

SERVICE LEARNING TO PROMOTE STUDENT ENGAGEMENT: A CASE STUDY OF SUSTAINABILITY SURVEY PROJECT IN POM CLASS

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Abstract

Student engagement has received considerable attention in recent times in higher education from all stakeholders. Many academic institutions are explicitly and implicitly promoting initiatives that are reputed to improve student engagement in academic settings. Service Learning (SL) is one such initiative. This paper reports the case study of implementing a Service Learning project in an undergraduate Production and Operations Management (POM) class. A Sustainability Survey project was designed and implemented, whereby students in POM class were required to interact with university campus community members to obtain surveys about their awareness of sustainability, its impact, and what may be done to promote sustainability. The objective is to require students to serve the community by increasing awareness of sustainability while learning about sustainability by themselves. The results indicate that the service learning survey project has been moderately impactful in improving student engagement as well as in improving student learning from the project while promoting awareness of sustainability.

Keywords: *Service Learning, Sustainability Awareness, Student Engagement, Production and Operations Management.*

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INTRODUCTION

There is no denying the fact that, student engagement has received immense attention in the recent times due to a wide variety of reasons, including the discovery by researchers of the connection between non-cognitive factors and non-cognitive skills and cognitive learning skills (Glossary of Education Reform, 2016), and that engaged students persist despite challenges and obstacles and take visible delight in accomplishing their work (Fletcher, 2016 citing Schlechty, 1994). Further, student engagement can take any of the different forms it can be implemented in, viz., intellectual engagement, emotional engagement, behavioral engagement, physical engagement, social engagement, and cultural engagement (Glossary of Education Reform, 2016). Accordingly, various institutions and stakeholders find different forms of student engagement suitable and convenient to implement in their attendant circumstances. At the author's university the professional resources and opportunities for faculty (PROF) center offered summer workshop for faculty to learn and implement Service Learning (SL) in their teaching. The current case study is a result of attending one such SL workshop in the year 2015 and follow up efforts made in implementing a SL project in an undergraduate POM class.

The rest of this paper is organized as follows: First, a brief introduction to service learning, its objectives, and good principles in implementing service learning projects are presented from prior literature while also addressing basic questions such as, what is SL. What does SL involve? How is it different from community service or volunteering? What aspects of core learning objectives of core curriculum does SL target? Then, a detailed description of the methodology of developing Sustainability Survey Service Learning project that was implemented in a POM class in fall 2015 and spring 2016 semesters together with brief results are presented. Finally, under conclusions, some useful insights and takeaways from this SL project are presented for possible replication in other SL projects, in other classes.

LITERATURE REVIEW

What is Service Learning

Service learning is quite distinct from internships, volunteerism/community service, Civic education, awareness and understanding. The PROF center webpage at the Texas A & M International University (TAMIU) succinctly depicts the service learning to be the area at the intersection of academic study, practical experience, and civic engagement. As a matter of fact, it needs quite a lot of planning to balance out all three components. While not all service learning project may hit the right balance, projects that retain part of each of the three domains of academic study, practical experience, and civic engagement are best alternatives to a perfectly balanced service learning project. On hindsight, the service learning project that is the

main piece of this case study is perhaps leaning more in the direction of civic education, awareness and understanding overlap.

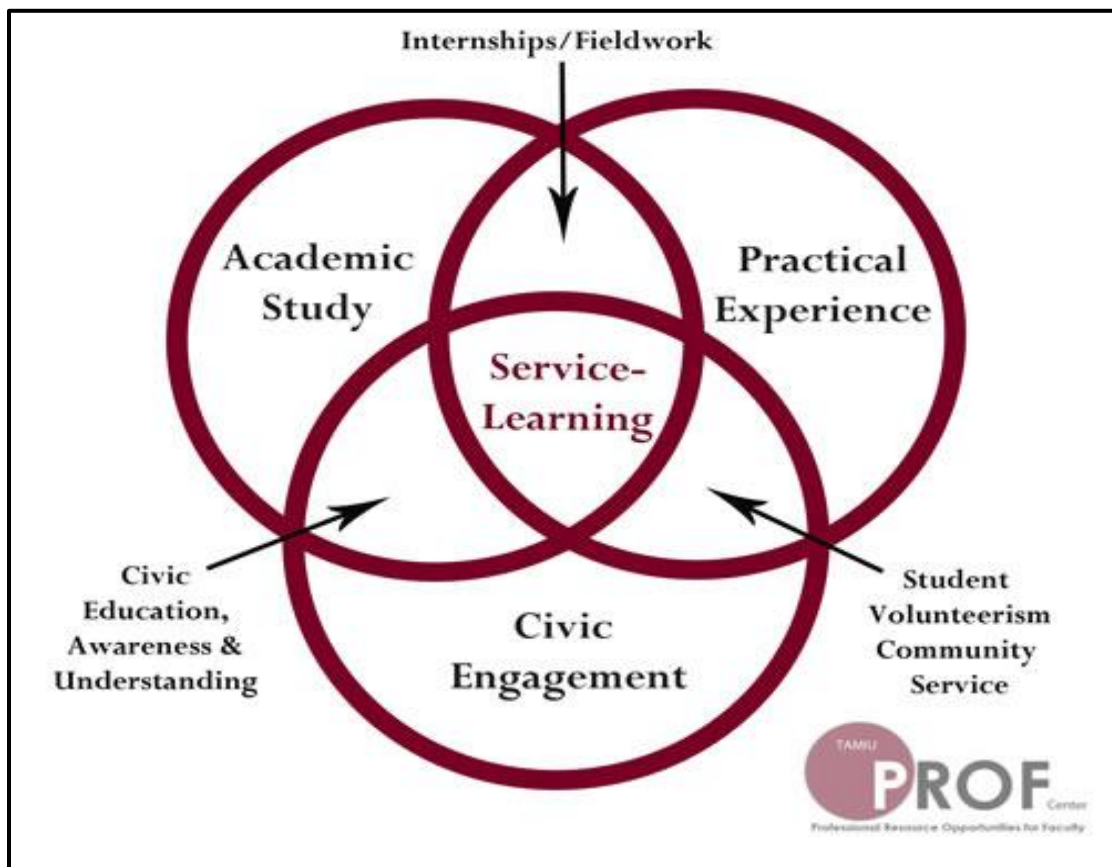


Figure 1: Service Learning (PROF center, TAMIU, 2017).

Conceptualizing a SL project

It takes a lot of effort to design a SL project or assignments that balances the service and learning goals or where service and learning enhance each other. Despite best efforts, the balance seems to tilt in favor of either – alternatively, the way students perceive it or execute it, transforms its characterization differently. Consider for example, the SL typology as described by Sigmon (1996) in Table 1 below. Ideally, SL project should be well integrated into the course rather than being an additional assignment. Typically, the institutions that encourage SL project, more often than not, do have necessary infra-structure to support faculty to find the community partners and avenues where students can perform their SL projects. Nevertheless, it's the faculty's responsibility to plan and implement SL project in manner her/she sees it best fitting with the rest of the class work.

Table 1: A Service Learning Typology - Sigmon (1996)

service-LEARNING	Learning goals primary; service outcomes secondary
SERVICE-learning	Services outcomes primary; learning goals secondary
service-learning	Service and learning goals separate
SERVICE-LEARNING	Service and learning goals of equal weight; each enhances the other for all participants

Some Practical Issues

Besides the technical aspects of balancing service and learning and integrating the SL project into the course, there are some practical issues too that need careful consideration. For example, student time schedules to participate in SL project during work week (working hours), transportation arrangement if SL project are to be carried out at an off-campus location, students' willingness (or unwillingness) to work with external community partners, students' inability to see the connection between SL project and course work and resultant lack of interest in SL project and students' inability to understand the expectations and outcomes of SL projects.

METHODOLOGY

Implementing a SL project in a junior year undergraduate class

On an experimental basis, a small SL activity was designed to take up no more than 10 hours of students' time in a long semester. The idea was to explore how the students respond to it? How the SL project serves its intended objectives? And what are some of the practical issues in implementing SL project in a POM Class? Given that "Sustainability and Triple Bottom line" have been increasingly gaining attention from all major manufacturers and service providers, it was decided to provide students with a survey project to learn more about sustainability as well as to promote awareness of sustainability amongst campus community by conducting survey on our university campus.

First, we carefully reviewed several materials to select items that could be considered to be given as handouts to the students conducting the survey, to help them learn more about sustainability so that they could be reasonably confident and competent to conduct the survey

and discuss the questions and relative content. After careful review, we selected a simple and yet very highly informative book, “Sustainability is for Everyone” by Alan Atkisson, published by ISIS academy in 2013 priced at \$5.95 each (Atkisson, 2013). We were very fortunate in running into this book in our search in that the author is an expert involved in practicing Sustainability for 25 years and this book is the by-product of his speech at a ceremony where he was being formally inducted into the “Hall of Fame of Sustainability” by the International Society of Sustainability Professionals in 2013. This book selection, in some respects, paved the way for easy implementation of the survey as the students that read the book found it very helpful, given its simple and easy language coupled with some hand drawn illustrations that seem to bring the concepts under discussion to life. The book is only 46 pages long (6”x 9” size) and provides several references for additional reading for those who are interested and would like to explore further diving deeper into sustainability issues, practices and prospects for future.

Then we submitted an application to our Service Learning center for financial assistance to cover the costs of material and any incidental expenses. Our SL center was quite generous in granting us funds to pay for the handbooks to our students and enough funds to cover the costs of printing surveys and circulating them on campus etc.

Next, we designed a survey to assess sustainability awareness amongst the campus community. We started with a review of several publicly available sustainability surveys and their results on online resources and after careful analysis we decided on the type of questions to frame that would be suitable for our campus community. The idea here is not to only obtain the level of awareness about sustainability but also to generate sufficient curiosity amongst campus community to learn more about sustainability. An implicit objective is to encourage the students of POM 3310 class conducting the survey to learn more about sustainability from their interactions with participants besides acquiring the knowledge from the selected handout booklet.

Survey Approval

Survey instrument included items of basic demographic data so that administrators could use that data to identify the general groups of students that seem to need more exposure to sustainability concepts in their curriculum, if any, and so on. Then there were questions to assess the participants’ familiarity with the concept of sustainability and final an open ended question asking participants to share their ideas of what practices could the campus adopt. to promote sustainability. Then we submitted the survey instrument to our Institutional Review Board (IRB) for their approval because the survey involved human subjects. Approval was fairly straight forward because there were no personal questions and there were no questions

requiring the subjects to disclose their identity or other private data. So our application numbered as IRB# 2015-10-21 was duly approved.

Sustainability Awareness Survey in POM Course

After obtaining the approval for the survey instrument we proceeded with developing an assignment description to include a suitable service learning activity / assignment in POM class. It was essential that we do not burden the students with undue time commitments that are not commensurate the weight of the assignment in the overall course grade and credit hour workload expectations. Typical three semester credit hours courses entail in 15 weeks of 3 contact hours each week combined with at least 6 to 9 hours of self-study per week by the student resulting in 90 to 135 hours of work outside the classroom (Ref- CFR- SACS-COC and other sources for more details). The activity for the assignment involved reading the book “Sustainability is for Everyone” by Alan Atkisson as a primer for students to be well prepared to discuss with, or engage in conversation with, the prospective survey participants, as needed. This handout reading is aimed at enhancing students’ personal awareness and knowledge about sustainability and related issues above and beyond the textbook discussion of the topic. As stated before an implicit objective of the reading is to prepare the students to feel comfortable in this service learning project activity of administering the survey to campus community and obtain the survey responses. Each student was required to obtain responses from a minimum of 25 students from the campus, either in one-on-one setting or in a classroom setting with the prior approval of instructor in other courses. Overall, the amount of time for administering the survey, gathering the filled surveys, brief tabulation and developing a one page “reflection” essay was expected to take no more than 10 hours at the outside limit. The assignment itself counted for 25 points out of a total of 100 points earmarked for homework activities on a course total of 500 points. So essentially, this activity weighed no more than 5% of the overall course grade, which is considered commensurate the time expected to be invested in this activity.

Data collection

While the data was collected by the students in the POM 3310 class of fall 2015 and spring 2016, the same was tabulated in MS Excel Spreadsheets with the help of a graduate research assistant in spring 2016. We obtained 375 responses in fall 2015 and 685 responses in spring 2016 for total of 1060 responses. Even though, the findings from the survey data are not the focus of this study, some sample charts from the survey data are presented below.

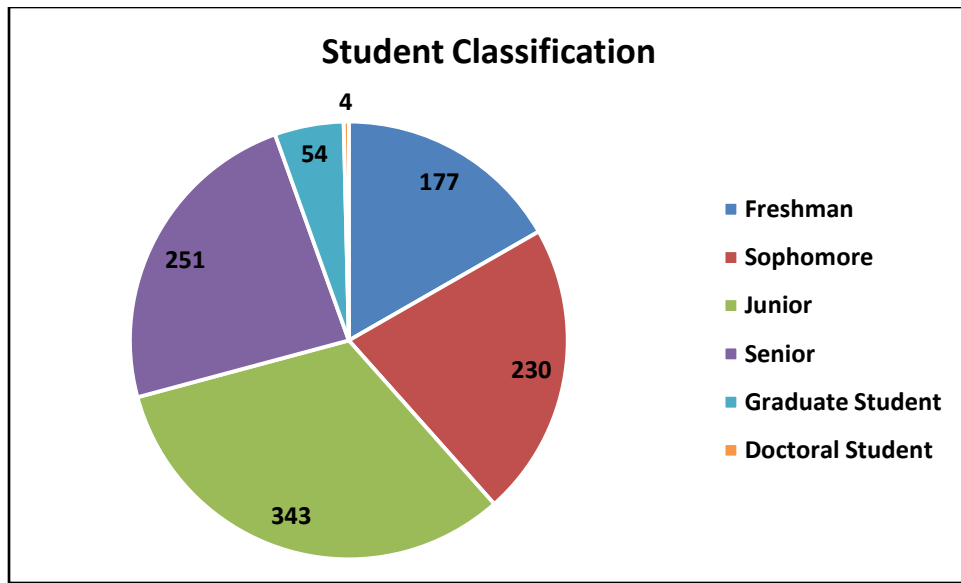


Figure 2: Student Classification

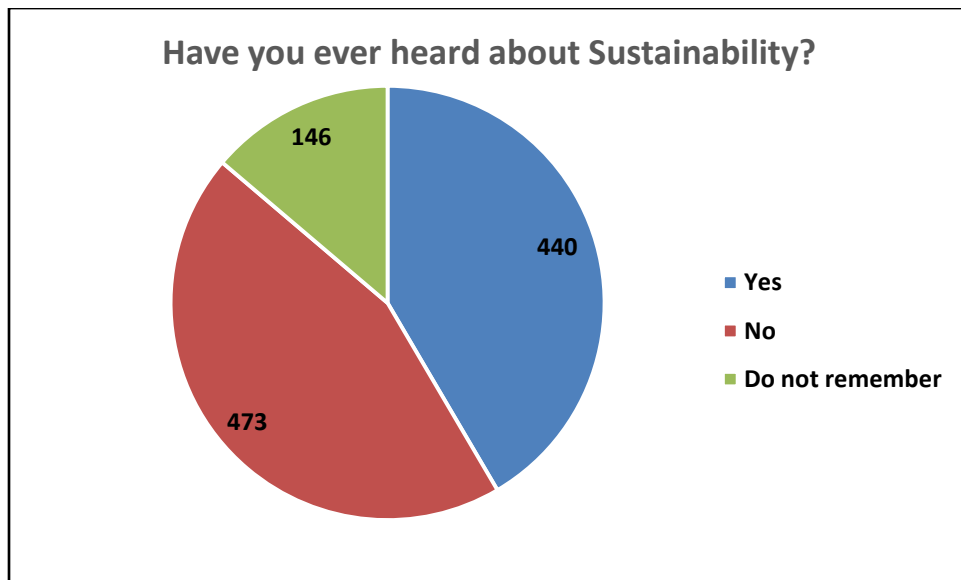


Figure 3: Awareness of Sustainability

As may be seen from Figure 2, the participants represented a very good cross-section of the students on our TAMU campus. From the figure 3, it may be noted more students were unaware of sustainability than those who were aware at the time of survey (fall 2015 and spring 2016).

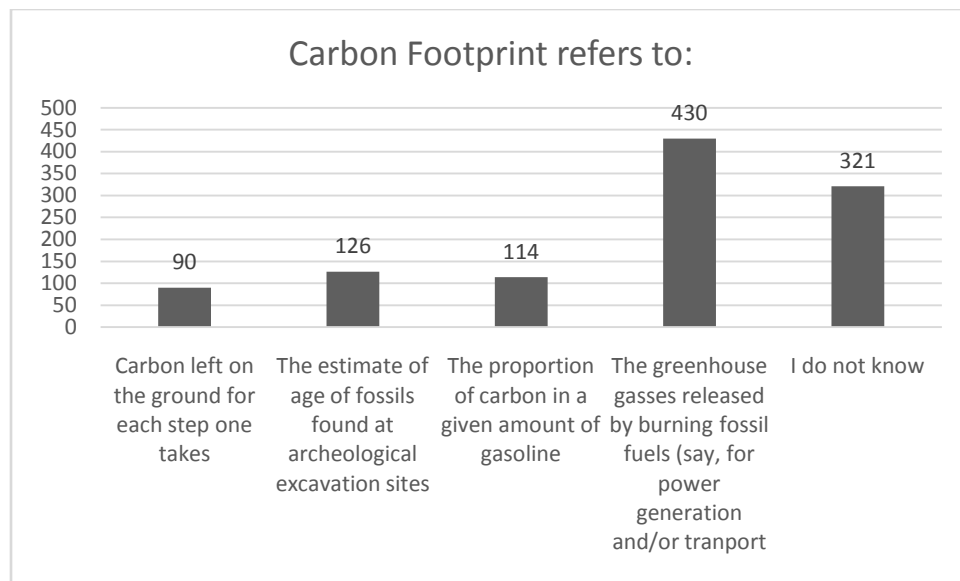


Figure 4: Carbon Footprint

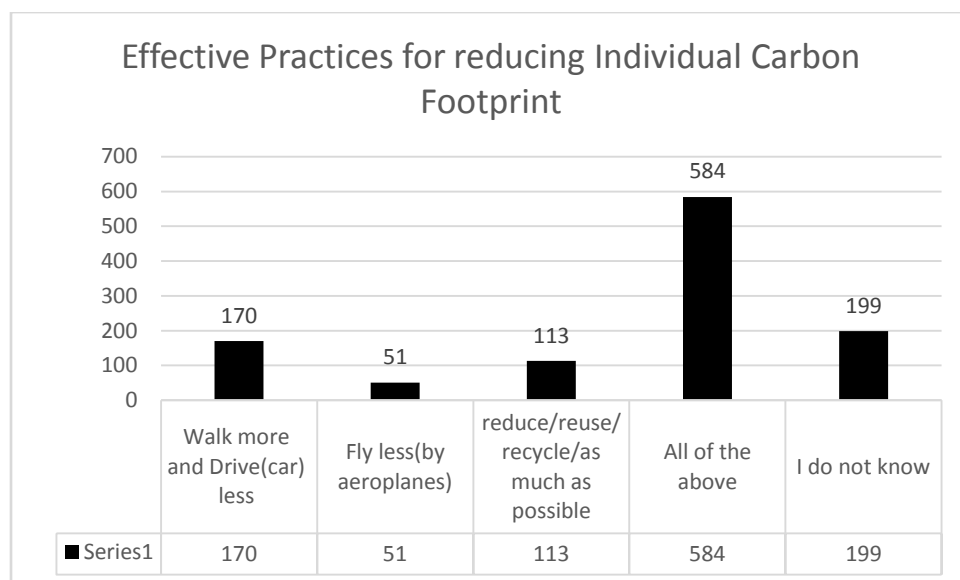


Figure 5: Effective Practices to Reduce Individual Carbon Footprint

From Figure 4 it may be seen that despite their lack of awareness about sustainability concept, students appear to be aware of carbon footprint that has been in use for a much longer time in academic literature. Figure 5 reveals that not only are the majority of students aware of carbon footprint but they also have a fairly good idea of how to reduce the carbon footprint by adopting some effective practices at the individual level. However, these findings / results are not our main concern in this study. Our sincere hope and belief is that the students of POM 3310 class

have acquired a lot more awareness and knowledge about sustainability by conducting this survey, than what they would have obtained from this class, had they not conducted this survey.

CONCLUSIONS

To begin with, Students enthusiasm varied in participation in this Service Learning activity. Not all students showed the same level of interest and involvement as some seemed to show. Consequently, it must be inferred that, not all students benefitted equally from the service learning project experience. However, it appears that all students in the class had the opportunity to interact with students from all schools (not just the business school) on campus and generally assess the level of awareness about sustainability and thereby improve their appreciation for the discussion of the same in our class. Students also discovered that sustainability is taught in many different programs in other schools as well from different perspectives.

During the SL project progress, we observed that we could have included more items in the survey given the amount of time allocated for the project. However, the current version of survey appears have besides identifying the awareness, also promoted awareness of sustainability by way of interaction with survey givers and takers. It was noted that some enterprising students took permission from instructors to gather surveys in classroom settings during class time, in less than 20 minutes' efforts in a single class. This obviously, defeated the much longer workload expectation. But this approach generated inquiries from other faculty whose students were taking the surveys, about the purpose and process of the survey. We seem to have promoted sustainability awareness in that respect. Overall, this service learning project ensured a better familiarity of sustainability by the students in the POM 3310 class. As a side note, there was a healthy level of awareness about sustainability among students on TAMIU campus as evidenced by the survey results. Majority of the students correctly identified the sustainability practices one could adopt to make personal level contributions towards promoting sustainability.

SCOPE FOR FURTHER STUDIES

We were not satisfied with the level of integration of SL in this class. In the opinion of the instructor of the POM 3310 class in which this SL project is implemented, this project was nowhere near how well a SL project could have been, had it been implemented in some of the other business courses. For example: In a Tax-Accounting class- where students could help community to prepare tax returns. In an Entrepreneurship class, students could help new venture launches. In a Business Programming class, students could help businesses to create

web pages and finally in a System Analysis class, students could develop and design Information systems to address business problems. So what might be done differently, the next time around? Here are our thoughts. Increase the coverage and integration of SL into the course for more hours than ten. Plan to keep students engaged in the SL project all through the semester. Expand interaction of students to community partners going beyond the university campus and finally, take help from other faculty who have successfully implemented SL to a greater extent in their classes for more ideas and suggestions.

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