Leadership Skills Development through Service Learning

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Abstract

The engagement of students in service learning will help them acquire and improve on necessary leadership skills required of them upon graduation. This is essential to help prepare and put the graduates of STEM programs at the forefront of employment in the new industrial revolution. It is therefore important that STEM majors should participate in service learning so as to discharge their civic responsibility and to improve their leadership skills. This paper addresses the forms, assessment and the need for service learning in STEM programs and how it can help develop the leadership skills of the participants.

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Introduction

Engaging students in service learning (SL) is yielding more dividend than ever anticipated before. While the common notion is that SL will provide an avenue for students to discharge their civic responsibility through service learning participation, it is as well helping students to acquire and improve on necessary leadership skills required of them upon graduation and employment in the future. It is therefore imperative for educators and administrators of higher education to have a good understanding of the available service leaning models so as to be able to decide on the model that is compatible with the program they offer. While participation in service learning is encouraged for all learners, means of getting authentic feedback on the service learning activities of the participants are essential. Notably, feedback on their level of leadership skills as observed during service learning will help both the students and the educators to determine the effectiveness of the program and the way forward if there is need to any improvement. More important, collaboration between the educators and the organization where the service would take place is required for the success of this project.

What is Service learning?

Bradford (2005) defined service learning as an educational method by which participants learn and develop through active participation in service that is conducted in and meets the needs of a community. According to McPherson (2005) "Service learning is a method of teaching through which students apply their academic skills and knowledge to address real-life needs in their own communities." Eyler & Giles (1999) highlighted the importance of service learning as "a form of experiential education where learning occurs through a cycle of action and reflection as students work with others through a process of applying what they are learning to community problems, and at the same time, reflecting upon their experience as they seek to achieve real objectives for the community and deeper understanding and skills for themselves." It is essential therefore to provide a structured environment in which participants will be able to discover their own styles of leadership, what works, and new approaches to explore through constructive criticism from the learning communities that includes faculty, students (peer groups), and the community they serve. Therefore for this article, learning communities will be defined "as groups of people engaged in intellectual interaction for the purpose of learning" (Cross, 1998).

Service learning is different from an industrial internship. According to Heffernan (2001) internships "engage students in service activities primarily for the purpose of providing students with hands-on experiences that enhance their learning or understanding of issues relevant to a particular area of study." The author (Heffernan) outlined six different models for faculty to consider when developing service-learning into their discipline and the factors to be considered to determine which model is appropriate for you. The six models are:

1. Discipline-Based Service-Learning Model

In this model, students are expected to have a presence in the community throughout the semester and reflect on their experiences on a regular basis using course content as a basis for their analysis and understanding. The link between course content and community experience must be made very clear to students.
Benefit: The students' education becomes multifaceted and their overall understanding of theoretical concepts improves.

2. Problem-Based Service-Learning Model

Students relate to the community much as "consultants" working for a "client." Students work with community members to understand a particular community problem or need. This model presumes that the students will have some knowledge they can draw upon to make recommendations to the community or develop a solution to the problem, for example: architecture students might design a park; business students might develop a web site; botany students might identify non-native plants and suggest eradication methods. Caution is needed when using this model of service-learning, although it can be highly effective for some disciplines, promoting the idea of students as "experts" and communities as "clients" can re-emphasize the disparities between universities and communities and re-in still the "ivory tower" phenomenon.
Benefit: Problem-based service-learning often alleviates some of the logistical difficulties common in a weekly commitment.

3. Capstone Course Model

These courses are generally designed for majors and minors in a given discipline and are offered almost exclusively to students in their final year. Capstone courses ask students to draw upon

the knowledge they have obtained throughout their course work and combine it with relevant service work in the community. The goal of capstone courses is usually either exploring a new topic or synthesizing students understanding of their discipline.

Benefit: Capstone courses offer an excellent way to help students transition from the world of theory to the world of practice.

4. Service Internship Model

This approach is more intense than typical service-learning courses, with students working as many as 10 to 20 hours a week in a community setting. As in traditional internships, students are generally charged with producing a body of work that is of value to the community or site. However, unlike traditional internships, service internships have on-going faculty-guided reflection to challenge the students to analyse their new experiences using discipline-based theories. Service internships focus on reciprocity: the idea that the community and the student benefit equally from the experience, but the level of oversight required by a community partner supervisor can be highly demanding.

Benefit: Service internships offer students the opportunity to develop valuable skills while simultaneously seeing how their skills can contribute to community.

5. Undergraduate Community-Based Action Research Model

Community-based action research is similar to an independent study option for the student who is highly experienced in community work. This approach can be effective with small classes or groups of students. In this model, students work closely with faculty members to learn research methodology while serving as advocates for communities. This model assumes that students are competent in time management, are self-directed learners, and can negotiate diverse communities. These assumptions can become problematic and the ramifications of students' failures can impact the community.

Benefit: This method of service-learning is effective with small classes and groups of students.

6. Directed Study Additional/Extra Credit Model

Students can register for up to three addition credits in a course by making special arrangements with the instructor to complete additional work or explore a subject in more depth. The course instructor serves as the advisor for the directed study option. The department must approve the extra credit and the student must formally register for those additional credits during the drop/add period at the beginning of the semester.

Benefit: Students choosing this option are typically self-directed and motivated.

In addition, the author suggested further that the following should be considered to determine which model is most appropriate for you:

- Consider connections between your course objectives and your departmental objectives
- Consider connections between the institutional mission and the community's expectations
- Consider your teaching and learning goals and the potential expectations of your students

Service learning at Jackson State University

The mission of the Department of Technology is to provide a nationally accredited program, which serves the technical, managerial, and communication needs of persons desiring to enter or advance professionally in an industrial technology related career. The Division of Student Life at Jackson State University supports the intellectual, career, personal, social and cultural development of students. As a partner in the educational process at Jackson State University, the division supports the academic programs of Jackson State University by providing efficient and effective services for the holistic development of students. Through its programs and services, students are enriched by experiences acquired in ethnically and culturally diverse environments. In addition, the Center for Service Learning under the auspices of the Division of Student Life at Jackson State University supports faculty, students, and community in a common effort to integrate academic study with responsible community service, given the fact that an active learning strategy connects students to the school and the real world. Most importantly, students at Jackson Stae University are required to have a service learning experience prior to graduation. Over the last two years at JSU, more than 1,500 students have engaged in service learning courses, contributing more than 7,000 hours in the community. For more information on how service learning is integrated into coursework visit - http://www.jsums.edu/~announcements/StudentLife-StudentHandbook.pdf..

Why service learning?

Service learning avails to students the opportunity to develop leadership skills, discover talents, and gain meaningful personal insight about who they are, what they are capable of, and who they want to become. In addition, it helps students to shape their values, aspirations, and career paths. A service learning program develops leadership skills in students as they learn to work collaboratively with the community. They learn that the most effective leadership is that which encourages the active participation and indeed, leadership of others. As a result, the Department of Technology is applying the pedagogy of service learning in a wide variety of situations and through various models, particularly, the learning communities.

Enhancing leadership skills by students in IT program

According to Goetsch (1992), "Leadership is the ability to inspire people to make a total and willing commitment to accomplishing organizational goals" (p. 40). Most organizations today demand, among other things, effective leadership skills from the industrial technologists. Hence, it is imperative that graduates of industrial technology program should earn the following supervisory skills upon graduation:

- Technical knowledge (machines, processes, production methods)
- Human relations knowledge (human behavior, working well with people)
- Administrative knowledge (understanding the organization and how it works)
- Decision making and problem solving (analyzing information, reaching a decision) (Rue, 2007).

Service learning in higher education would enhance the development of these leadership skills through 'learning and action.' This real life experience is an opportunity to enhance critical thinking and organizational leadership skills necessary to manage both personnel and materials in the organization. Since people still hold the key to significant productivity improvements, attempts at improving productivity with primary focus on technological improvements should be extended to the improvement of people (Goetsch, 1992, p. 429). What is of greater importance is to know the people that work for you so as to as to be successful as a supervisor. Therefore, a manager should be well versed in different ways in which employees' productivity can be improved. Some of the more widely used strategies for improving people productivity that a service learning program should be able to demonstrate are summarized below:

- Use work measurement techniques
- Encourage employee participation
- Arrange training for employees
- Implement incentive programs
- Use method improvement techniques
- Encourage motivation (Goetsch, 1992, p. 435).

Assessing students' leadership skills development in service learning

Students' leadership skills could be accessed through many ways such as co-operative education, internships, job shadowing, inclusive service learning (Ejiwale 2008). While service learning has provided the avenue for students to put into practice the knowledge gained in the classroom and laboratory, the learning communities of students and faculty will function in the capacity of facilitators and mentors by giving constant feedback on students' performance while engaged in service learning to enhance their leadership skills. More important, student's leadership skills development will be assessed in IT 300 – Industrial Internship/ Service Learning Experience as such:

Daily Journal of Activities
Weekly presentation to faculty and students
Supervisor's final evaluation
Final Report

The *Daily Journal Activities (DJA)* consists of: 1. List of the activities participated on a particular day; 2. Identification and description of special learning experiences; 3. Identification of specific links to student's academic instruction; and 4. the questions or concerns that emerged during the service learning experience and how they were solved or planned to be solved. The DJA will be graded by the course instructor.

The *Weekly presentation (WP)* consists of the list of specific goals or outcomes from the service learning as they relate to students area of concentration or program of study and the list of planned activities that will help to reach these specific goals. The WP will consist of a professional 10-

minute digital presentation (e.g., PowerPoint, etc.) as well as a printed "pitch book" that provides greater detail to the presentation. The WP will be graded by the course instructor.

The *Supervisor's final evaluation* will measure the performance and contribution level of each student and will account for a significant portion of the course grade. This will be a constructive criticism and feedback on student's technical and leadership skills/competencies required of them to be able to perform well on the job as a potential leader.

The *Final Report* will be documented and will be graded by the course instructor. The report will be a self-study report by the student "postmortem" / "lessons learned" assessment which details the relative successes and failures encountered throughout the service learning experience, as well as recommendations for future participants.

Faculty Participation

The course structure consists of daily journal of activities and oral presentation of service learning experience throughout the semester by the student. Faculty participation in the service learning experience is in the context of mentoring and oversight in the following areas:

- Guide students as they proceed with the service learning.
- Criticize constructively with immediate feedback.
- Present methods of writing technical reports.
- Provide an opportunity for presentation of the final report.

At the end of the semester, each student is required to prepare and deliver a PowerPoint presentation to the class (oral presentation) on their service learning experience.

Learning communities in service learning

The term learning community describes a collegial group of administrators and school staff who are united in their commitment to student learning. They share a vision, work and learn collaboratively, and participate in decision making. The integration of service learning and learning communities is essential and requires the participation of the employees of the organization where service is rendered and the students. Therefore the required learning communities for this experience are:

- Student peer groups among participating students
- Peer groups among faculty to foster the implementation of this framework
- Peer groups among faculty and employees of the organization where service is rendered.

The integration of service learning and learning communities should assist students to behave and think like leaders. Most importantly, participating students would successfully:

- Generate ideas and make decisions with appropriate facilitation by learning communities
- Correctly interpret student's experiences in line with research-based models for leadership with high quality feedback
- Effectively communicate orally and visually to an audience of students, faculty, and workers in the organization where service is rendered
- Set realistic, individualized goals for leadership development in line with research-based principles of emotional intelligence.

Conclusion

Engaging students in service learning is yielding the necessary dividend than ever thought of before. Students in the STEM programs that participated in service learning have improved their leadership skills as evident in the feedback received from their employers. Through participation in service learning, students are enabled to develop problem solving, critical thinking, public speaking, and interpersonal skills. Particularly, the implementation of learning communities in service learning helped to refine communication, team building and leadership skills through effective feedback.

Acknowledgements

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