Ladies, Start Your Engines: Women with Engines Outreach Event

Introduction/Need for Innovation

Engaging students in authentic, real-world experiences, provides learners with an opportunity to cultivate a deeper understanding of content and its application. Community Engaged Learning (CEL) combines academic coursework with the application of institutional resources to address challenges facing communities through engagement that addresses societal needs identified by a community; intentional integration of learning objectives co-created with community partner(s); and student preparation and ongoing critical reflection (Howard, 2001). The Agricultural Education program at University of Kentucky created a learning experience for both undergraduate students and community members through a small gas engine operation and repair event. Undergraduate students at University of Kentucky participated in an inquiry-style small internal combustion engines course that developed a workshop for women in the community eager to develop their mechanical knowledge. The need for this innovation was twofold. Students in the Ag Ed program requested more in-depth training in order to teach high school engines courses upon completion of their certification; and secondly, women in the community reported feeling unaware of mechanical knowledge, thus a practical felt-need was determined. The event not only bolstered the students' confidence and skill level, but it also met a need within the local community. An idea generated by an instructor, designed and facilitated by students, with the goal of meeting the needs of a community, "Women with Engines" was created. Nineteen pre-service teachers and 3 students from other majors, enrolled in a TSM 220: Internal Combustion Engines, facilitated the workshop.

Methodology

The event was held during the fall semester in November. However, planning for the event began several months prior. The summer prior to the fall semester, the instructor connected with the local Farm Bureau's Executive Director to discuss partnership and sponsorship for the event. Four months before the event, the instructor met with the principal and agricultural mechanics teacher at the local technical center to discuss using the shop and school for the event. Three months before the event, students enrolled in the TSM 220: Internal Combustion Engines course voted on a name for the event ("Women with Engines"); additionally, a graduate student in the course began coordinating advertisement designs, sponsorships, and logistics with the University of Kentucky technology specialist, department head, and the representative from the local Farm Bureau. During this same time, the students enrolled in the course were learning the engines curriculum that would then be translated into workshops; class time was spent learning the physics of engines and breaking down their own 4-stroke engine. One month prior to the event, students in the course paired up and picked topics for their workshop. The following topics were prepared by students: changing engine oil, servicing ignition systems/air cleaners/fuel systems/rewind starters, engine maintenance/troubleshooting/general operation, and preparing the engine for long-term storage. A Qualtrics registration link was sent out over social media and on flyers/posters in the community advertising the event to women. Invitations with the registration link were sent over various listservs managed by the University and the local Farm Bureau. When registering, participants were instructed to provide name and contact information, select six workshops they wished to attend and provide their t-shirt size. One week prior to the

event students gathered all materials they would need to teach their workshop, t-shirts were printed for students and community participants, and final logistics were sent out to registered participants. For the event, individual folders were made for the participants that included their personalized rotation schedule, information on the University of Kentucky agricultural education program, and the event evaluation. The day of the event, students were responsible for making sure they arrived one hour prior to the event and had their workshop set up. Thirty-three women registered for the event. A short orientation introducing the event and students, drawing of door prizes, along with refreshments was held prior to breaking out into sessions. Each participant engaged in six fifteen-minute rotations. Student pairs facilitated the rotations of their respective workshop topics. Upon completion of the event, women were provided a t-shirt after turning in their evaluation.

Results to Date/Implications

Through surveys that were completed by both the University students and participants, students acknowledged that their confidence level in the realm of small gas engines increased. The students expressed increased empowerment gained from sharing their knowledge and expertise to community members who wanted to enhance their skill set. The women who participated in the "Women with Engines" event expressed their participation in the event was driven by their desire to increase their knowledge and skill level. All female participants had one, if not multiple, small gas engines at their home residence; understood the purpose and use of their small gas engine(s), but did not feel that they had a strong understanding of how to properly maintain their engine. However, after participating in this event all of the women expressed that their knowledge and understanding level was increased and were eager to apply the new knowledge. Responses also indicated that all participants would be very interested in attending future events.

Future Plans/Advice to Others

Plans to offer "Women with Engines" again are being made. The responses provided by both the student leaders and participants indicate it benefited each group. Publicity of the event over multiple media outlets will be used again. Determining which platforms are most effective will need to be better understood to increase registration and participation. It is a desire to maintain relationships with the county Farm Bureau and identify new partnerships to help expand and promote the event. It is also being discussed to develop longer sessions and fewer rotations to allow for more in-depth instruction and more hands-on application.

Costs/Resources Needed

The total cost of the event was approximately $700. This included $500 for promotional materials (flyers, posters, social media posts, and t-shirts) and approximately $200 in donations from the Farm Bureau sponsor (refreshments and door prizes). The facility was provided at no cost by a local technical school with which the University has good relations, and has good standing as a central, welcoming location for all women in the community. Equipment used to facilitate workshops were brought from the University engines lab and borrowed from the technical school.

References

Howard, J. (Ed.). (2001). *Michigan Journal of Community Service Learning: Service-Learning Course Design Workbook.* University of Michigan: OCSL Press.