



Engagement in Practice: Partnering with a Local Community in an Effort to Promote Revitalization

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Joan A. Kowalski earned both her Bachelors and Masters Degrees in Civil Engineering from Penn State University. In 1987, she joined the faculty at the Penn State New Kensington Campus, where she has advanced to the rank of Assistant Teaching Professor in Engineering. In 1999, she assumed the role of Program Director for the Mechanical Engineering Technology (MET) Program. She co-founded the Females Interested in Reaching for Science, Technology and Engineering (FIRSTE) Program in 1993, which ran for 21 years. She developed the Summer Preparation for Academics in the College of Engineering (SPACE) Program in 2010 as a retention effort for freshman engineers. Joan displays her dedication to mentorship as advisor to the Society of Women Engineers (SWE) student chapter on campus. Over the years, Joan has received numerous awards including the prestigious Penn State University's Women's Achievement Award in 2003 because of her commitment to the FIRSTE Program and other effective mentoring activities both on campus as well as within the community. Most recently, Joan has become involved in outreach efforts to the community based in the classroom and involving engineering design concepts.

Ms. Ruth Ann Herstek, Penn State University, New Kensington

Bio for Ruth Ann Herstek, M.Ed

Ruth has a Masters of Education and is a full-time Academic Advisor at Penn State New Kensington, the Penn State New Kensington Green Team Leader, and the Coordinator of the Adult Learning Community. As the Green Team Leader, Ruth was able to secure a \$12,000 grant to improve the campus' waste management system and create a successful composting program that has been active for four years. Ruth is committed to sustainability and to assisting students in their pursuit of knowledge in higher education.

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Abstract

Five years ago, Penn State University developed a minor in sustainability with the first course in the program entitled “SUST 200: Foundations of Leadership in Sustainability”. Although it is a general education course, the majority of the class at the New Kensington Campus consists of engineering students. There is a community-based component required in this course. During this same period of time, this campus has committed to investing in the surrounding community by developing an entrepreneurial center where individuals can bring their ideas for development into fruition with benefit to the local economy. A grant was awarded last year to assist in revamping the main five (5) block thoroughfare, now dubbed the “Corridor of Innovation”, where this center will be located. During the spring semester of 2017, students in the sustainability class worked with the leaders of the community to identify ways to attract young people to visit and perhaps reside in the community. Given their experience with green roofs from their freshmen engineering design course, the engineering students recommended that some of the dilapidated roofs be converted into green ones along with a living wall adjacent to the community garden. That project is actually moving forward next spring with additional funding recently approved from the Sustainability Institute of the University. The students presented their ideas during the last week of class to members of both the campus and public officials. The fifteen week semester did not allow for some of their revisions to be incorporated; nor were any of the students able to volunteer their time during the summer. Nevertheless, continued involvement with the community will resume during the 2018 spring semester when the course is, once again, offered. At that time, the entrepreneurial center will have officially opened for business, which could allow for some measurement of success to be evaluated.

Background

SUST 200, Foundations of Leadership in Sustainability, is the first in the series of six courses for a minor in sustainability at Pennsylvania State University. A three-credit, general-education course in the social sciences, the class meets once per week every Tuesday evening during the spring semester with this year being the fifth time it was offered. A key component of the course entails a community engagement project. This year, the class project is the design and construction of a living wall and mini-growing units made from discarded pallets. The idea for this project is based on research about how urban greenery, including living walls, can have an impact on a community. For example, Perini, Ottel , Haas, and Raiteri stated “Greenery improves the visual, aesthetic and social aspects of the urban area, which have a high influence on the economical value of a building or neighbourhood, and contributes to enhancing human health” (Perini, Ottele, Haas & Raiteri, 2011). It should be noted that the original proposal to

paint murals on the sides of the buildings and plant ivy to cascade from the rooftops had to be abandoned because the buildings are slated for demolition in the near future.

Within the past few years, Penn State University has embarked on a collaborative effort with the city of New Kensington in an effort to revitalize the community. Last year, per the request of the Campus Chancellor, the class worked with officials from the city of New Kensington to consider ideas, which could attract young people to the city to either visit and/or relocate. Grant money awarded to Westmoreland County for revitalization efforts paid for the materials that the class needed to conduct research and create a poster. The course concluded with a poster presentation on the last day of class to an audience at the campus, which included members of New Kensington City Council.

Since then, the campus has continued to invest in the City of New Kensington. Specifically, due to this collaborative effort, an entrepreneurial center has been officially established and is now open for business in the heart of the City. The goal is for community members to bring their ideas to the center where they can be reviewed, modified, and ultimately transformed into a profitable business endeavor. The Corner is located on Fifth Avenue where five (5) consecutive blocks on this main thoroughfare have been dubbed the "Corridor of Innovation".

The Corner is described on the Penn State New Kensington (PSNK) web site as:

“The Corner Launchbox program and coworking space concepts were made possible in part by a seed grant of \$150,000 from Invent Penn State, a Commonwealth-wide initiative to spur economic development, job creation and student career success, and a partnership with Westmoreland County. Penn State New Kensington used the grant to create a unique model that melds entrepreneurship, coworking space and community-driven economic development to revitalize the city. The result is the first center of its kind in Westmoreland County with the goal of being a hub of collaboration, creation and innovation in New Kensington” (<http://newkensington.psu.edu/>, 2018).

Project Design and Partnership

This year, the project for the SUST 200 class is to create a living wall within the existing community garden near The Corner, and both are located along the “Corridor of Innovation” (Figure 1). The community garden is situated between two dilapidated buildings. The idea is to detract from their condition by installing a living wall in front of the lower portion of the buildings. One wall would entail a matrix of burlap sacks with each pocket containing a flower suited to the environs. The other wall would display a sign to acknowledge the funding from the PSU-Sustainability Institute (SI) with ivy wrapping around the posts. These designs satisfy the definitions of a living wall as “living wall systems, which are also known as green walls and vertical gardens, are constructed from modular panels, each of which contains its own soil or other artificial growing mediums, as for example foam, felt, perlite and mineral wool, based on hydroponic culture, using balanced nutrient solutions to provide all or part of the plants’ food and water requirements” (Perini, et al, 2011) (Figure 2). In addition, a few portable growing units made from discarded pallets could house a variety of herbs (Figure 3).

Last fall, the SI released an RFP grant opportunity to solicit proposals to implement sustainability efforts across the Penn State system. The monies were to come from The Strategic Plans Fund and were to be used for projects, including support (time, salary and project funds), to implement - or continue with - current projects at the campuses. Budgets of approximately \$2,000-\$5,000 were to be awarded to each campus' project and/or release time was offered to involved faculty. A proposal regarding the living wall in New Kensington was submitted and accepted by the SI, under Sponsorship of Events and Outreach Events (SEOE) funding. (<http://sustainability.psu.edu>). However, grant funding was later rescinded. Unfortunately, the notification was made just prior to the start of classes this spring, which meant that other sources of funding needed to be procured. A new proposal for funding directly from the SI (not through the SEOE) for \$500 was submitted and awarded at the end of January, 2018, and this funding amount will be matched by the PSNK, Academic Affairs Office.

Spring 2018 SUST 200 class consists of 15 students ranging from freshmen to seniors, of which more than half are enrolled in engineering or engineering technology majors. With increased attention on sustainability in the news, political arena and academia, many students have begun to take an interest in the course; in fact, this class size is the largest thus far. It should be noted that the engineering and engineering technology students have an introductory course the engineering design process during their first semester with the same professor. In that course, the students design a green roof for their course project. Hence, the interest in sustainability is either developed or perhaps nurtured with these students when choosing to take SUST 200 as a general-education course, and they then often recommend it to their non-engineering peers as well. Several students expressed their intent to minor in sustainability, and this course is the first of the University's requirements for the sustainability minor.

The current SUST 200 students are very excited about this particular project especially because they will participate in both the design and construction, which is why funding is essential. Currently, each student is committed to researching a particular aspect of the design with the engineering students focused more on the construction materials and safety issues as opposed to the plant selections, ivy, and herbs. Thus, all students are given exposure to ecological engineering, in relation to the development of urban brownfields.

Following spring break when daylight saving time resumes and the weather improves, the class, which is held every Tuesday evening, will begin to construct the living walls that will consist of a variety of plants best suited for the climate. The Penn State sign will be painted, and the pallets will be recycled into mini-growing units with herbs.

During the second half of the spring semester, the students will also be hosting guest speakers and attending multiple, pre-planned field trips. Thus, they might not have enough time to complete the construction of the living walls by the end of the semester. If not, the project would then be turned over to the community volunteers who manage the garden along with any remaining funds to be used for maintenance and additional supplies.

Plans for a presentation celebration are underway at The Corner, which has been reserved for the last day of class. The New Kensington City Council and other elected officials are expected to

attend along with representatives from the University. Arrangements are being made to livestream the event to the SI, from which funding is being provided. At this time, feedback will be solicited from attendees regarding the perceived success of this project.

If the community volunteers follow through with the completion of this project, then it will have proved to be a success. Otherwise, the class will have fallen short of its expectations; however, there is strong reason for optimism given the funding made available to the community, donation of materials, and volunteer time by the students, PSNK Green Team and citizens of the community.

In addition to the community partnership, the PSNK Green Team continues to collaborate with the SUST 200 class. This partnership has a strong history and has been growing since the semester the course was developed. In the past, the PSNK Green Team under the leadership of Ruth Herstek has been successful securing grant funding to complete the implementation of composting on campus and continues with education efforts each semester. In addition to guest lecturing in SUST 200, Ruth had dedicated part of a grant to the SUST 200 class of 2014 so the students could complete undergraduate research projects on waste management. This partnership continues today, as the PSNK Green Team has volunteered at the New Kensington community garden in the past, and will be part of the volunteer group which will contribute to the maintenance of the living wall.

An additional partnership is currently being created with the newly formed student Sustainability Club on the Penn State New Kensington campus. Once established, there will be opportunities to involve the club to partner with the PSNK Green Team in helping to maintain the living wall.

Transferability

The living wall project has transferability to other local communities that may have existing community gardens. The concept of a living wall could be extended to local communities, such as Natrona and Brackendridge, which have established community gardens.

Conclusion

This project will culminate with the SUST 200 final presentation planned for April 24, 2018, where leaders of both the City New Kensington and Penn State University will attend. At this time, direct feedback will be solicited from those in attendance. Successes and lessons learned will be based on several factors including the expressed comments of the leaders, how the transfer of responsibilities will occur, and on the level of community involvement moving forward. These findings will be shared at the ASEE conference session, and as a result of the conclusions, planning for Spring, 2019, SUST 200 course could entail either further collaboration with the City of New Kensington, establishment of new community partnerships or the creation of other community engagement projects.

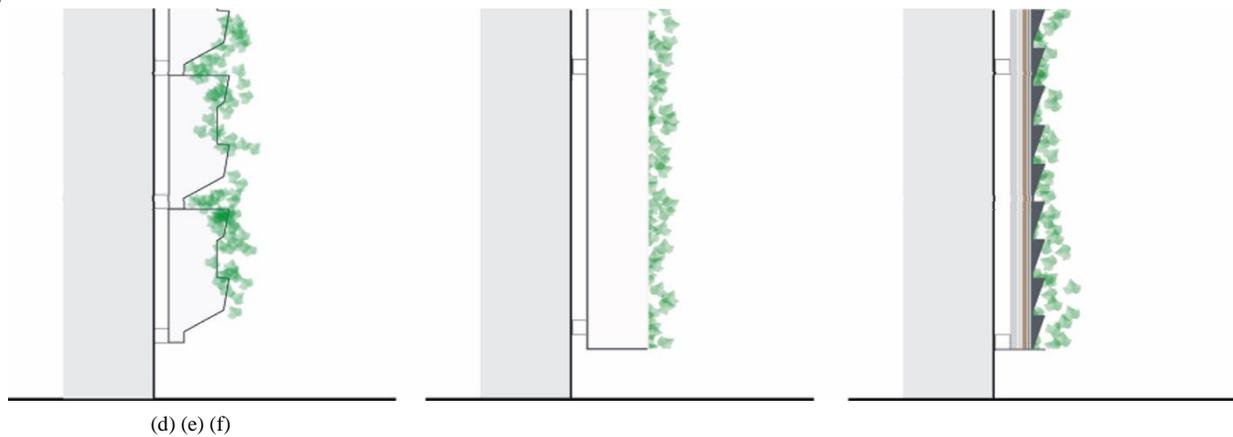
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Figure 1. Map of The Corridor of Innovation including The Corner and Community Garden



Figure 2. Examples of Living Wall Options



(d) (e) (f)

K. Perini *et al.* / Open Journal of Ecology 1 (2011)

Figure 3. Example of Mini Growing Units

