

# **Beyond the Barriers: The Incorporation of Service Learning In Technology Programs**

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## Abstract -

Technology is constantly utilized in unlimited facets of society. It promotes the applications of natural resources to endorse societal enhancement. With such emphasis on communal change, vigilant consideration can be made to grant technological services that will benefit faculty, students, and the community. Technology students should be provided opportunities to participate in service learning activities to enhance their awareness of societal needs, and they can assist in efforts in fulfilling those needs and other demands. Technology students should be able to assess communal needs, and adequately apply technological means that will improve the quality of existing conditions.

*Keywords:* Service Learning, Technology

## Introduction

Service learning is a vehicle, in which students take classroom applications and experiences to assist in fulfilling a communal need. The Virginia Office of Volunteerism and Community Services contended that service learning is an educational process by which participants learn and extend through vigorous involvement in service that is conducted in and meets the needs of a community. Service learning is coordinated among a school/institution, community service programs, and targeted community groups. Service learning encourages the lifelong learning of participants, and includes structured time for participants to reflect on the service experience [<http://www.vaservice.org>, 10]. Since technology is such an integral part of life long-learning, the union of service learning and technology will afford opportunities that will enable continued growth for an ever-changing global civilization.

Technology opens the door to creativity and modernization in multiple arenas. The International Technology Education Association (ITEA) defined technology as human innovation in action that involves the production of knowledge and progressions that will develop systems to solve problems and lengthen human competencies. Technology also involves advancement, transformation, or modification of the natural environment to satisfy professed requirements and desires [<http://www.itea.org>, 7]. With continuous efforts in these areas, the community stands at the precursor of a constant need for technological training and assistance; thus, rendering a need for service. To assist in fulfilling this need, technology students should participate in service learning activities to enhance their awareness of societal needs, and they can identify how to assist in fulfilling those needs. Technology students should be able to assess communal requirements, and adequately apply technological means that will improve the quality of existing conditions. In order for technology students, on a post secondary level, to better assist in fulfilling such a need, educators must

- identify a communal need such as computer literacy, in which technology students will assist in fulfilling;
  
- promote preparation in technological applications, such as computer technology;
  
- develop students' comprehension on the pedagogy of technology integration;
  
- devise training sessions that will minimize computer illiteracy; and
  
- provide strategic methodology and future recommendations.

Once these objectives are satisfied, students shall enhance clarity of theory and application acquired in the classroom, and they shall become better prepared for implementation in real-world situations. Since both technology

and service learning greatly impact society, it is imperative that post secondary students are primed to facilitate technological services into the community.

### **Preparation in technological applications**

Service learning is simply an extension of classroom curriculum. It allows students to learn from performing services in their respective fields based on acquired classroom knowledge. It provides a great opportunity for students to receive hands on training. Through application of acquired knowledge, students obtain first hand experience relative to their academic discipline. It gives students a greater understanding of completing task while learning a new skill or trade. Students from middle schools to post secondary education are mastering academic content standards while engrossed in hands-on, technology-integrated learning experiences that are not usually possible within the confines of the traditional classroom [Bradford, 1]. This emphasized that service learning is an integral tool in school curriculum, which is further enhanced through the implementation of technology.

Implementing technology into service learning is a major asset. [Kurt, 8] asserted that service learning can be a meaningful way to combine service with academic learning in a variety of technology courses. Technology savvy students are always energetic to take on new roles in service learning. Since, technology revolutionizes rapidly, students must be able to understand and process it at an expeditious rate. Service learning provides this change, because students are capable of forecasting change while working on technical projects. "Integrating technology with service learning catches and holds the attention of students who have grown up in the digital age and rely on computers, video games, cell phones and digital music players for their information and entertainment" [Bradford, 1]. Students are given the opportunity to stay abreast of technological advances, especially when deemed essential in today's society. To academically change their lives, they must become innovators of today. Service learning provides students with the necessary tools to correctly enhance technological projects, especially graduate students.

### **Graduate Students**

Graduate students are being cultivated to become the next generation of leaders in a technologically versed society. Service learning is monumental instructional tool where graduate students are able to apply learned theories. [Talbert, 9] contended that the service learning experience allows students to use academic skills in 'real-world situations' representative of their academic disciplines. Such experience is integral in the workforce by providing the needed preparation.

Most graduate students have already been exposed to the workforce. These students should be able to promote service learning in their respective disciplines. While they continue to learn, the graduate students must be able to apply service learning to every aspect of professional life. This will include aspects in education, government, and corporation. With this in mind, the students should constantly identify ways in which the obtainment of their education can positively impact and change the world around them. Students should be motivated to formulate and enhance knowledge based on previous classroom and field experiences. In the scholastic realm, students should be able to exchange their ideas with other critical thinkers to develop a more superior and technically advanced society.

[Ferguson, 6] indicated that the connection of information technology is not an end in itself but a means to self-improvement, to self discovery, to becoming a better connected-American may be the ultimate worth of such technology-directed community service-learning endeavors. Service learning can enhance people's lives by simply allowing them to become familiar with technology. Some individuals in society are not computer literate. Having technologist introduce the subject gives these individuals a whole new outlook on the technological world. These types of projects impact people's lives forever. These are the individuals that service learning effects for a lifetime. They gain the most, because they do not have the opportunities that educated individuals are given.

Moreover, the forgotten and underprivileged society must also be equipped with technological tools to enhance their lives. Providing this part of society with service learning gives steps in life to become better citizens. It is the duty of technically advanced students to help these individuals with more of a hands-on approach. If they can direct them in a more technical path then they can go on to better society on several other levels. By introducing technology into uncharted waters one can open up a new realm of possibilities to individuals that really need the assistance.

Therefore, the method of instruction must be the focal point to provide adequate service.

### **Students' comprehension on the pedagogy of technology integration**

[Burr, 3] suggested that today's progressive learning methods are understood with a required departure from emblematic/preconceived objectives, because the learning will be student directed. Progressive education occurs as real-life applications are joined with a self-directed series of experiences that create unlimited possibilities. Burr further recommended that increased enthusiasm for learning could happen with the collaboration of progressive education principles and service learning.

In addition, great sums of persuasive confirmation submits to the benefits of service learning and experiential methods, thus revealing that teachers yet depend on the traditional practices of lecture and teacher-directed educational procedures—not appealing to all learning styles. Traditional practices should, in no way, be dismissed; however, it should include approaches where students are able to apply what has been learned in the classroom. Cohen and Brawer as cited by [Burr, 3] stated the following:

It is reasonable to assume that in an institution dedicated since its inception to "good teaching," new instructional forms will be tried. However . . . traditional methods of instruction still flourish. Visitors to a campus might be shown mathematics laboratories, the media production facilities, and computer-assisted instruction programs. But on the way to those installations, they will pass dozens of classrooms with instructors lecturing and conducting discussions just the way they and their predecessors have been doing for decades. (p. 155)

Service learning is an appropriate teaching and learning approach in which the workplace provides a practical setting for structured problem-based learning experiences. Students' coursework is utilized and prepares them for continued learning upon entering the workforce [Chadd, 4].

### **Strategic Methodology and Future Recommendations**

The distinctive element of service-learning is that it enhances the community through the service provided, but it also has powerful learning consequences for the students or others participating in providing a service. According to [Eyler & Giles, 5] service-learning is 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. However, it leads to reflecting upon their experience as they seek to achieve real objectives for the community while developing a deeper understanding and enhancing skills for themselves. In the process, students link personal and social development with academic and cognitive development. Eyler and Giles summarized their observations by asserting that in the service-learning model, experience improved comprehension—comprehension leads to high productivity in the classroom.

Service learning combines experiential learning and community service opportunities. Service learning can be distinguished in the following ways: curricular connections, student voice, reflection, community partnerships, authentic community needs, and assessment. Curricular connection is integrating learning into a service project that is integral for successful service-learning projects. Student voice is beyond being actively engaged in the project itself, students have the opportunity to select, design, implement, and evaluate their service activity, encouraging relevancy and sustained interest. Reflections provide structured opportunities created to process, establish dialogue, and provide communication regarding the service learning experience. The balance of reflection and action allows students to develop a deeper comprehension of classroom application. This occurs when the students are able to become active participants in the learning process while taking the learned theory and utilizing said theory to solve a problem.

#### **Community Involvement**

Community partnerships are when partnerships with community agencies are used to identify genuine needs, provide mentorship, and contribute assets towards completing a project. Authentic community needs is when local community members or service recipients are involved in determining the significance and depth of the service activities involved. Well structured assessment instruments with constructive feedback through reflection provide

valuable information regarding the positive reciprocal learning and serving outcomes for sustainability and replication.

### **Conclusion**

There is a demand for technology literacy, especially in our lower social economic areas. Some people usually avoid technology and computer utilization for numerous reasons: 1) they have never been properly introduced and instructed on computer technology utilization, 2) they have never been informed on the benefits of using computer technology for personal and professional needs, and 3) they have never been informed on the information and the entertainment components of computer utilization. However, completion of proper training will minimize the computer illiteracy issue, and allow students the opportunity to apply classroom knowledge acquired to fulfill this void.

Technology students can participate in service learning activities to enhance their awareness of societal needs, and they can properly apply theories learned in the classroom. In addition, technology students should be able to assess communal requirements, and adequately apply technological means that will improve the quality of existing conditions. This is a reflection to the general purpose of technology—utilizing resources to “service” the needs of society.

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