

Facilitating Community-based Student Projects Across Academic Departments

Project Summary

Project Leads

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Introduction

As staff members who help connect community members with faculty and students who are working on community- based experiential learning projects, we face a number of challenges in sourcing and sharing project opportunities, specifically when a project does not align with our course objectives.

The Academic Sustainability Programs Office (ASP), W Booth School of Engineering Practice and Technology (W Booth SEPT), and CityLAB Hamilton have been working together since Summer 2017 to develop a process for sharing projects between their areas. The goal of this collaboration was to best match the community project challenge to the academic unit that could most effectively support the community and facilitate student learning. During monthly meetings, we learned more about each other's program, respective course learning objectives, student characteristics, as well as the experiential learning process and timeline for project selection and completion, among other things. As a result, we were able to better serve our community partners by connecting them with another area if we found that our own program was not the best fit.

With funding and support from ELAP (Experiential Learning in Academic Programming) , we engaged in in-person interviews to better understand the diverse challenges and opportunities faced by staff and faculty who source projects from the community and integrate them with their student's experiential learning. We focused on two main issues: 1) collecting project information from the community, and 2) ensuring an appropriate match between the project and course objectives. To better serve the community and McMaster, through the ELAP grant, we were able to work with staff and faculty of McMaster to understand their goals, challenges, best practices, and ideas for matching community challenges and McMaster students. With this information, we developed two electronic questionnaires and a process for sourcing and pan-campus sharing of projects, which, we hope, will support staff, faculty, students, and the community.

Our methodology and a summary of findings from our interviews are provided in the sections to follow. We have developed the CCPS (Campus-Community Project Share) as a cross-campus approach to sharing projects within and between academic divisions. As this project has the opportunity to extend beyond our small group, we have included a link to our resources and three case studies that demonstrate the results of our work.

Methodology

Due to the fact that the three project leads have all had extensive experience in both sourcing projects from the community and also with sharing community-based project challenges with other faculty members within the university, we began by analyzing the informal process we had been using to date. We asked ourselves, 'what is working well, what could be improved, and what could we do to more effectively share projects between our individual units?'

We found that we were doing the following things well:

- Our community networks didn't overlap too much, but were also complementary and relevant to the work we were each doing.
- We were each asking the community members similar questions to help develop a project challenge and to ensure that the challenge would integrate with our course objectives.
- We knew a lot about each other's courses.

We identified some ways in which we could improve:

- We could map out which communities we were already working with, to avoid duplication and, worse, overburdening the community.
- We could further align our questions for the community, which would encourage us to think critically about our questions, enhance them, and streamline the sharing process if we found that the project was not a good fit.
- We could develop an internal questionnaire that we would each fill out, specific to each course, so that we would not have to rely on our memory and would have the relevant information about each course on hand, which would enable us to identify a potential alternative course match more easily.

Opportunities for More Effective Sharing:

- We could broaden our faculty network with others who teach courses that are complementary to ours.
- We could further enhance both our community and course questionnaires by additional consultation and feedback with other staff and faculty.
- We could offer these resources to other individuals, groups, and departments for use and further development.

Following our internal analysis, we refined our community questionnaire (see Appendix A), developed an internal faculty/course questionnaire (see Appendix B), created a list of interview questions (see Appendix C) for staff and faculty members that we wanted to consult, and compiled a list of faculty and staff members within our respective networks that we could reach out to. Appendices A and B reflect the polished version of each questionnaire, and Appendix D shows the Faculty, Department, and general role of each individual we interviewed to demonstrate our attempt to gain perspectives from across campus.

To help us develop the CCPS so that it would be beneficial beyond our own group, we interviewed seven faculty and nine staff members who also source project challenges from the community and offer them to students as part of their coursework. In addition to our survey questions, and in hopes that our questionnaires could be enhanced and also leveraged by others on campus, we also asked our interviewees if they would add anything to or remove anything from our questionnaires. After each interview, we revised our questionnaires to capture the valuable insights we had obtained. Following our interviews, we analyzed the data, coded for key themes, and summarized our key findings, which can be found in the section to follow.

Key Findings from Interviews

A summary of responses to each interview question is provided below and highlights the diversity of goals, actions, processes, and general approaches to this work. It is important to note that due to the varied roles played by staff members, we chose to focus our analysis on responses from faculty members only. However, insight and feedback from staff members was a valuable part of our research and has contributed greatly to our findings. The unique roles that staff members play in community engagement and student experiential learning is a valuable area for future research.

What communities do you source your projects from?

From our seven interviews, we had 18 responses, with the majority of projects coming from the community (5), followed by business (4) and not-for-profit (3). Projects were also sourced from the City of Hamilton (3) and McMaster (3).

In addition, respondents also mentioned that they would like to broaden their reach and source projects from other areas.

What is your process for sourcing projects from within the community?

From our interviews, we had 9 responses, with the majority mentioning personal connections (4), Riipen (1), networking events (1), Faculty admin support (1), Forge competition (1), and Alumni (1).

What is your process for sharing the project opportunities with students?

From our interviews, we had 6 responses, with each individual having a different approach. The processes are as follows:

- Faculty member invites community members to attend a class and pitch the project opportunities to students.
- Faculty member invites community members to complete an online form, which generates a project description that is sent to student to read and make their selection.
- The faculty member knows the community members and students personally, and is able to make individual connections;
- Faculty member shares project opportunities with student leaders, and student leaders then share the project ideas with their interested peers to form a group.
- Members of the business community post project opportunities on an online platform, Riipen, which students have access to through their course.

What is your process for connecting students to projects?

From our interviews, we had 6 responses, with the majority of faculty members making the project opportunities available to students to select on a first-come, first-served basis (4); one faculty member strives to know the students' needs, the community needs, and matches them accordingly; and one faculty member encourages students to find and self-select their own project.

Do you ever work with colleagues to share projects? Why/why not? If so, how?

From our interviews, we had 7 responses, but they all came with additional dialogue or stipulations. The majority of respondents (5) said that at least some sharing exists; however, there were significant reservations with what information was shared and whom it was shared with, suggesting that the opportunity to share was done on a case-by-case basis. One faculty member mentioned that there had not been the need to share yet, and another faculty member mentioned that they did not share but would just decline projects that were not appropriate for the course.

What barriers do you face in sourcing your projects, sharing with/assigning to students, and sharing with other faculty and staff (if applicable)?

From our interviews, we had 11 responses, which included: there is a lack of time to source project from the community (3); there is a lack of resources and ownership to support faculty member in sourcing projects and managing the process throughout the semester (3); it is not sustainable for faculty members to source projects because it is not valued as part of performance

(1); there are difficulties in sourcing enough projects (1); there is a challenge of a personal relationship and trust factor that inhibits the sharing of projects (1); students may come from different faculties that have different procedures/rules around supervision and project deliverables, which makes project sharing difficult (1), and finally, there are significant potential risks involved if/when student-community projects go awry, and faculty members have little to no support or resources to manage them (1). Nearly all mentioned that having a tool and/or automated process could make it easier (6).

Would you be supportive of the University managing (or offering the option to manage) this process centrally? why/why not? If they did, would you want your contacts to work with the central team or would you rather your contacts continue to work directly with/through you?

From our interviews, we had 7 responses, with the majority being tied between No (3) and Maybe (3), and one person saying yes, but only if it took place in consultation with faculty. The reservations for the central management stemmed mainly from wanting to protect the personal relationships they had formed and fostered (7), which includes trust, knowledge, and mutual understanding. Additionally, they wanted to maintain autonomy over the process they had developed for sourcing and sharing projects (4), especially with respect to continuity year over year.

Once prodded about the possible benefits, respondents mentioned that it would be good to know about other project-based courses on campus (1) and that it would be valuable to take a look at the opportunities available, in case there were projects that were a very good fit for their course (2). They included the need for faculty to be involved in developing the platform and process (1), the necessity of the human element to conduct the matching (2), and the stipulation that it would always be an optional resource, rather than a mandatory one (4).

Summary

In summary, we recognize that there is a wide variety of processes for working with and sourcing projects from the community and sharing those projects with students. We also understand that there is a need for resources and supports for faculty and staff who are involved in these activities. We recognize the commitment made on behalf of faculty members who invest their time and energy into forming and fostering meaningful and trusting relationships with the community, and understand the importance of being able to maintain autonomy over those activities. Ultimately, we hope that this small study and the resources we have created can be of value to faculty, staff, the university, and the community.

Case Studies

To demonstrate some of the outcomes from our work, we have provided three case studies from this past year, which highlight how faculty members have worked together to share projects to best support the community and student learning.

Case Study #1 Integrating Project Continuity

Situation

In the summer of 2018, Kate Whalen, Senior Manager at Academic Sustainability Programs (ASP) Office, attended a community event where she met a man who happened to work at a coffee roaster. While chatting about the sustainability of the coffee roasting industry, the man mentioned that their biggest sustainability challenges was that the jute sacks that coffee beans were delivered in were a significant source of waste since the bags could not be composted or recycled. Kate soon after met with the owner of the company who was interested in discussing the details of a student project for the coming Fall semester.

Collaboration

During the process of curating the project challenges for the students, Kate and the owner recognized that the project would need to be two-fold to meet the company's objectives. The first aspect was a design challenge of turning the large jute sacks into a marketable product, and the second was the challenge of manufacturing the products on a large scale. From this meeting, Kate reached out to Salman Bawa, Community Engagement Coordinator at W Booth School of Engineering Practice and Technology (W Booth SEPT), whose Master of Engineering in Manufacturing Engineering (MEME) students take on challenges just like this. This relationship worked seamlessly as Kate's third year SUSTAIN students were interested in the design aspect and MEME students were interested in the manufacturing challenge.

Result

During the Fall semester of 2018, Kate's SUSTAIN students worked towards developing a prototype for reusable coffee cup sleeves and tote bags with great success. Beginning near the end of November, which was about halfway through the SUSTAIN student's course, they began working with the MEME students to ensure seamless integration and continuity of the project. As of March 2019, the SUSTAIN students completed their course and some of them have continued their venture by applying to The Forge for their summer entrepreneurship program. The MEME students, along with faculty-lead Florent Lefevre-Schlick, Manager Certificates of Completion and Industrial Training Programs at W Booth SEPT, are, as of the date of this report, in the final stages of completing their manufacturing project, which focuses on keeping production low-tech, waste-free, and within the local economy.

*Case Study #2
Routing for Best Fit*

Situation

An event held by CityLab Hamilton called CityLab Matchmaker was held with the goal to match project challenges in the City to experiential learning courses/programs at one or more of the academic institutions in Hamilton. Through the MatchMaker event, Salman Bawa met with City staff from the Tourism & Culture Office, Light Rail Transit Office, and Office of the City Manager to understand their needs in design thinking. Through the conversations, it became clear that they were looking for communication and engagement management work.

Collaboration

Salman had previously worked with the Department of Communication Studies and Multimedia at McMaster University, and through this relationship he was connected to Philip Savage. Phillip Savage also leads a university course that enables Communication Studies and Multimedia students to complete a 100-hour internship. Salman facilitated the connections between the City departments and Philip Savage to develop a project for McMaster students.

Result

By understanding the needs of the community partners and connecting the correct people in the appropriate departments, the students gained relevant experience in the area of their studies. The community partners felt satisfied having found the right fit and are pleased that McMaster provided University-wide talent. The City now has access to a continuing stream of talent from the Department of Communication Studies and Multimedia for their communication and engagement management work.

Case Study #3
Generating Project Ideas through Group Dialogue

Situation

When attended the annual CityLAB MatchMaking Event, Salman learned about an interesting sustainability challenge within the City of Hamilton Waste Management Department. Salman invited Kate Whalen to attend an initial exploratory meeting with the City and perhaps engage in another joint project between SUSTAIN students and W Booth SEPT students.

Collaboration

During the initial meeting, there were members of both the City's Waste Management Department and Public Health. The City staff discussed the challenges that they were facing, which included waste processes in multi-residential buildings, composting education, and possible solutions for the significant amount of avoidable food waste being generated. Through their conversation, W Booth SEPT Design students fit this project well. It was decided that they would work on analyzing and providing solutions for the infrastructure challenges and composting in multi-residential buildings while SUSTAIN students would work to learn more about avoidable food waste and test a possible solution.

Result

W Booth SEPT Design students, along with faculty-lead Zobia Jawed, Sessional Faculty at W Booth SEPT, partnered with residence management companies, held stakeholder meetings, visited stakeholder sites, identified suitable buildings for waste audits, conducted waste audits, and reviewed other municipalities waste diversion strategies. The project continues, as of the date of this report, to collect and analyze data and make recommendations. A poster of their work can be found at:

<https://www.citylabhamilton.com/winter-2019/2019/4/2/waste-diversion-in-multi-residential-buildings-in-hamilton>

SUSTAIN 4S06 students surveyed undergraduate students living in shared accommodations to understand their attitudes and behaviours around food waste. They found that lack of education about shopping, preparation, and storage were the main barriers to consuming fresh food before it spoiled. The students developed an educational pamphlet addressing the three identified barriers while focusing on the main foods that students purchase. A poster of their work can be found at:

<https://www.citylabhamilton.com/winter-2019/2019/3/29/attitudes-behaviours-and-strategies-to-reducing-undergraduate-food-waste>

Appendix A: Questionnaire for Community

Instructions:

Please complete the following questionnaire to give us a sense of your project and/or challenge. We will contact you to discuss your submission within one week of receiving it. After we work together to refine the content, and once you approve, we will post the following information online for our students to see: project title, description, timeline, number of groups, your name, and your title.

** Required*

Email address *

Your email

Your Name

Your answer

Your Title

Your answer

Project-Sponsoring Organization *

Please state the name of the sponsoring organization, if applicable.

Your answer

Project-Sponsoring Organization Website *

Please state the sponsoring organization's website URL, if applicable.

Your answer

Facebook handles/tags/hashtags that are relevant for promotion/communication about this project, if applicable

Your answer

Twitter handles/tags/hashtags that are relevant for promotion/communication about this project, if applicable

Your answer

Instagram handles/tags/hashtags that are relevant for promotion/communication about this project, if applicable

Your answer

*Descriptive Project Title **

This title is not set in stone, but should help give students an idea of what the project is about.

Your answer

*Project Description **

Tell us about the project idea and/or challenge. See here for some examples:

<https://asp.mcmaster.ca/experiential-learning-project-opportunities-2/>

Your answer

*Deliverables/Outputs **

What are the students required to do/produce? Select all that apply and/or add more information.

- Primary Research (ie. conducting surveys and/or collecting data)*
- Secondary Research (i.e. review of literature and finding information from books and online)*
- Feasibility Study*
- Business Case*
- Policy Paper*
- Prototype (physical)*
- Design*
- Marketing Report*
- Advertising Report*
- Developing a Website*
- Marketing Campaign*
- Pilot*
- Event or Workshop*

Other:

Supports and Resources *

Are there any specific resources and/or supports that you may require?

- Engineering and Design (3D printing; metal...; injection moulding)
- Computer Technology (InDesign/Photoshop; GIS mapping; online survey tools, multimedia)
- Ethics and Consultation (research ethics support; community consultation and/or facilitation)
- Research (Access to Online Journals and Academic Resources, access to experts)
- N/A
- Other:

What resources can you offer to students? *

Select all that apply.

- Office space
- Funding
- Professional and/or expert guidance
- Letter of reference
- Connections to professionals in the field
- Specialized software or equipment
- N/A
- Other:

Timeline *

When do you want the project to be completed? Please use "Other" box to let me know of any deadlines or milestones that need to be met.

- Fall semester (by December)
- Winter/Spring Semester (by April)
- Summer Semester (by August)
- Other:

*Does this project lend itself to more than one student groups? If so, how many groups could you support? **

In other words, are you willing to take on multiple groups working in parallel or on different aspects of a larger project?

Number of groups you could support: 1, 2, or 3

*How much time do you have to devote to this project? **

Students will require direction on their project and will want to consult with you along the way. In addition, some students and/or projects may benefit from additional mentorship and/or guidance. We want to make sure that we take your availability into consideration.

- Less than one hour/month*
- 1 hour/month*
- 1 hour/week*
- 2 hours/week*
- More than 2 hours/week*
- Other:*

Additional Information

Do you have questions, comments, or concerns? Is there any other information you think we should know about?

Appendix B: Community-based Experiential Learning Course Questionnaire

This is an optional questionnaire that is aimed to help other staff and faculty to know more about your course and inform you of any potential projects that may be a good fit. The repository of community-based project courses will be shared among other contributing faculty and staff members at McMaster. Once you complete the form, we will send you a link to access all other completed questionnaires.

This form has been developed in collaboration with faculty and staff from across campus. The Academic Sustainability Programs Office, W. Booth School of Engineering Practice and Technology, and CityLAB would like to acknowledge The MacPherson Institute and the Office Community Engagement, through their Experiential Learning in Academic Programming (ELAP) Grant, for the opportunity to further develop cross-campus relationships so that we may improve our processes and work together to better serve our students and the community.

The name and photo associated with your Google account will be recorded when you upload files and submit this form.

** Required*

*Email address **

Your email

Your Name

Your answer

Your Title

Your answer

Course/Program/Faculty Website (if applicable)

Your answer

Course Faculty

Your answer

Course Department

Your answer

Course Title

Your answer

Course Code

Your answer

Course Description

Your answer

Syllabus Upload

Deliverables/Outputs

What are the students required to do/produce? Select all that apply and/or add more information.

- Primary Research (ie. conducting surveys and/or collecting data)*
- Secondary Research (i.e. review of literature and finding information from books and online)*
- Feasibility Study*
- Business Case*
- Policy Paper*
- Prototype (physical)*
- Design*
- Marketing Report*
- Advertising Report*
- Developing a Website*
- Marketing Campaign*
- Pilot*
- Event or Workshop*
- Other:*

Supports and Resources

Are there any specific resources and/or supports you can offer to the community?

- Engineering and Design (3D printing; metal...; injection moulding)*
- Computer Technology (InDesign/Photoshop; GIS mapping; online survey tools, multimedia)*
- Ethics and Consultation (research ethics support; community consultation and/or facilitation)*
- Research (Access to Online Journals and Academic Resources, access to experts)*

Timeline

When does the course run?

- Term 1 Only*
- Term 2 Only*
- Both Terms (8 months - Term 1 and Term 2)*
- All terms (12 months - Term 1, Term 2, and Term 3)*
- Other:*

Which areas of the community are you most interested in connecting with?

Select all that apply.

- Business Community*
- Start-ups*
- Small and medium-sized companies*
- City of Hamilton*
- Not-for-profit*
- Charity*
- Individual community members*
- Grass-roots groups that do not have NFP, charity, or other status*
- Does not matter*
- Municipalities*
- Other:*

How many projects are needed?

Your answer

Do you normally have enough projects and of the right fit, or could you benefit from project sharing?

Your answer

Please feel free to describe how students engage with the projects (i.e. small groups, individual, one project for entire class, etc.)

Your answer

Point of Contact for Community Partner and Role

May be the course instructor. However, if there is a different point of contact, please include their name and role as it pertains to working with the course (students and instructor) and the community partner(s).

Your answer

Additional Information

Is there any other information you think we should know about your course? Please indicate if the information you supply below is appropriate for sharing with interested community members or if the information is for fellow faculty and staff only. Please note, we will check with you before sharing any of this information with community.

Your answer

Appendix C: Survey Questions

Overview:

With an increased focus on community-based experiential learning, staff and faculty are working with communities to identify challenges that could provide rich learning experiences for students and also serve the community. However, when projects don't align with course objectives or aren't suitable for the particular student's skills or interests, departments don't always have an effective way to find another suitable option to support the community. Furthermore, some staff and faculty are new to offering these types of experiences to their students and could benefit from peer mentorship as well as process and technical support.

Our colleagues from the Academic Sustainability Programs Office, W. Booth School of Engineering Practice and Technology, and CityLAB, have developed a process to find

great projects and share them with each other if/when the project does not “fit” perfectly with our own courses.

To share and further develop our knowledge, we have received a grant from the the Experiential Learning in Academic Programming (ELAP) to further refine our process and develop an online platform to support our work and, hopefully, be able to support others who may benefit from this knowledge and the resources we develop.

To help us to develop a system that would be of benefit beyond our own group, we are consulting with a select group of faculty and staff members who also source projects from the community and offer them as challenges to students.

Questions Part 1

What communities do you source your projects from? Any communities you would like to connect with in future, and/or if you had support?

- *Business, Hamilton community, City, NFP, etc.*

What is your process for sourcing projects from within the community? Anything you would like to do differently or try in future?

What is your process for sharing the project opportunities with students? Anything you would want to do or try in future?

- *Post online, post on Avenue, etc.*

What is your process for connecting students to projects? Anything you would want to change or try in future?

- *Assign projects to groups, all class works on one project, students get to self-select from options, etc.*

Do you ever work with colleagues to share projects? Why/why not? If so, how?

- *ie. colleague shares a contact or project with you and/or vice versa; the project is not a good match, or if you have too many or not enough projects to support student enrollment*

What barriers do you face in sourcing your projects, sharing with/assigning to students, and sharing with other faculty and staff (if applicable)?

Would you be supportive of the University managing (or offering the option to manage) this process centrally? Why/why not? If they did, would you want your contacts to work

with the central team or would you rather your contacts continue to work directly with/through you?

What pros and cons do you anticipate for others and for yourself (re: central management)?

Would it be beneficial for you to work with other faculty or staff colleagues to share contacts and/or projects? Why/why not?

- *ie. Want to keep personal connections to myself; want to ensure the community has the best fit, even if it's not my own course.*

Questions Part 2 *(if interested/supportive of working in small groups to share projects/contacts)*

What questions do you ask of your community partners? See sample questionnaire.

Are there any questions missing or any that could be removed or revised?

What are the requirements of your course?

Could you easily complete the template below?

Appendix D: Faculty, Department, and Role of Interviewees

| Faculty (Faculty/Staff) | Department | Role (Faculty/Staff) |
|-------------------------|---|----------------------|
| Business | Marketing | Faculty |
| Engineering | Civil | Faculty |
| Humanities | History | Faculty |
| Health Science | Medicine | Faculty |
| Business | Marketing | Faculty |
| Business | Operations Management | Faculty |
| Humanities | Communications and Multimedia | Faculty |
| Social Sciences | Experiential Education | Staff |
| Social Sciences | Experiential Education | Staff |
| Science | Science Career and Cooperative Education Office | Staff |
| Science | Interdisciplinary Science | Staff |
| | Student Success Centre | Staff |
| | MacPherson Institute | Staff |
| Engineering | W Booth School of Engineering Practice | Staff |
| | Academic Sustainability Programs | Staff |
| | CityLab | Staff |