had to be delivered. We realized for us and for WPI that's sort of

unrealistic, it's better to go with a project that we can have a few groups working over a period of time. Because we get a better result, but also it's more realistic for the students who actually come and it kind of eases the pressure a little bit. You don't have to have a finalized, built product by the end of this, you do it in stages." - Shane French, CERES

- "A lot of the projects that we have done with your students are observational studies, which are very time consuming, and you need to spend a lot of time. Having three or four people coming for a short period of time, enabled us to be done in a concise way, and that was very beneficial to our organization." - Carolyn Meehan, Museum Victoria

- "You support very well, the projects and the hosts and the teams." - Paul Murfit, Moreland Energy Foundation Ltd

- "We've had no issues at all." - Jason Cox, Moreland Energy Foundation, Ltd

- Notes from Jason Cox, Moreland Energy Foundation, Ltd
  - There was a group of four. Three were very confident, one wasn't at all confident. First presentation – what they were doing here and so forth – Jason could see the pressure and anxiety within the student's face (the shy one). By the end of the project, he was able to do his piece of the presentation properly.
    - "It was quite amazing for me"
    - "It was like: 'just by coming here you were jumping in the deep end. And now you're swimming.'"
  - By the end of the 6 weeks, students learned a lot of valuable problem solving skills. They sorted through problems accordingly instead of immediately asking for help.
  - Social interaction of "How do we do this?" dynamic is interesting

- o "Good testament of the maturity of the people who come out here."
- "When Jonathan was supervising, and when Jonathan signed off on a fire protection report, that gave that report a lot more credibility in the fire industry, than another professor who is not internationally recognized in the field." - Rob Llewellyn, AFAC and Fire Protection Association Australia
- "I felt that there was really good work put forth from WPI." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services
- "I thought it was so well-organized." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services
- "Depending on the group, and how well the group works, occasionally the supervision levels are the higher than the anticipated which takes times from other projects. It getting people doing the work and stuff. It's the groups you need to speak to every day because they are not talking to each other, and it's not working so well. Sometimes, it becomes a bit of an issue, but most of the times is your advisors that have to deal with that." - Carly Siebentritt, CSIRO
- "It's great to have you here." - Carly Siebentritt, CSIRO
- "It [the WPI IQP] gives you links to a great university and students who are bright and capable." - Peter Johnson, Over Arup & Partners
- "The teams always work really well together and can work independently, I think they're great." - Cyrelle Field, Zoos Victoria
- "I know that with the education teams here at Melbourne, they've always loved having WPI students." - Cyrelle Field, Zoos Victoria

- "The students are really adaptable, we often find that the project just changes. There was one project they actually got here and it just changed tack totally, because they got here and we had a chat and went 'ah, let's go this way.'" - Shane French, CERES

- "There was another project, which was great with CERES, and these students were incredible as well, where the group was in the air, in the plane coming to Australia to do their project at a neighborhood center, and the neighborhood center closed down. In between them starting their seven weeks in America and arriving here and starting, they got on the ground to the news that their project didn't exist anymore, the center had gone, had closed down. So we took them in, and they worked with CERES, and we just made something up on the fly for them, and they had to start from scratch. […] Those students had the flexibility to get off the plane, not completely lose it, and go 'okay, so we're doing a whole new project at a whole different place now.'" - Shane French, CERES

- "And there are people who find that really challenging. There were a couple of guys who part of the project was to go out and talk to people at CERES, do surveys and things like that, and they just would freeze. 'I can't talk to people, I'm in a lab.' Their whole mindset is solo work in a lab, and the professors in that group would try to push them a little bit to get out there, talk to people, get over that fear of needing to work independently. […] And some of them have gone 'that's just not my thing' and that's fine." - Shane French, CERES

- "Students are pretty independent […], and they are very focused." - Carolyn Meehan, Museum Victoria

- "Generally, groups do very good work." - Jaime De Loma-Osoria Ricon, Banksia Gardens

- "That's one of the things that I'm really impressed with you guys when you come over. You are very self directive and motivated [...]" - Paul Murfit, Moreland Energy Foundation Ltd

- "I'm really impressed with the students, who are very self directive and motivated." -Paul Murfit, Moreland Energy Foundation Ltd

- "The work is very high quality and its well done. Thats why we keep going back for more." - Paul Murfit, Moreland Energy Foundatio Ltd

- "All the people who have come have been great." - Jason Cox, Moreland Energy Foundation, Ltd

- "When they come here, they work *incredibly* hard." - Julia Harris, Metropolitan Fire and Emergency Services Board

- "I really enjoy working with them [WPI students]." - Geoff Kaandorp, Metropolitan Fire and Emergency Services Board

- Notes from Jarrod Edwards, Metropolitan Fire and Emergency Services Board and Australasian Fire Authorities Council
  - spending a lot of time with students defeats the purpose
  - Pretty good at getting things done themselves, not much need for oversight, able to function autonomously
  - Students were sociable, great for continued desire for projects, interact daily with staff

- "The joy of you, guys, is that you can focus on an activity, or a task, or an evaluation that we tend not to have the time or the resources to actually do it ourselves. It's the wish list of things you want to do, but don't necessarily have the time or the resources to do." - Carly Siebentritt, CSIRO

- "Your perspective is greatly appreciated." - Carly Siebentritt, CSIRO

- "The joy is also that you guys are quite, in some ways, closer to the age groups that we are working with. You are closer to teenagers than most of us." - Carly Siebentritt, CSIRO

- "Bunch of bright students coming, they're gonna bring fresh ideas. They're looking at not only looking at engineering aspects of problems, but looking at social and other aspects of what they're gonna look at. For a small investment, you're going to get a lot of valuable information from a group of students working intensely on a project for a relatively short period of time." - Peter Johnson, Over Arup & Partners

- "The students work was as good if not better than a consultant we could have hired" (ask for permission to use) - Dennis Hogan, Victoria Building Commission

- "I have never ever had a student on a personal point of view that has let me down." - Emergency Services Foundation

- "I get quite excited when there's a new batch coming." - Jenny Davis, Emergency Services Foundation

- "The students were great [...] they spent a lot of hours, after hours." - Mike McCumisky, Victoria Fire Services Museum

- "And that's the cool thing about being in Australia, getting that cultural exchange but also a chance to do something a little different." - Shane French, CERES

- "I try to let the students who are here have as much free time as they want. They never tend to take it. […] You don't get many chances to be in another country for 7 weeks."

- "It's a really hard balance between trying to get a lot of work done but also have a good experience. It's always that thing where you're in a country for a limited period time so you want to see as much as possible but by cramming so much you might not even see as much as you could." - Shane French, CERES

- "The groups who are coming and doing the projects seem to have a much clearer understanding of what CERES is, what our philosophies are, what their work situation is going to be like. […] There seems to be a greater understanding of who we are and what we do and why we do it. And I've found that the culture shock of coming to CERES is not as great as it was in the earlier groups." - Shane French, CERES

- "That cultural exchange is really good, and I like keeping that going, that's a really valuable part of it. And that's why that's another part of why I think if you're here, take a bit longer. If there's a way to spend longer in the country, in any of your projects, and actually have time in the middle to just actually go and just immerse yourself somewhere for a week or so, and forget about all your projects and your studies and you don't have to be back on Tuesday to finish your thing. Just go, for a little while. That would be really valuable." - Shane French, CERES

- "I think it's a big ask for people your age to come to this country and do this kind of work." - Julia Harris, Metropolitan Fire and Emergency Services Board

- "The international connection is quite nice. It's nice for us to say that we are working with a group elsewhere. It's nice for outlook to have different bodies wandering around the room and playing and bringing a different perspective." - Carly Siebentritt, CSIRO

- "What I tried to do is make sure to look after them not only in their project work, but, you know, have a barbecue on the weekend […]. Make the whole experience more than just doing the project in a hotel for a couple of months. To actually give them a broader experience. […] And perhaps take back to WPI some broader experience of life in the world." - Peter Johnson, Over Arup & Partners

Additional Noteworthy Quotes:

- "It's such a unique thing. Most other unis and stuff in America don't do that, and that's why people go to WPI, is because of this program, a lot of people. I've met people who are doing projects with us who chose WPI because of the overseas program. So it should be a focus if that's a key focus. […] Having a few weeks here or there over the course of a university life where you get to embed yourself a bit more in one of your projects in the country that you're in, I think that's a key part of what WPI is." - Shane French, CERES

- "More than anything else, it's getting you guys ready for the workplace… You're going to be far more ready to contribute straight away [in the workplace]." - Jason Cox, Moreland Energy Foundation Ltd

- Notes from Geoff Kaandorp, Metropolitan Fire and Emergency Services Board:
  - A lot more money and investment to have the MFB researchers to do the work

- "I can name about half a dozen kids who have been out here for WPI projects that have finished up fairly high up the tree in fire protection. And a lot of it has to do with the fact

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that they came here and got that on their CV, and some of them got introductions. One of them came out and worked in Australia." - Rob Llewellyn, Australasian Fire Authorities Council

- "I felt that they were generally of a very high standard in their presentations…" - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services
  "WPI students would present, not just in a formal presentation but in a business sense…very professionally." - Judith Hemsworth, State Government of Victoria, Australia - Capability Management Branch (CMB) of the Department of Human Services

- "The engineers are so busy. […] Often they haven't got the time. While they've got the interest and have the ideas, they haven't got the time to do it. And you can come along, cost effectively often, and under their direction, they've got the ideas, you've got the brains and the time. It works and you get stuff done that you might not otherwise get done. It's a good model that works for a lot of organizations." - Peter Johnson, Over Arup & Partners

Student Testimonials

Q: You mentioned your project experience enhanced one or more of your skills a lot or a great deal. Can you explain which aspects of the project helped you develop that skill?

"By working with an interdisciplinary team from varying backgrounds, I was able to develop skills that are vital for teamwork. These are skills that I use to this day in my career which requires interaction with people from various backgrounds. I also learned valuable skills related to project management including setting deadlines for both the team and myself as an individual, as well as learning how to manage deadlines when there is a change to the plan based on

information learned during the process." – D Term 2007, MPC Alum (prefers to be quoted anonymously)

"Working for a company in a real-world context created an environment in which we had to be professional and produce deliverables that were high quality and excellent. Working as a team brought out the strengths and weaknesses of each of the team members allowing some to take leadership roles while other assumed other positions. As a small group each members was visible and provided direct ideas and feedback in all aspects of the project." – D Term 2010, MPC Alum (prefers to be quoted anonymously)

"It was like an internship. We worked for a real company delivering real results. The pressure was on and it was a great experience." – C Term 2010, MPC Alum (prefers to be quoted anonymously)

"The extensive planning and preparation that we did prior to getting to Australia was immensely helpful when we arrived. It made me and my team realize the importance of planning out such a large project and taught us important lessons about time management. Additionally, each team member was in charge of a different aspect of the project. This led to excellent leadership opportunities that enhanced my leadership skills." – B Term 2014, Patrick Thomas

"The skills were developed naturally by the accountability of impact on a company that you work at every day. The final oral project presentation was the most important to me; I give briefings quite often at my current job. My employers were quite surprised at my presentation skills and confidence so early in my career. The final IQP presentation is something that sparked that." – D Term 2009, MPC Alum (prefers to be quoted anonymously)

"My project focused in adapting hands in science programs for students with disabilities. This out of the box thinking applied to a real world problem led me to pursue a graduate degree in rehabilitation engineering." – 2007 (term not specified), Lynn Worobey

"Working with difficult team members in a foreign country taught me patience and how to work with their weaknesses and enhance their strengths. With only that project to worry about while abroad it gave me the sense of what it would be like in a real-world situation." - D Term 2012, MPC Alum

"Working on a team was very beneficial. It fostered collaboration, brainstorming, time management, task distribution, and project management. This has all helped in the real world." - C Term 2005, MPC Alum

"My IQP was the first time at WPI where my writing skills were challenged and my abilities improved. Additionally, all the emphasis on presentations assisted me with nerves and a tendency to talk too fast. I view my IQP as one of the highlights of my WPI educational career." - Helen Hanson, D Term 2005

"The entire structure of the IQP develops each area, from having rigid deadlines of a fast moving and in depth project, to constant informal and formal communication meetings and presentations." - Hannah Gallagher, B Term 2014

"One of the major things not highlighted, is the fact that it prepared me for the working world. Getting use to the '9-5' experience was a big take away from the project. Throughout my life up until that point, even though I was being educated to become an engineer and had worked many different jobs, I had never experienced the world in which my career would be apart of and being able to experience that culture was invaluable." - D Term 2007, Anthony DiOrio

"While working on the IQP I learned a lot more about issues that affect many people throughout the world, both through my own project and hearing about experiences of my fellow students in their IQP projects. By having the hands-on experience of the IQP I was able to gain a better understanding of the types of issues faced by me fellow man both domestically and abroad." – D Term 2007, MPC Alum

"This was my first experience in a professional, corporate environment. It was a great experience and prepared me for my career, and actually sparked some interest in business. I was studying a lab science so this exposure was really helpful, although I may not have recognized at the time." – D Term 2000, MPC Alum

"Getting out of the United States bubble was certainly the best part of the project - it really helped bring to light that the world is bigger than just the US. I am truly grateful for my first opportunity for exposure to other cultures - I haven't stopped traveling around/learning about/experiencing the world since!" – D Term 2000, MPC Alum

"Working aboard for my IQP requirement allowed me to see that problems we faced at home were truly global problems and should be conducted or at the very least shared on a global scale. My experience fueled my desire for a global community and actually led me back to Australia to complete my PhD." – D Term 2010, MPC Alum

"Project was heavily focused on how decisions engineers make affect safety of the end users of their product. Probably my first exposure to how much grey area there can be in engineering and

how important it is to make good assumptions even when facing pressure to arrive at a particular answer." - D Term 2007, WPI Alum

"The interaction with the deaf community we had during our project changed how I saw society and how different people communicate differently. It was one of the coolest experiences of my life being in a room where 90% of the people were deaf and still finding ways to communicate with each other even though my group members and I didn't know sign language." - C Term 2012, MPC Alum

"Simply written - to solve a problem, we do not just need to invent new solutions, but we need the ability to influence others to use that solution." - D Term 2005, MPC Alum

"I felt that the results of my projects were so far reaching. I was significantly impacting elementary school education in all of Australia. For me, this was both humbling and motivating." D Term 2009, MPC Alum

"My appreciation for real world problems and there not always being an 'easy' solution was greatly influenced. It was an enlightening experience which introduced me to the challenges faced by interdisciplinary professionals around the world." D Term 2011, MPC Alum

"My IQP assisted me in developing a better global understanding and an appreciation for how 'similar' cultures could actually be quite different." - Helen Hanson, D Term 2005

"It was my first time out of the country and I learned so much about global viewpoints and cultural differences. In addition, the fact that the project was so incredibly different from what my major is allowed me to think outside the box." - D Term 2008, MPC Alum

"Understanding that what we work on, no matter how small or large, there is an effect on the society." Anthony DiOrio, D Term 2007

"I worked on the education project for CSIRO. That project showed me the importance of how proper education can really shape a young person's life. It also showed me the importance of ethics. How the everything from simple interactions to the delivery of the material can really impact the students we were working with. We were role models for the children we interacted with, so it was imported for us to hold ourselves to a higher standard." D Term 2010, MPC Alum

"The experience of spending 2 months living and working in a foreign country really broadened my understanding of the world and its different cultures. Working every day in an interdisciplinary team helped me learn how to collaborate with people of differing backgrounds and areas of expertise." - D Term 2013, MPC Alum

"Though similar to America, the cultural differences in Australia were still present and provided for new perspective and learning experiences. Along with completing my project, I also joined a local soccer team and found myself having to learn new ways to interact whether it be in the workplace or on the field." - Megan Forti, D Term 2013

"Our project concentrated on attempting to integrate environmental sustainable practices into fire protection. Many environmentally sustainable practices, if carried out properly, actually benefit the fire protection industry. However, there is a strong hesitancy to adopt these practices because of a strong aversion to change in the industry. It takes a strong push from the public to influence change in industries where the norm is considered acceptable." - Nathan Lee, D Term 2011

Q: What about your project affected you personally in that way?

"To this day I continue to follow advances in hearing aids and hearing loss. A lot of the things we suggested have come to fruition - it's been cool to follow." D Term 2006, Timothy Buck

"By completing an international IQP I learned more about being a better global citizen. Learning about and trying to solve issues from around the world can provide an enlightening experience that makes you realize how much good can be done by people that care." – D Term 2007, MPC Alum

"Looking back and seeing all that we achieved increased self-confidence. Being with the same people all the time formed lifelong friendships." – B Term 2015, MPC Alum

"All of my interactions, both with people in Australia and my WPI peers, changed who I am as a person forever. The friends I made and the social skills I learned have benefitted me in ways I probably can't express. Essentially, I learned more about communication and social interaction on that trip than at any other time in my life to that point." – D Term 2007, MPC Alum

"My project experience was incredibly detrimental to my self-esteem, and destroyed a friendship that I had developed with one of my groupmates. Going into the project, I felt confident in my abilities to get along with a group in a professional, collaborate environment, and my ability to assimilate into a group of peers in a new environment. Throughout the process of completing the project, I felt extremely isolated from my project and peer groups. My project group was not accepting or tolerant of my anxiety, which was piqued by the new environment and different work schedule. It should be noted that I did everything I could think of to create a good work environment, approaching my advisors many times about the issue and asking them what I could do to help. Because I do not drink I was often alone during off hours, since I was the only member of the peer group who didn't drink or like to go out at night. At the end of the three month project period in Melbourne, I felt that I had grown culturally but taken many steps back in the process of managing my anxiety and depression." – D Term 2015, MPC Alum

"The combination of the new environment, people, and projects in a foreign country opened my eyes to a view beyond the suburb of Rhode Island that I grew up in. It broadened my perspectives on people and culture and ultimately made me a more effective team member and better person overall." – D Term 2009, MPC Alum

"This project influenced my self-confidence as I went to a completely new country and lived a completely different life than was "normal" for me, it was imperative I step out of my comfort zone and open myself to new experiences. It helped me grow by expanding my knowledge of new cultures and ways of life." – D Term 2012, Brooke Czapkowski

"My project consisted of determining why students were not studying to be a statistician. I am very passionate about getting more women, and minorities into the STEM fields. This just continued to drive my passion, and has been a great reference as I continue to do volunteer work in this field." – D Term 2006, Vanessa Castro

"I definitely had to learn how to work with challenging people, which had helped me in the long run, or at least helped me so far in the grad school lab. I also just married one of the guys that I started while I was at the project site." - D Term 2013, MPC Alum

"The group of people I went to Australia with will be my life long friends. Spending 2 months with such a small group of people in a foreign country going on amazing adventures exponentially increases the memories with those people and about that location. I now know that I would love to go abroad again for a few months at a time." - D Term 2012, MPC Alum

"I can say that some of the best memories of my life have been on those two trips. Working on these projects influenced my self confidence about working in the business world and motivated me to set personal goals such as getting an internship." - C Term 2005, MPC Alum

"It allowed me to step away from many of the stereotypes that had clouded my views of the world." - D Term 2002, Scott Dolan

"I am now more environmentally conscience and interested in keeping up to date with environmental problems." - D Term 2016, MPC Alum

"After my IQP, I felt much more prepared for the 'real world'. In interviews, you often get questions that start with "Describe a time when you ..." in order to get you to tell about leadership experience, problem solving, dealing with hardships, etc. I was able to use my experiences on my IQP when applying for internships rather than having to talk about a difficult course. I felt very prepared for interviews and confident when I got the job that I would be able to rise up to the challenge." - Jeff Simpson, D Term 2003

"All of my interactions, both with people in Australia and my WPI peers, changed who I am as a person forever. The friends I made and the social skills I learned have benefitted me in ways I probably can't express. Essentially, I learned more about communication and social interaction on that trip than at any other time in my life to that point." - D Term 2007, MPC Alum

"I was most surprised by my ability to thrive professionally and personally in an environment so far removed from that in which I was most comfortable (home)." - D Term 2009, MPC Alum

"I was really able to take a leadership role above and beyond my individual contributor role. This opened my eyes to my skills at managing, which influenced the range of careers that seemed like good fits for me." - D Term 2010, MPC Alum

"The project is really your first test at the 'real world.' High school to college is a huge step, however there are several different support systems and safety nets on campus. With the project, the objective is smaller and focused on one project, but the environmental factors you have to

learn to deal with forces you learn how to analyze and process; fostering real self awareness quite quickly.“ - D Term 2006, MPC Alum

“Being halfway across the world with a group of people definitely creates strong bonds. Being on this project was essentially like having a job - working 9-5 solving this problem. It inspired me to reconsider what career I was preparing for, and I ended up switching majors when I got back from my IQP.” - Graham Leto, C Term 2010

“I've always thrived in local, small environments. I went to a small Catholic high school and WPI is a small school as well. Leaving my family and friends behind for 3 months to jump into the unknown halfway around the world was a life changing experience. I've made friends that I still connect with 9 years later - the unique and powerful nature of the experience forged strong friendships.” - D Term 2007, Adam Medeiros

“This IQP was such a life changing experience, that I now actually live and work in Melbourne, Australia full time! It introduced me to a whole new culture, and gave me a broader view of the fire safety world (which I work in now). “ - Nate Lobel, D Term 2011

“Being able to live and be self sufficient in another country really improved my self confidence. It really confirmed that I love traveling around the world and solidified my desire to do more traveling in the future.” - D Term 2010, MPC Alum

“This project affected my attitude towards the global perspective of projects that I had not known anything about in the past. It opened my eyes to many new cultures and differences in peers in how to deal with such problems. It gave me a greater understanding of my work ethic and how to combat challenges in a work or group setting, as well as handle tough reactions in regards to our project, which influenced my self confidence in many ways. It also created lifelong friendships

with others in this group, as we worked through these challenges together and also bonded over new experiences in a fantastic place." - Sarah Brockway, C Term 2013

"Working on a real-world project and giving a formal presentation of our work helped to bolster my self confidence. Working on an education-related project helped reinforce my interest in teaching, and has helped lead me to do some volunteer work as a teaching assistant after graduation. Spending weekends in Melbourne gave me a lasting interest in Australian rules football, and a desire to learn more about other sports played around the world." - D Term 2013, MPC Alum

"I learned more about the connections between culture and science, and how different people view the same things in varied ways, and accordingly shouldn't be treated the same." - D Term 2016, Steven Laudage

"Working at an educational center for sustainable living increased awareness of my personal impact on environmental resources and led to changes in my personal habits of daily living such as making a point to decrease water and electricity use and recycling whenever possible. Furthermore, I loved Australia so much after having done my IQP there that I went back and completed my first two years of medical school in Brisbane a few years ago." - C Term 2002, MPC Alum

Q: What improved skill or personal growth from the project aided you professionally? How did that help you in your career?

Researching and writing reports, as well as getting over a fear of asking questions and speaking to new people (which my IQP demanded) has made me more effective when I have to do those things for my job - D Term 2011, MPC Alum

This experience gave me a great talking point pn interviews and the experience made me a better professional - C Term 2013, MPC Alum

My self-confidence growth as well as my experience of learning new cultures that I had experienced from this IQP has helped me become a much more well-rounded colleague in my professional career. - D Term 2012, Brooke Czapkowski

I learned a lot about communicating with people and being able to talk to professionals. This helped in my career by being able to communicate project needs with coworkers. - D Term 2012, MPC alum

The leadership and teamwork skills I used in this IQP made me far better equipped to manage projects in the working world. Since graduating I have had to lead several projects across many different departments with team members who did not necessarily report to me. This project taught me many skills about working with peers with very different backgrounds. - B Term 2014, Patrick Thomas

I was significantly better prepare for technical writing and presentations which allowed me to be more successfully than my colleagues at professional conferences and in my career roles. - D Term 2005, Helen Hanson

Definitely an increase in personal communication and being able to communicate to people with different ideas. We conducted a lot of interviews and surveys with people of different views and perspectives. Learning how to communicate with these people definitely developed into a good skill to have professionally. - D Term 2016, Zachary Hood

Appreciate people for their own personal skill set and how to maximize them to produce the desired results. - D Term 1999, MPC Alum

I decided to pursue international job opportunity right out of college based on the confidence I had developed and also the exposure I had to another culture. - D Term 2000, MPC Alum

The IQP as a whole helped me learn how to work with teams in real life situations that do not have a defined start and end but are continuous improvement projects. In my current role as a project manager the skills learned about timelines, project scoping and teamwork have been paramount. - D Term 2012, Jean Paul Miralda Nasser

In my career, I was not as hesitant or nervous about working for a global company involving project travel directly after leaving WPI. It was as if my first few job assignments were large IQPs; I treated them as such until I had a firmer understanding of my company's approach. This structured approach really set me up to outshine my fellow junior coworkers. It provided me some referent and expert power within the work group, propelling me into a leadership role I was able to embrace and use to propel my career. - D Term 2006, MPC Alum

My change in career paths due to inspiration found during my experience has benefitted me immeasurably. I am doing something I love in an industry I would not have ordinarily broken into had I not had this experience. - C Term 2011, Graham Leto

I still discuss things I learned from this experience in interviews and bring it into my work ethic. I attribute much of my success post-graduation to the things I learned about other cultures, my work ethic, and other peers while abroad in Australia. - C Term 2013, Sarah Brockway

My IQP strengthened my excitement about working internationally - I have since lived/worked abroad after graduation. - D Term 2007, MPC Alum

"One of the recommendations that resulted from our project was to create a program for young children to learn about healthy relationships to hopefully make them more aware and to minimize future relationship violence. If we start teaching young it could potentially have a huge impact on generations to come. This recommendation was used for the next IQP group that went this past D term and they made it a reality. Our idea was actually implemented so that was awesome!" – B Term 2015, Caroline Medino

"My project in Banksia seemed more like the foundation of a science awareness program for local kids where we setup possible education materials, investigated and spoke with potential external sponsors to help support the program. Meanwhile the programs after our year were able to branch off of our work and further expand and make the program a reality so it's great seeing our work move forward." – D Term 2012, MPC Alum

"This report had information regarding the preventive approaches and accuracy of identification that firefighters were already implementing while responding to emergencies. This process that our report highlighted and analyzed has the potential to grow within global fire services as it showcased the possibility to merge response and prevention into one step. It was significant because this practice was already in place, but a documentation and analysis of the practice had never occurred prior to our report." – D Term 2016, Elizabeth Coffey

"Before we completed our project, each region operated entirely independently. They were each responsible for maintaining documentation on the fire safety compliance of the facilities within their region, but there was only a minimal process in place for doing so. By asking the right

questions of each region and sharing our findings, we were able to improve the process for all regions." – D Term 2003, Jeff Simpson

"We published our project report, "Promoting the Design of Buildings that Are Fire Safe and Sustainable" in FPA Australia's quarterly magazine. This is distributed across Australia so that article had an impact on the Melbourne and Australia community. The goal was to get the conversation started about this complex issue and to eventually get both the fire safety community and the sustainable building authorities to collaborate together to create buildings which exemplify the best of both worlds." – D Term 2011, MPC Alum

"My entire project focused on professional development for statistics education and how it affected teachers, and therefore how it affected young students. I learned that elementary school teachers were hesitant to teach statistics in their classrooms because they were not confident in the subject themselves. By creating professional development for the teachers and making the subject easier for them to teach, we were impacting the education level of the youth. I personally felt I was making a significant impact." – D Term 2009, MPC Alum

"We physically made a product that was implemented into a scientific outreach program run by CSIRO. In addition further alterations to the program were made based on our recommendations." – D Term 2009, Dr. Sally Trabucco