

Assessing the Impacts of Worcester Polytechnic Institute's Melbourne Project Center

Team Members:

Lily Dupuis, Keira Lynch, Ethan Prigge, and Deah Zajmi
December 14, 2022

Advisors

Holly Ault and Stephen McCauley

Sponsor

Melbourne Project Center and the WPI Global
Project Program



WPI



Abstract

This project assessed the impacts of WPI's Melbourne Project Center projects on the Melbourne partner organizations and their communities. We developed an assessment tool and methods which were used to conduct the impact assessment on individual, organizational, community, and system levels of impact, and to study project characteristics. Interviews were conducted with six project center directors and three WPI assessment experts to help with developing the assessment tool, as well as thirteen liaisons from eight partner organizations that have worked on WPI projects in the last five years to assess the impacts of Melbourne Project Center projects. From these interviews, we found that there was the most evidence of impacts on the organizational level. Also, as a result of analyzing the project characteristics, we developed a method for correlating project types to the levels of impact. Based on the findings, recommendations were formulated for the Global Projects Program, the Melbourne Project Center's Local Coordinator, the partner organizations, and future impact assessment teams.

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

Acknowledgements

We would like to sincerely thank our advisors, Holly Ault and Tanja Dominko for all of their help during the prep and project terms. We also would like to thank our Center Directors, Stephen McCauley and Lorraine Higgins for all of their guidance. We would like to give a big thank you to Jonathan Chee, the project center's Local Coordinator for everything he did to support our team. Additionally, we would like to thank Lori Ostapowicz-Criz, a WPI librarian for all of her help with our research. We would like to thank the following WPI faculty for participating in our interviews: Stephen McCauley, Lorraine Higgins, Scott Jiusto, Laura Roberts, Jim Doyle, Dominic Golding, Kent Rissmiller, Holly Ault, and Sarah Stanlick. Also, we would like to thank the following people for participating in our partner interviews: Siusan Mackenzie (Emergency Services Foundation); Jonathan Chee, Eric Dommers, Edgar Caballero Aspe, and Jaime de Loma-Osorio Ricon (Banksia Gardens Community Services); April Seymore and Neil Blake (Port Phillip EcoCentre); Chloe Horner and Subik Baso (Centre for Education and Research in Environmental Strategies); Peter Young (Snowy River Innovation); Claud Gallois and Anna Langford (Friends of the Earth Melbourne); Courtney Green (The Brotherhood of Saint Laurence); Carolyn Meehan (Museums Victoria); and Rob Llewellyn (Australasian Fire Authorities Council). Finally, we would like to thank our student peers for all of their support throughout these past seven weeks.



Overview of the Project

In recent years, there has been a shift away from the traditional study abroad program model where students take classes at a university outside of their home country to a model where students travel to foreign countries to work on a project hosted by a local partner organization. While both are impactful on students, project-based study abroad involves an element of impact on the local communities where the students are working. Student work can be extremely beneficial for host communities, however, universities may not realize the unforeseen positive or negative outcomes of the work, which is why it is important to study and understand the impacts project-based study abroad programs have on the host communities.¹ Worcester Polytechnic Institute (WPI) provides award-winning project-based study abroad opportunities for students.²



Figure 1: Pinpoints representing over 50 WPI project centers around the world.

The institution's Global Projects Program (GPP) is a unique project-based learning program in which students travel to various locations around the world to complete projects in partnership with local organizations. With over 50 project centers (Figure 1), there are vast opportunities for students to work with authentic problems and real-world partners.³ The Interactive Qualifying Project (IQP) is one of the major projects that teams of students complete in partnership with local organizations, applying their technical knowledge and skills to a variety of societal topics. Project center directors connect with these organizations to identify projects that not only fulfill the student learning objectives but would also be useful for the partner organizations.⁴

One of WPI's project centers is in Melbourne, Australia. WPI has operated the Melbourne Project Center (MPC) for almost 25 years, with over 250 student-led projects since its establishment in 1998. Every IQP was completed with the intention of contributing to the betterment of communities and organizations in and around the city of Melbourne.⁵ Overall, the projects completed in Melbourne have covered a wide range of societal issues such as disadvantaged youth engagement, environmental education, emergency services, and many more, and they continue to impact the communities with whom they interact.



Figure 2: 2016 MPC impact assessment project team [6].

Previous projects by student teams in 2016 (Figure 2) and 2017 evaluated, documented, and promoted the impacts of projects on students, Melbourne partners, and their communities since the start of the MPC. While the two teams assessed the impacts on these three groups of people, they mainly focused on the impacts on students through testimonials and survey results from alumni.^{6,7} This project takes the opportunity to focus on the impacts on the Melbourne partner organizations and their communities. A framework outlining the individual, organizational, community, and system-level impacts was selected and developed through literature reviews and interviews with select WPI GPP faculty. Impacts on partner organizations and their communities from the past five years were assessed based on the framework through a survey and interviews with selected partner liaisons. Then, recommendations to the GPP were formulated. Our work ensures that the MPC continues to do the best work it can for the organizations and communities in Melbourne.

WPI's unique project-based learning model offers valuable opportunities to students

Worcester Polytechnic Institute is a private university founded in 1865 by John Boynton and Ichabod Washburn. Even when the university was first instituted, it was unique with its motto "Theory and Practice," on which Boynton and Washburn based the school's education values, combining Boynton's idea of providing young minds with scientific and technical education and Washburn's vision to create an elevated apprenticeship system for people who studied trades. The school's goal is to incorporate in its curriculum a system that allows students to apply what is learned in the classroom simultaneously with real-world application and practice, which is why project-based learning is a significant part of the WPI education system and why the institute has a building dedicated to project-based global studies as shown in Figure 3.⁸



Figure 3: WPI's Global Project Center dedicated to its former President [9].

WPI Undergraduate Projects

Students complete multiple projects as part of their project-based education, however the most important are the Interactive Qualifying Project (IQP) and the Major Qualifying Project (MQP). The IQP is a required seven-week-long project that gives students a chance to solve real-world problems in various locations around the world and is typically done in their junior year. Some of the main learning objectives of the IQP are to demonstrate an understanding of the project's technical, social, and humanistic context; define clear, achievable goals and objectives for the project; critically identify, utilize, and properly cite information sources and integrate information from multiple sources to identify appropriate approaches to addressing the project goals⁴. The MQP is also a required project, however, it takes on a more technical aspect rather than social. This project is usually completed during a student's senior year and focuses on the student's major area of study.¹⁰

The Melbourne Project Center

The Melbourne Project Center opened in 1998 and has conducted over 250 IQP projects by over 880 WPI students. In 2023, the MPC will celebrate 25 years of operation.¹¹ The MPC aims to help students understand technological problems in Melbourne's social, cultural, and political contexts. Using this newfound understanding, students formulate solutions that best help and contribute to Melbourne's stakeholder communities, including partner organizations and local residents. The MPC's partners include government agencies, non-profit organizations, and private enterprises in Melbourne.⁵ Some of the project center's long-time partners as shown in Figure 5 include Banksia Gardens Community Services, Centre for Education



Figure 4: Examples of long-time partners.

and Research in Environmental Strategies (CERES), the Emergency Services Foundation (ESF), and various fire emergency and protection organizations.¹²

A framework and metrics help understand community impacts

Tools for identifying and measuring community impact are necessary to understand how projects serve the host community. However, metrics can only be determined after defining the community. A framework then provides a model for assessing the impact on the defined community.

Defining Community

Various impact assessments use multiple definitions for community. In a paper about measuring the impact of solar home systems in Rwanda, Spear and Natasha define community as the households of a particular area.¹³ Other methods of community impact analysis define community to include the students and faculty of the university conducting service learning projects, as in the assessment model created by Stoecker, et al.¹⁴ Some models are even broader, including the university or institute hosting the projects to be a part of the community as done by Driscoll, et al.¹⁵

Developing Impact Assessment Frameworks and Metrics

Community impact assessment benefits from the use of a structured framework to help define the impact metrics and guide the assessment methods. When it comes to any social science project or experiment, the definition of community and the metrics for measuring community impact widely vary. An overview of the frameworks we researched and some of their impact metrics can be seen in Table 1.

In Spear and Natasha’s model, the community impact metrics were project implementation, economic savings, improvement of the study environment for childhood, women’s empowerment, and improved quality of life.¹³ However, these metrics were specific to this project. Not all community impact metrics need to be so specific for each project. For instance, Córdova’s work stated that community impact can be broadly measured on a social, cultural, physical, and environmental basis; one example of a broad impact metric is perceived impact.¹⁶

A model created by Stoecker, et al. measured community engagement impact of service learning on four scales: individual relationships, organized partnerships, community, and system. This scale considered the locals and the organizations that are part of the community.¹⁴ A model used by Miron and Moely focused on the impact of university-based service programs on collaborating agencies. The four measures of impact used in this study were agency voice, agency benefit, interpersonal relations (diverse and non-diverse), and perception of the university.¹⁷

A model implemented by Driscoll, et al. identified different impact variables for each group in a community, whether they were students partaking in a project, faculty advisors, or the host organization. The variables

for community organizations included the nature of the partnership, perceived capacity to serve clients, economic benefits, social benefits, new insights about operations/activities, awareness of the university, the establishment of ongoing relationships, identification of prospective employees, and satisfaction with university interactions. The impact variables for both students and faculty included awareness of the community and involvement of the community among many other variables. Finally, the impact variables for institutions included the role in a community, orientation to teaching and learning, resource acquisition, and image in the community.¹⁵

Table 1: An overview of frameworks from the literature review [13-17].

Framework	Impact Characteristics
Spear & Natasha	Project implementation, economic savings, women's empowerment, improved quality of life
Córdova	Perceived impact on a social, cultural, physical, environmental basis
Stoecker, et al.	Impacts on levels of individual relationships, organized partnerships, community, system
Miron & Moely	Agency voice and benefit, interpersonal relations, perception of the university
Driscoll, et al.	Community organizations: nature of partnership, perceived capacity, economic and social benefits, new insights, awareness of university Students and faculty: awareness of community involvement of community Institutions: role in a community, orientation to teaching and learning, resource acquisition, image in community

The framework adapted and implemented in this project was developed by WPI professors Jiusto and Vaz, which categorized community impacts into four levels: individual impacts, organizational impacts, community impacts, and system-level impacts, much like the model developed by Stoecker, Beckman, and Min. Figure 5 shows the impact groups that we applied the framework to and indicators of impact for each level. For instance, the improvement of project participant’s communication skills can be considered an individual impact, while policy changes can be considered a system-level impact.¹⁸ While the Jiusto and Vaz framework was used for this project, inspiration was taken from other frameworks and methods that were

Other impact analyses provide a basis for our assessment model

The Melbourne Project Center teams from 2016 and 2017 are not the only ones that completed project center anniversary or impact assessment projects. Other WPI project centers that have conducted impact assessments include the Washington D.C Project Center (WPC), London Project Center (LPC), and the Worcester Community Project Center (WCPC).¹¹

At the MPC, WPC, LPC, and WCPC, project teams studied the impacts on both students and the partner organizations and liaisons through interviews and surveys. Common deliverables for these projects were project

center websites, promotional materials, and recommendations to the GPP. While these project teams assessed impacts on both the students and partners, they put most of the focus on the students as it is easier to contact, collect data and measure the impacts on students than on partner organizations. Additionally, the impact assessments on the partner organizations and communities mostly resulted in general anecdotal evidence of impacts and minimal analysis of the specific characteristics of the impacts. Taking this into consideration can help to develop a stronger impact assessment model that can guide an in-depth study.^{6, 7, 19-21}

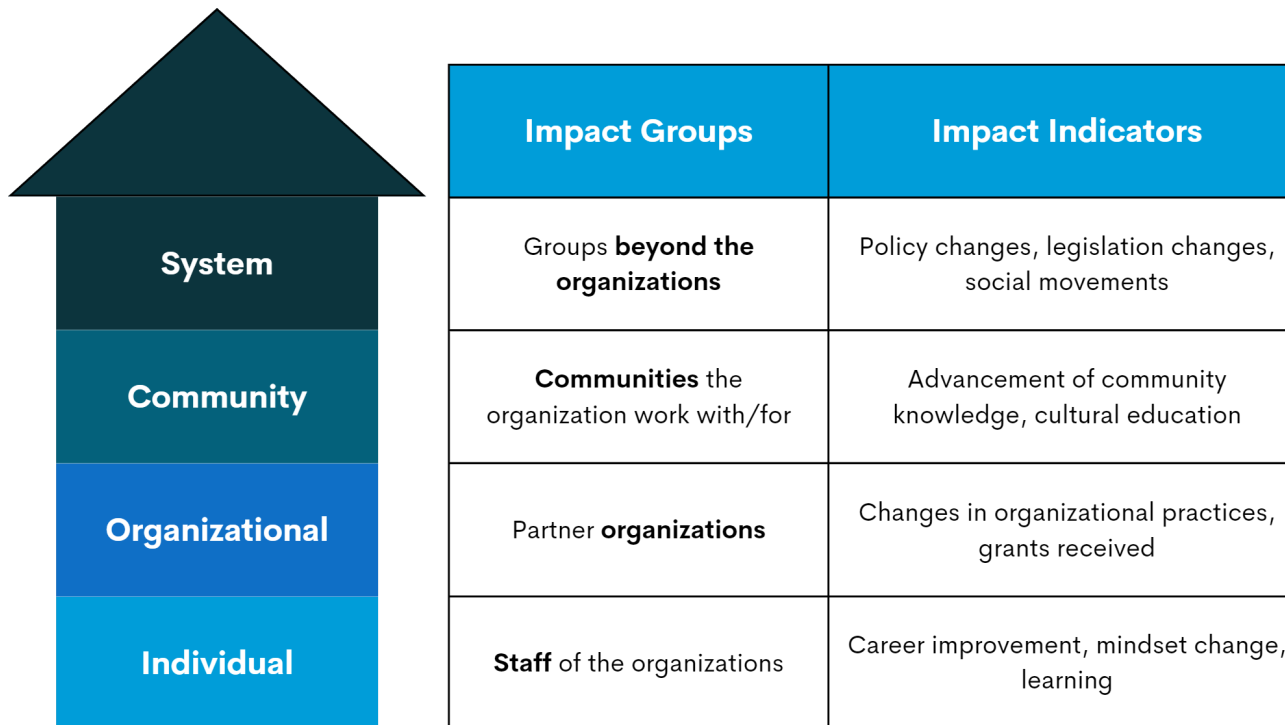


Figure 5: Diagram of Community Impact, modified from Jiusto and Vaz

Discovering the Impacts of the Melbourne Project Center

The main goal of this Interactive Qualifying Project was to assess the impacts of the Melbourne Project Center on the partner organizations and the communities of Melbourne over the last five years. We conducted this analysis in anticipation of the 25th anniversary of the MPC, which is coming up in the spring of 2023. Our primary objectives as shown in Figure 6 were to design a research tool for assessing impact, assess the impacts of the MPC projects, analyze project characteristics, analyze partner relationships, and collect and compile promotional material content for the next MPC teams.



Figure 6: Project overview

Preliminary Analysis: Summary of Melbourne Project Center Activities

To generate a basic understanding of the MPC’s former projects, we performed a preliminary analysis on the 81 projects that were completed in the past 5 years. We gathered the following information from each project: title, project year, partner organization, partner liaison, partner liaison contact information, project type, deliverables, if the project was a continuation of another project, if the project was remote or in-person, and the target population of the project (whether it was internally focused on the organization or externally focused on the greater community). A diagram of the categories determined can be found in Figure 7.

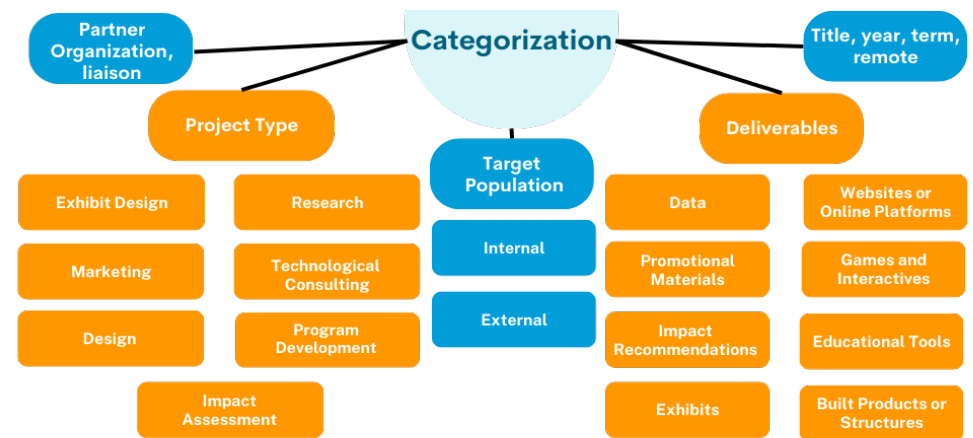


Figure 7: Preliminary analysis of Former MPC projects.

Over the past 25 years, there have been 256 projects completed and over 800 students hosted by the MPC however, the scope of our project focuses on the last five years. Of the 81 projects within the last 5 years, 30 were conducted remotely due to the Covid-19 pandemic. Ten of them were project continuations in which multiple projects addressed the same topic in

order to further develop previous work. Figure 8 displays all 81 of the projects from the past 5 years, along with the partner they worked with and the project type. Figure 8 also highlights some trends, such as the increase in research-focused projects from Q2 of 2020 to Q4 of 2021, the terms when the students could not travel to Australia.

Designing and Applying an Impact Assessment Tool

The primary purpose of this objective was to develop a structured community impact assessment method for our project and for future impact assessment IQPs. To gain a better understanding of community impact, we asked people with direct experience, including a selection of long-term Melbourne Project Center partners, center directors from various WPI global project sites, and WPI faculty members with expertise in research and impact assessment. From these interviews, we gathered impact indicators to construct our community impact assessment tool and expand on those described in the Jiusto and Vaz framework, as seen in Figure 5.

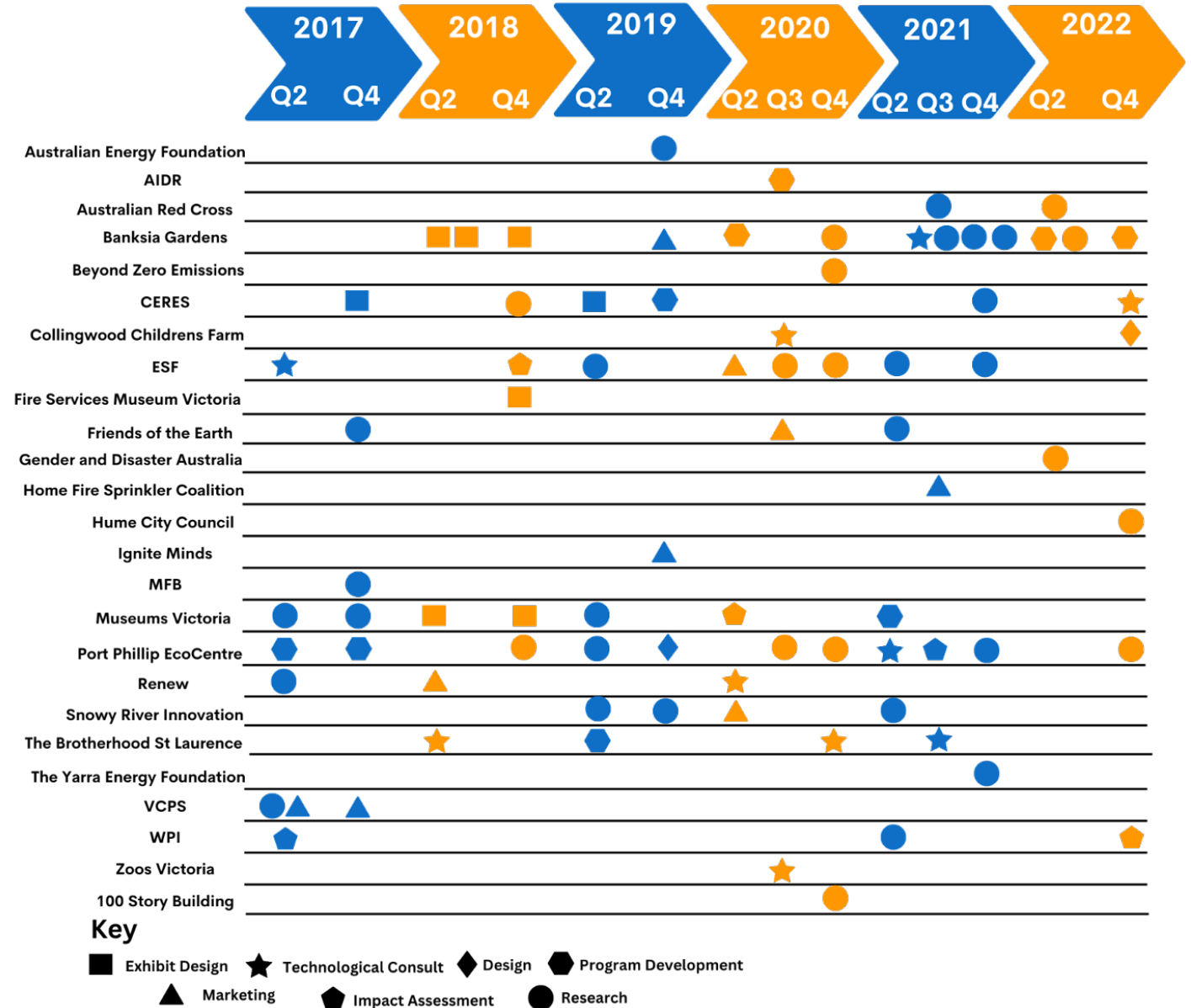


Figure 8: Timeline of the last five years of projects.

Interviews

We interviewed **WPI center directors** who have done anniversary/ impact assessment projects, because they understand how to identify and assess community impact. The center directors interviewed are listed in Table 2. The full interview schedule for each interviewee can be seen in the supplementary materials.

Table 2: Center Directors interviewed and their project center locations.

Center Directors	Project Center
Stephen McCauley and Lorraine Higgins	Melbourne
Kent Rissmiller	Washington D.C.
Dominic Golding	London
Laura Roberts	Worcester Community
Holly Ault	Armenia (former Melbourne and Copenhagen)

We also interviewed **representatives from three key partner organizations** to learn about how organizations identify and measure impact. These partner organizations have extensive experience with WPI projects and their outcomes. The organizations and liaisons interviewed can be found in

Table 3. The full interview schedule for each interviewee can be seen in the supplementary materials.

Table 3: Key partners interviewed and their roles in their organizations.

Partner Liaison	Organization Role	WPI Role
Jonathan Chee	Chief Story-teller, Banksia Gardens Community Services	Local Coordinator, Liaison
Eric Dommers	Director, Northern Centre for Excellence in School Engagement	Liaison
April Seymore	EO, Port Phillip EcoCentre	Liaison
Siusan Mackenzie	CEO, Emergency Services Foundation	Liaison

As shown in Table 4, we interviewed Sarah Stanlick, a professor of Integrative and Global Studies because of her **expertise in assessment**. In addition to being center directors, Scott Jiusto and Kent Rissmiller are also **experts in impact studies**. Jiusto, a professor of integrative and global studies at WPI, co-authored the Jiusto and Vaz paper, which used the same framework as our project. Kent Rissmiller, the Associate Dean of Global Studies provided us with insight into how the entire IQP program is run. The full interview schedule for each interviewee can be seen in the supplementary materials.

Table 4: Assessment experts interviewed.

Expert	Expertise
Scott Jiusto	Community Impact
Sarah Stanlick	Impact Assessment
Kent Rissmiller	Associate Dean of the Global Studies

Analysis and Tool Development

Content analysis of the interviews, past IQP reports, and impact assessment literature produced over 50 indicators which were sorted into the four levels of the framework: individual, organizational, community, and system-level impacts. We determined that the best format for the tool would be interviews with liaisons from the partner organizations. The four main interview questions are based on the framework, as shown in Figure 9. The tool itself is a set of interview questions, a list of impact indicators, interviewing methods, and content analysis materials with procedures, as shown in Figure 10.

We included general questions, in addition to the main four, in the tool to explore more types of impacts. The additional general questions can be changed depending on the focus of the research. We also added project specific question to discover the trails of impact that specific projects leave.

We separated these questions by project deliverables and only asked the set of questions that applied to each project. This tool also included analysis materials and the coding categories used to sort the data.

Beyond the interview questions, the tool provides methods for conducting interviews. The interview methods included the nature and order of asking the questions during the interview which is critical to obtaining the desired data. The content analysis materials include the coding scheme. The final section of the tool, content analysis methods, provides instructions on performing the content analysis, compiling the data, and pulling the impacts from the data. The entire tool can be found in the supplementary materials.

1. How have WPI projects impacted your organization's staff?
2. How have WPI projects impacted your organization?
3. How have WPI projects impacted the communities your organization serves?
4. How have WPI projects impacted systems and establishments beyond your organization?

Figure 9: Main research questions.

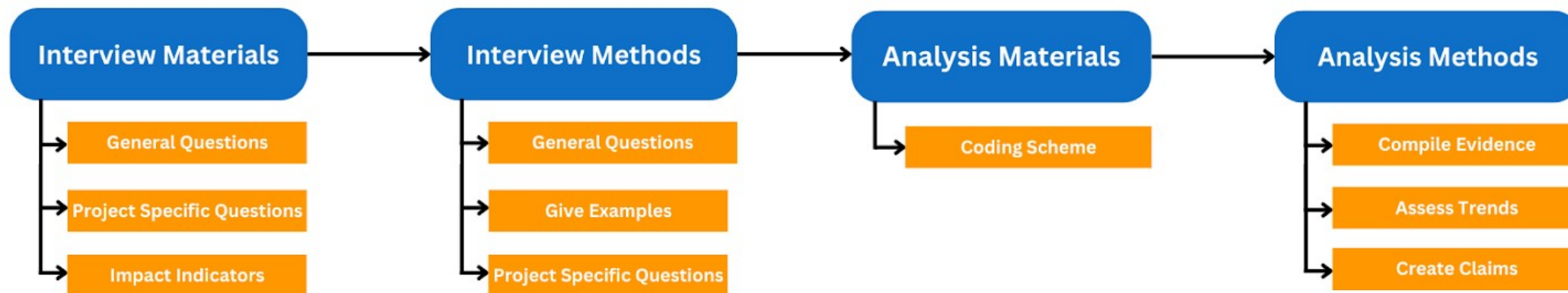


Figure 10: Overview of the impact assessment tool.

Implementing the Impact Assessment Tool

We interviewed 12 liaisons from eight organizations the MPC worked with within the last five years, as well as a liaison from one organization (AFAC) from prior to 2017. These eight organizations make up 48 of the 81 projects completed within the last five years. A list of interviewees can be found in Table 5. Additionally, we sent a survey with questions similar to the interview questions to 17 liaisons from organizations we could not meet with. The survey questions can be found in the supplementary materials.

At the start of each interview, we reminded the liaison(s) of projects the organization has done with WPI in the last five years to refresh their memory. We first asked the four main questions from Figure 9, spending most of the interview getting examples and stories for each. We then discussed the rest of the general questions. Finally, questions about three specific projects were asked at the end of the interview.

Table 5: Partner liaisons interviewed and their partner organizations.

Partner Interviewee	Partner Organization
Jonathan Chee and Edgar Caballero Aspe	Banksia Gardens Community Services
Siusan Mackenzie	Emergency Services Foundation (ESF)
April Seymore and Neil Blake	Port Phillip EcoCentre
Peter Young	Snowy River Innovation
Chloe Horner and Subik Baso	Centre for Education and Research in Environmental Strategies (CERES)
Claud Gallois and Anna Langford	Friends of the Earth Melbourne
Courtney Green	Brotherhood of Saint Laurence
Carolyn Meehan	Museums Victoria
Rob Llewellyn	Australasian Fire Authorities Council (AFAC)

Content analysis was performed on each interview transcript with indicators being the main focus. Although we had compiled a list of indicators from our research, new ones emerged as we began to analyze the interview data. Along with the indicators, we also looked for satisfaction, dissatisfaction, recommendations, and quotes to use as evidence to support the indicators. Each of the 303 impact indicators found were sorted into the four levels of the framework. Figure 11 shows the distribution of indicators over the four levels and also highlights that organizational indicators were the most commonly found in our research. To define the impacts of the MPC, other trends were found by inspecting the frequency of impact indicators. These indicators were followed by quotes and testimonials as evidence, and they provide the foundation for our findings.

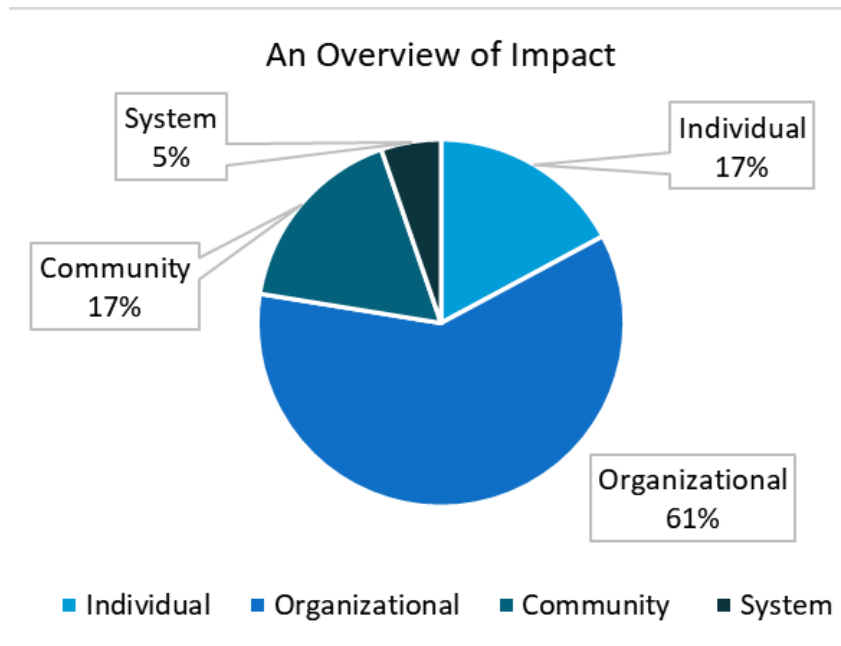


Figure 11: Pie chart of indicator distribution. n=303 impact indicators.

Individual Impacts

Of the nine partner organizations represented in our interviews, four of them mentioned that **WPI projects helped improve organization staff's professional and leadership skills as well as develop their careers.** The instances of career and skill development discovered through these interviews were quite specific to each organization. For instance, Claud Gallois from Friends of the Earth Melbourne discussed how giving volunteers the responsibility of supervising a student group has acted as a resume builder for their career development.²² Courtney Green of The Brotherhood of St Laurence appreciated the effect WPI project teams had on her staff in that it has “helped them learn...how to let young people lead projects.”²³ This is especially beneficial to The Brotherhood of St Laurence because of their youth advisor program, which allows young people to take the lead on certain initiatives at the organization.



Figure 12: Students and Youth Advisors working together 2021 project [24].

Liaisons from five of the nine partner organizations claimed that **WPI projects have helped increase organization staff's knowledge and understanding.** Every organization has expertise in specific areas however, WPI students bring in a different area of expertise. Jonathan Chee, Chief Storyteller at Banksia Gardens Community Services, put it “There are some things that we don't know how to do... And to have a group of enthusiastic, interested, energetic young people to help us to co-develop some of this stuff is just invaluable for us.”²⁵ In a more specific instance from one of these interviews, Carolyn Meehan, from Museums Victoria, was appreciative that WPI students were able to provide her staff with knowledge on voice activation for a particular exhibit, since they were not informed on the topic before. Carolyn says that based on the recommendations made by WPI students, the Melbourne Museum hopes to implement voice activation in future exhibits.²⁶

Organizational Impacts

Six of the nine partner organization representatives spoke about how **WPI projects have improved partners' organizational practices and efficiency.** Chloe Horner, the Student Programs Manager at CERES spoke to this; she said working with WPI students “provided [CERES] the opportunity to research, which we don't have the capacity or time to do,” which saves time for employees who would have had to do this research otherwise, thus increasing organizational efficiency.²⁷ Siusan MacKenzie of the Emergency Services Foundation also expressed how a WPI project team had changed the organization's practices in a major way. The role of the Emergency Services Foundation originally was to make payments to the families of emergency service workers who had passed in the line of duty, but Yet again, liaisons

due to the work of WPI students, they discovered these costs weren't necessary anymore.²⁸ The entire scope of the organization was altered to their advantage because of work they had done in collaboration with WPI.



Figure 13: Emergency service workers that the ESF provides programs for [31].

from six of the nine partner organizations that we interviewed described situations in which **WPI projects have helped partner organizations receive grants and funding.** Peter Young of Snowy River Innovation specified that one WPI project eventually “enabled Snowy River Innovation to undertake a thirty thousand dollar study to do a comparative analysis of four different available technologies that convert biomass to biochar, which was a huge step in further developing the biochar market in Australia.”²⁹

Another example of this comes from April Seymore of the Port Phillip EcoCentre; she discussed how the volunteer hours provided by WPI students can provide “sixty, seventy, eighty thousand dollars’ worth of value that we can tell a funder [about].”³⁰



Figure 14: The Metro Line 2 mockup from the Friends of the Earth project [32].

Community Impacts

Of the nine partner organizations, six of their representatives shared that **WPI projects have increased community knowledge and understanding**. Friends of the Earth Melbourne employee Claud Gallois brought up a specific project in which WPI students adapted information on a campaign for the Melbourne Metro 2, a potential new metro line, into more “user-friendly” and “accessible information.”²² This information was then

used to solidify a campaign for the Melbourne Metro 2 that further informed the public about its potential. Jonathan Chee, from Banksia Garden Community Services also cited an instance of an expansion of community knowledge and understanding. In this case, it had to do with a WPI project team that created educational videos on gender equity. He stated that these videos “helped gender equity [move] forward” in the Broadmeadows region.²⁵

In addition to increasing knowledge and understanding in communities, **WPI projects have also engaged members of communities that the partner organizations serve**. Seven of the organizations represented in our interviews voiced evidence that supports this claim. Chloe Horner, from CERES, said that “the wider community [was made] aware of CERES” due to hands-on learning activities that were created in collaboration with a WPI project team.²⁷ These hands-on activities involved creating African and Indonesian village exhibits with the intention of educating CERES communities. Additionally, Carolyn Meehan of Museums Victoria revealed how simply having WPI students interact with museum visitors engaged them in the experience, allowing them “to connect to the museum.”²⁶

System Impacts

System-level impacts reach beyond to influence organizations beyond our partners. These organizations can include governing bodies, social structures or movements, and organizations other than the partners. Liaisons from four of the partnering organizations described that **WPI projects have reached the attention of entities beyond our partners**. Projects done in collaboration with WPI and the Australasian Fire Authorities Council (AFAC) and the Metropolitan Fire Brigade (MFB) have also reached system-level

impacts. Rob Llewellyn, a retired associate of AFAC, referenced a series of projects on increasing fire safety for hoarding households. This research contributed to discussions on the fire safety of hoarding homes among other fire safety organizations. These projects were conducted more than five years ago, which demonstrates that system-level impacts take time to develop.³³ Another system-level impact that we found was from Snowy River Innovation Director Peter Young, who claimed that work WPI students have done has been “integrated with Gippsland climate change network Latrobe Valley Authority,” which is a regional government authority in Greater Melbourne.²⁹

Intersectional Impacts

While most of the impact assertions stated above affect one level of the framework (individual, organizational, community, or system), there is one that affects several. The claim **WPI projects expanded personal, organizational, and community networks** has intersectional impacts among three of the four levels. Making connections is important to partners and the communities they serve, which is why it was encouraging to hear how often partners mentioned that WPI projects helped create networks amongst their employees, their organization, and the greater communities that they work with and for. There were over 30 mentions of networking and connections from our interviews, making it clear that WPI has had an impact in this area. Of the nine partner organizations represented in our interviews, seven of them made note of the increase in networking opportunities that hosting WPI projects have brought to their organizations.

The CEO of the Emergency Services Foundation Siusan MacKenzie spoke on the community connections that were created as a result of a WPI project that strove to plan a mental health event for International Women’s



Figure 15: Jonathan Chee (left) and Edgar Caballero Aspe from the Banksia Gardens Community Services interview [25].

Day. She said that “we’ve brought people from across the sector together to have a real focus on mental health and well-being.”²⁸ Jonathan Chee of Banksia Gardens Community Services, described the benefits that WPI projects have created for his individual and organizational networks; WPI projects required a multidisciplinary department approach from the staff of Banksia that “breaks down the silos in [the] organization.”²⁵ WPI projects helped Jonathan foster personal relationships as well as employee bonds.

Satisfaction and Dissatisfaction

Aside from indicators, we also looked for satisfaction in our analysis of the interviews. What we found is that most partners are very satisfied and enthusiastic about WPI work. Multiple partners have said that WPI work is

extremely impactful for them and their organization. Along with these testimonials, there are many reports on the value of the WPI partnership and how impactful that can be.

Though there was quite a bit of positive feedback from partners, there was also some less positive feedback. From our interviews, we determined a few of the common circumstances that cause a project to be less impactful. One of the biggest circumstances we found had to do with partners' time and funding. Most of the partners of the MPC are non-profits and have limited resources. This can become an issue that leads to project deliverables not being used or can lead to partners not having the time to properly support the students during the project term. A few of the partners mentioned the time burdens of working with WPI and how it can stress out the staff to have an increased workload. As for the deliverables, some interviewees mentioned that project materials and recommendations not being used can sometimes disappoint staff who were excited about the outcome of a project.

Critique of the Impact Assessment Tool

When conducting research, it is important to recognize the flaws and limitations of your research tools. The Impact Assessment Tool had many strengths and allowed us to systematically assess impact, however, one of its biggest flaws is that it doesn't account for how much of an impact WPI can take credit for. Very often a partner will have WPI teams conduct research for them and then will use the research to go on and accomplish things, but how much of the accomplishments can WPI take credit for? Unfortunately, our tool has no systematic way of determining this. Another limitation is in attempting to characterize the size or weight of an impact. The

presence of an indicator says nothing about the size or magnitude of an impact.

One of the biggest limitations of the Impact Assessment Tool is to the user; it is incredibly time consuming. Most interviews took over an hour and had the potential to take even longer if the partner liaisons allowed it. In addition to the length of the interviews, it can take hours to read through the interview transcripts and code for content analysis.

An additional downfall to the Impact Assessment Tool is the fact that impact indicators can easily be interpreted to fit different levels of impact. For instance some indicators deal with community but at what point are the individuals a part of the community? The same problem occurs with an organization's staff. At what point do the staff of an organization represent the organization?

The last limitation we identified was within the coding scheme and the questions we ask. The questions themselves do not search for negative impacts, and the entire set of impact indicators provided in the supplementary materials are positive. Another issue with negative impact indicators is that the tool is administered through an interview with liaisons from the partner organizations. This presents an interesting question of bias and where that might exist in the data.

Analysis of Project Characteristics

Another goal of this impact assessment was to research the relationships between project characteristics and the variety of impacts a project can have. These project characteristics were displayed earlier in Figure 7, and they include project type, deliverables produced, if the project was a continuation, if the project was remote or in-person, the target the

population of the project, time constraint, and level of guidance. However, we only focused on the project type characteristic as an example of research. The outcomes of this research have the potential to inform center directors and partners what kinds of impact can come from different project types, however, our sample size was prohibitively small, so this analysis serves as an example of what could be done in the future. This analysis could be especially important to newer partners who might be unaware of what kinds of impacts come from different project types.

How does the project type affect what levels of impact a project has?

To answer this research question, we used the project specific section of the interviews from the Impact Assessment Tool, as seen in Figure 10, to collect indicators for 24 separate projects. In the liaison interviews with partner organizations from the last five years, we asked each partner about three projects. Each of these projects was chosen to create a sample size that included all of the seven project types. Using the data collected for each project, we correlated the indicators to each project type and further categorized the indicators into the four levels of the framework, as shown in Figure 16.



Figure 16: An example of sorting indicators into the levels.

Results of Project Characteristic Analysis

It was decided that a pie chart would effectively display the distribution of indicators in the four levels of the framework. As an example, we chose to focus on the program development project type. Program development projects are generally designing some kind of program for a partner, like the Banksia curriculum development projects. The other project types and their descriptions are shown in the supplementary materials. Further analysis of this data has the potential to identify several factors that affect the impacts of a project. The database covers 7 project characteristics, each with a certain number of elements that may influence impacts at the four levels. A pie chart, like in Figure 17, can easily display how many indicators have occurred for each level of the framework. A more in-depth study into this data could provide center directors with a template for what kinds of impacts are likely to occur from a particular project. This could be particularly useful in designing a new project or as material to inform newer partners, however, our data is comprised of too small of a sample size to draw conclusions and serves more as an example of what research could be done in the future.

Analysis of Partner Relationships

The relationships between partners and WPI are extremely important and can shape the nature of a project center. The goal of this section was to research the relationships between partners and center directors along with the relationships between partners and students to see if they can be

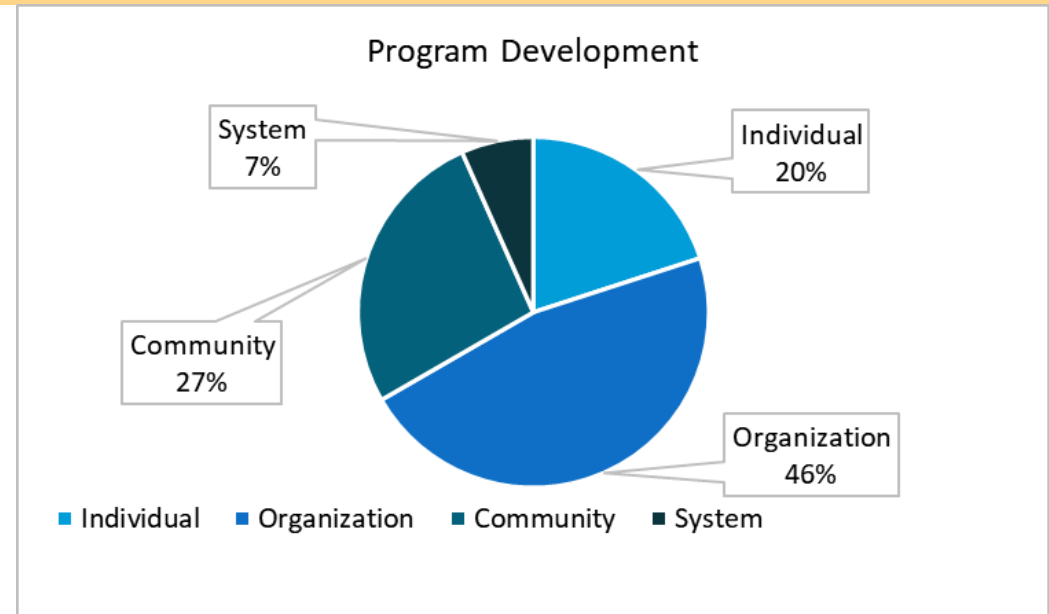


Figure 17: Distribution of indicators within the four levels of impact for program development. n = 35 impact indicators

1. How do partners communicate with center directors and how can it be improved?
2. How do partners communicate with students and how can it be improved?

To answer these questions, we collected data from both sets of interviews (the ones with key partners, center directors, and impact assessment experts as well as the primary partner interviews). During the interviews with experts from WPI's Global Projects Program, we asked how communication with partners was conducted and how it could be improved and in the partner interviews, the liaisons were asked the same questions to

get their perspective. We also asked the liaisons how the communication with students was conducted during the prep and project terms as well as how this communication could be improved. Answers to these questions were compiled and recommendations for improvement were created.

What We Learned About Partner Relationships

From partner interviews, we found that partner liaisons are generally satisfied with the communication methods and overall relationship they have with center directors. The Brotherhood of St. Laurence, CERES, ESF, the Port Phillip EcoCentre, Friends of the Earth Melbourne, and Museums Victoria were some organizations that commented on how good their communication with Lorraine Higgins and Stephen McCauley is. The partners found that Lorraine Higgins and Stephen McCauley are both understanding, supportive, and easy to talk to. As Courtney Green from The Brotherhood of St Laurence put it, “[the] conversations I've had with both Stephen and Lorraine [are] to really just listen to me, to hear what our organization does, what the work is, and then really kind of helped me think...well what would be a good project that would support what you're already doing?”²²

In regard to the communication and relationship with students, partner liaisons were generally satisfied. ESF, the Port Phillip EcoCentre, CERES, Snowy River Innovation, and Friends of the Earth Melbourne, were some organizations that commented that they were content with the level of communication they have with students. A few of them also pointed out that if they wanted more communication, they would let the students know. Others also mentioned that communication during the preparatory term can be lacking, but once the students start their project, they maintain good communication. Recommendations on how to improve student and partner communication were created.

Collecting and Compiling Promotional Materials

There will be another Melbourne Project Center team coming to Melbourne in Q1 of 2023. The focus of this future project will be on creating promotional materials to publicize the accomplishments of our partnerships and to plan the anniversary celebration. One of our team’s goals was to provide the next MPC team with the footage and research they need to make these promotional materials.

All nine MPC partner interviews were recorded with a GoPro Hero 7, Saramonic Blink500 lavalier microphones, and a Zoom H5 field recorder. The main purpose of these recordings was to transcribe the interviews for content analysis, but they also were collected to be passed onto the next MPC team to use in their media. This media will be used for the 25th anniversary celebration of the MPC and for wider outreach in Melbourne. We also captured videos and photographs of the partners' sites during our visits which will help the next team in making short marketing documentaries. We uploaded all this material to a OneDrive account that can easily be passed down to the next group.



Figure 18: Keira taking a video with the GoPro.

We also will provide the Q1 2023 team with data and recommendations as to what they should continue from our project. This entails the database of the entire 25 years. This database includes our team's data combined with the original database made by the 2016-2017 anniversary and impact teams and includes the categorization of all the projects. It also includes information about the last 25 years overall such as lists of all the partners we have worked with, which projects were remote, and any contact information for the liaisons of the partner organizations.



Site visits and WPI students in action. These pictures are some that will be passed onto the Q1 2023 team.

Recommendations

This project found recommendations for center directors and the GPP, local coordinators, partners, future MPC students, and the Q1 2023 anniversary team. These recommendations were derived from the feedback during partner interviews, as well as the feedback during center director interviews. Once again, because of the small sample size, survey responses did not contribute to these recommendations.

For Center Directors and the Global Projects Program

Recommendation 1: Increase communication on what the expected project outcomes are from each involved party.

Most partners discussed the benefit of having multiple conversations with the center directors when developing a project. This allows the partners to better explain what they need to obtain from the project, and it allows center directors to communicate how much of that the students can achieve in the given time frame. Due to the nature of the relationships center directors have with long-term partners, this is already commonplace for them, but it should be broadened to newer partners as well.

Recommendation 2: Request that partners provide students with a brief video introduction to the organization as part of the project briefs.

At the beginning of the prep term students are given a list of project briefs and asked to rank their interest in them to guide the center directors in

forming the project teams. These project briefs include a project description as well as an informational blurb describing each organization. It would be beneficial for students to have introduction videos in addition to the project briefs so they can be better familiarized with each organization before having to rank the projects.

Recommendation 3: Link partner organization websites on the Melbourne Project Center website.

All of the partners of the MPC have websites, and some have pages on their website dedicated to the work they have done with WPI. However, there are no connections to the partner organizations from the project center website. A good place to link the partner websites would be in the tab where it lists all of the partners and their projects. This would lead to more visible connections between WPI, and the work done with the MPC's partners.



Projects By Sponsor

AECOM

- [Emergency Egress for People with Mobility Impairments in Australia](#)
- [Analysing International Tunnelling Costs](#)
- [Mathematical Tunnel Cost Modeling](#)

“Projects by Sponsor” page on the Melbourne Project Center website

Recommendation 4: Inform partners about Digital WPI and the MPC website.

Many partners mentioned their desire for a place where all WPI projects could be available. Thus, they have not been informed about Digital WPI. Notifying them about Digital WPI would allow them to further share WPI work. Spreading the word on the MPC website to partners would be beneficial as well for the same reasons; information would be shared, and networking could ensue.

Recommendation 5: Keep track of IQP deliverables and recommendations by following up with the partner.

WPI currently collects the reports, supplementary materials, and presentations of all IQPs and stores them in the Digital WPI database. This is wonderful to refer back to, however WPI does not have an established way to track what happens with the deliverables and recommendations given to partners. This can be accomplished with a survey sent to project liaisons six months after the IQP was completed. This would assist with future studies about the impacts WPI has had on partner organizations and adjacent communities.

Recommendation 6: Communicate students' IQP experiences with partner organizations.

A variety of partners inquired about if there was any type of reflection asked of the students sometime after the project term ends. The partners would love to know if working with their organization had any impacts on the

students they hosted. The GPP requires a reflection from each student at the end of their project term, however the reflection is done during final reports and presentations. Creating a reflection survey six months to a year after the project is complete would allow partner organizations to understand the effect they had on students.

For Local Coordinators



The team with Jonathan Chee, WPI Local Coordinator

Recommendation 1: Hold all final project presentations at the same time and place.

Final presentations provide the opportunity to share WPI work with key stakeholders. When all of the presentations are held on the same day, it provides an amazing networking opportunity between the partner organizations and their stakeholders. Holding presentations on the same day and in one location would create an amazing networking opportunity for WPI as well as our partner organizations.

Recommendation 2: Ensure that students invite as many people as possible to presentations for networking purposes.

If the previous recommendation is followed, and a networking opportunity is created, there will need to be an ample audience available to mingle and connect. Students should be advised to ask their liaison who to invite outside of the organization staff and stakeholders. They should also consider what presentation choices will maximize attendance. For instance, if the invitees are scattered across the city, it may be beneficial to hold the presentation virtually.

Recommendation 3: Ensure partners know the cost of taking on a WPI project team.

For the MPC specifically, partners are asked to purchase Myki transportation cards for the students in their teams. A few partners mentioned wanting to be able to budget for that during their annual budget creation. Communicating the amount of money an organization will be required to spend on hosting a WPI team ahead of time is crucial.

Recommendation 4: Require students to write or record reflections on working with the partners.

In the past, local coordinator Jonathan Chee of the MPC has recorded clips of reflections from each student. He has shared these recordings with those students' respective liaisons. Those recordings have been referred back to by the organizations multiple times, implementing these reflections at the end of each term would create useful material for the partner organizations.

For Partners



Ethan and Lily with April Seymore and Neil Blake from Port Phillip EcoCentre

Recommendation 1: Share WPI projects on partner websites.

Sharing work is one of the best ways to increase impact on all four levels. A few of the MPC's partner organizations already have pages on their websites dedicated to WPI project work, however many do not. Having a page on WPI work not only benefits WPI but also demonstrates the organization's work with a university which can increase the prestige of the organization.

Recommendation 2: Hold a presentation of WPI project work to stakeholders without an aspect of academia.

The final project presentations that students give have multiple purposes. The first is to share the results of the project itself, and the second to show their work as part of their degree completion. Stakeholders may not attend final presentations due to the second purpose of the presentation. Partner organizations can have their student teams present just the portions of the project relevant to stakeholders in a second presentation.

Recommendation 3: Ensure the project liaison has the time to fully support WPI student groups.

When WPI students are working on a project they require guidance from a partner liaison. However, many of the staff at these organizations are very busy. If the workload of the liaison is too great during the project term, they will have less time available to guide the students, which can lead projects astray.

Recommendation 4: Have more communication with student teams during the prep term.

Usually during the prep term, students are expected to have one introductory meeting with their partner liaison. Since the pandemic and increasing regularity of Zoom, some partners have increased the frequency of communication with students during the prep term. They have found this to be beneficial to directing the pathway of the project earlier, thus leaving less room for problems regarding project focus.

Recommendation 5: Use alternate communication platforms to interface with students.

The typical form of communication between liaisons and students is by email in the prep term or in person during the project term. A few partner organizations use Slack and have added the students to their Slack for the duration of the prep and project term. This increases the ease of communication between the organizations and students. Other messaging software such as Microsoft Teams or Google Chat could be used as well.

For Future MPC Students

Recommendation 1: Ensure the project liaison's name is in the report and easy to find.

While doing our preliminary analysis, we discovered that many projects lacked the names of specific liaisons. The liaisons take time to work with the students and deserve the recognition of being listed in the report.

Recommendation 2: Always include a land acknowledgement in presentations.

In Australia it is common practice to acknowledge the aboriginal people as the traditional custodians of the land one is on, and pay respect to their elders past, present, and emerging. This is very culturally important and needs to be included in all presentations and reports.

“We would like to make an acknowledgement of the land we are on and the traditional custodians of it, the Wurundjeri. We pay respect to their Elders past, present, and emerging.”

Recommendation 3: Connect with partners on LinkedIn or other social media platforms.

Networking is important to career development. The connections made while completing the IQP abroad can benefit students and the organizations they worked with. The liaisons love to see where the students go with their careers; keeping in touch and maintaining those connections will be mutually beneficial.

Recommendation 4: Continue and improve upon our research.

Much of our project was designing tools and research methods that could be repeatable. It is our hope that future impact assessments not only use our tool but improve upon it and help it overcome its limitations. Along with that, it would be extremely valuable to see the project characteristics research come to full fruition.

For the Incoming Anniversary Team

Recommendation 1: Complete the compilation of the 2016 and 2017 teams' database to include the last five years.

The impact assessment and 20th anniversary student teams from 2016 and 2017 created a database of all the projects, sponsors, and sponsor contacts from the inception of the Melbourne Project Center. We have added the last five years of projects into this database, but we did not have the time to make the data cohesive. The explanation of our categories is in our supplementary materials and the 2016 team has the explanation of the old categories in their supplementals. Completing the update of this database

will provide an abundance of data that can be used to properly portray the MPC at its 25th anniversary.

Recommendation 2: Create more assertions on how WPI projects have impacted different categories of partners.

Once the database is fully up to date, more claims about the impacts WPI has had on partner organizations and adjacent communities can be made. More specifically, claims based upon project characteristics can be made since we could not complete this analysis.

Recommendation 3: Interview Jonathan Barnett.

Jonathan Barnett was one of the two founders of the MPC as well as the MPC center director before Holly Ault, who preceded Stephen McCauley and Lorraine Higgins. Interviewing Professor Barnett will be largely beneficial for telling the story of the MPC. Our team interviewed Professors McCauley, Higgins, and Ault, so they do not need to be revisited.

Recommendation 4: Create a timeline of projects that had a cumulative effect in particular areas.

This was a request of center director Lorraine Higgins, but it was outside the scope of our project. We created a timeline of the past five years, so it would be good to make a timeline in a few specific thematic areas for the entirety of the MPC history up to present time.

Recommendation 5: Create a video on the organizational impacts that the MPC has had for its 25th anniversary.



Potential promotional content of a WPI student interacting with kids at Banksia Gardens Community Services.

Recommendation 6: Update the MPC website.

The MPC website appears to not have been updated since 2020. A revamp for the upcoming 25th anniversary would be beneficial for the image of the MPC.

Conclusion

Through the process of this Interactive Qualifying Project, we were able to assess the impacts of the Melbourne Project Center on four impact levels. We created an Impact Assessment Tool that is unique in its systematic and repeatable approach to assessing impact. Ideally, this tool will be used again and improved upon through other impact assessment projects of the

MPC or other project centers. Our team began the analysis of seven project characteristics as well. In addition to the tool, we created recommendations for center directors, partners, local coordinators, future students, and the next MPC anniversary team.

Using the Impact Assessment Tool, we found that project-based study abroad opportunities do affect the host communities. These projects can lead to economic benefits, increase in overall community knowledge, networking, skills, and many more, thus proving that project-based study abroad opportunities have the potential to benefit the communities as well as the students. Increasing these global partnerships can provide communities with new perspectives and skill sets which, combined with local knowledge, can resolve problems, or develop new infrastructure.



The team at the Collingwood Children's Farm.

References

1. Schroeder, K., Wood, C., Galiardi, S., & Koehn, J. (2009). First, do no harm: Ideas for mitigating negative community impacts of short-term study abroad. *Journal of Geography*. <https://doi.org/10.1080/00221340903120866>
2. Rosen, A. (2016). Worcester school gets national prize. *Boston Globe*. <https://www.bostonglobe.com/metro/2016/01/06/worcester-polytechnic-wins-national-engineering-prize/ioCWV93kmVOTKcX2DsKKnM/story.html>
3. Global Projects Program. (n.d.) *WPI*. <https://www.wpi.edu/project-based-learning/project-based-education/global-project-program>
4. Interactive Qualifying Project. (n.d.). *WPI*. <https://www.wpi.edu/academics/undergraduate/interactive-qualifying-project>
5. WPI's Melbourne Project Center. (n.d.) *WPI*. <https://wp.wpi.edu/melbourne/>
6. WPI history. (n.d.). *WPI*. <https://www.wpi.edu/about/wpi-history>
7. Zuccolo, L., Henson, K., Callahan, A., & Filippou, S. (2016). *Twenty years down under: Documenting the history and assessing the impacts of WPI's Melbourne Project Center* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. <https://digital.wpi.edu/pdfviewer/jm214p77k>
8. Day, J., Carlson, K., Seely, C., & Cochran, I. (2017). *Worcester Polytechnic Institute's - Legacy down under: Documenting and promoting the impacts of the Melbourne Project Center* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. https://digital.wpi.edu/concern/student_works/bc386j62v?locale=en&_ga=2.42561568.4
9. Laurie A. Leshin Global Projects Center. (n.d.). *WPI*. <https://www.wpi.edu/about/locations/laurie-leshin-global-project-center>
10. Major Qualifying Project. (n.d.). *WPI*. <https://www.wpi.edu/academics/undergraduate/major-qualifying-project>
11. Digital WPI (<https://wp.wpi.edu/melbourne/>)
12. Projects by sponsor. (n.d.). *Melbourne Project Center*. <https://wp.wpi.edu/melbourne/projects/projects-by-sponsor/>
13. Spear, A., & Natasha, C. (2020). Measuring the impact of an international service-learning project through community assessment in Rwanda. *Michigan Journal of Community Service Learning*, 26(1). <https://doi.org/10.3998/mjcsloa.3239521.0026.110>
14. Stoecker, R., Beckman, M., & Min, B. H. (2010). Evaluating the community impact of higher education community engagement. In H. E. Fitzgerald, C. Burack, & S. Seifer (Eds.), *Handbook of engaged scholarship: The contemporary landscape: Vol. 2.: Community-campus partnerships* (pp. 177–198). East Lansing, MI: Michigan State University Press.
15. Driscoll, A., Holland, B., Gelmon, S., & Kerrigan, S. (1996). An assessment model for service-learning: Comprehensive case studies of impact on faculty, students, community, and institution. *Michigan Journal of Community Service Learning*, 66-71. <https://digitalcommons.unomaha.edu/slceslgen/175>
16. Córdova, T. (2011). Community-based research and participatory change: A strategic, multi-method community impact assessment, *Journal of Community Practice*, 19(1), 29-47. <https://doi.org.10.1080/10705422.2011.550259>
17. Miron, D., & Moely B. (2006). Community agency voice and benefit in service-learning. *Michigan Journal of Community Service Learning*, 12(2), 27-37. <http://hdl.handle.net/2027/spo.3239521.0012.203>
18. Jiusto, S. & Vaz, R. Understanding impacts: Community engagement programs and their implications for communities, campuses and societies. https://doi.org.10.1007/978-3-319-32933-8_12

19. Seeley, J., Frost, E., Avakian, A., & Escobar, L. *History and impact of the Washington, D.C. Project Center* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. https://digital.wpi.edu/concern/student_works/qf85nb63r?locale=en
20. McClame, E., Getz, L., Briggs, C., & Padberg, M. (2016). *Assessing the impacts of the London Project Center* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. <https://digital.wpi.edu/pdfviewer/h989r3602>
21. Burns, Z., O'Connell, A., Jeanlys, A., & Lim, S. (2020). *Twenty years of the Worcester Community Project Center* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. <https://digital.wpi.edu/pdfviewer/gb19f8037>
22. C. Gallois & A. Langford, personal communication, November 24, 2022
23. C. Green, personal communication, November 25, 2022
24. Fitzpatrick, A., Kaya, B., Paxton, E., Visconti, J., & Youkhana, I. *Connecting and empowering young adults in Australia through BSL's ConnectYA platform* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. https://digital.wpi.edu/concern/student_works/t435gg878?locale=en
25. J. Chee & E. Caballero Aspe, personal communication, November 15, 2022
26. C. Meehan, personal communication, November 28, 2022
27. C. Horner & S. Baso, personal communication, November 18, 2022
28. S. Mackenzie, personal communication, November 16, 2022
29. P. Young, personal communication, November 21, 2022
30. A. Seymore & N. Blake, personal communication, November 23, 2022
31. Emergency Services Foundation (<https://esf.com.au/>)

32. Bulman, J., Gammal, J., Lam, M., & Scholz, E. *The next step for public transit in Melbourne* [Undergraduate interactive qualifying project, Worcester Polytechnic Institute]. Digital WPI. https://digital.wpi.edu/concern/parent/8336h442j/file_sets/nv935517s
33. R. Llewellyn, personal communication, November 22, 2022



Ethan and Lily petting goats at the Collingwood Children's Farm.