

Engaging Secondary Students with Service-Learning through Special Programming in Agricultural Education

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Introduction

- Service Learning Definitions
 - Learning that unites teaching, research, and service (Cushman, 1999).
 - More than volunteerism/community service (Rosenberg, 2000).
 - Makes students responsible in real-world context (Rosenberg, 2000).
 - A pedagogy that prepares students to participate in public life (Forman & Wilkinson, 1997).



Introduction

- Service Learning Requires
 - Vision and Leadership
 - Curriculum and Assessment
 - Community-School Partnerships
 - Professional Development
 - Continuous Improvement

Pickeral, Lennon, & Piscatelli (2008)



Introduction

- Vision and Leadership
 - Shared by many people in the experience
 - Allows for sustainable service-learning

- Curriculum and Assessment
 - Integrated learning with curriculum
 - Development of knowledge, skills, dispositions



Introduction

- Community-School Partnerships
 - Students, faculty, and community members develop plans for projects

- Professional Development
 - Novice versus expert (need structured time to develop skills in developing/implementing service learning)



Introduction

- Continuous Improvement
 - Process monitoring
 - Assessment and Feedback
 - Reflection



Setting the Context

Governor's School

- Four week university experience in Agricultural Sciences for high school juniors
 - Take “classes” in agriculture
 - Experience local opportunities around campus
 - Complete a service-learning project (in teams of 10)
 - Approximately 30 students in 2014



Our Project

- Urban Forestry
 - Identified need in local community (Tale of 2 communities) – Opportunity for partnership
 - Experts in Education (K,S,D)
 - Experts in Arboriculture/Urban Forestry (Content)
 - Connection to the Curriculum at Governor's School (Specific content/Technology Use)
 - Opportunity to learn structure of service-learning



Our Project Team

- 1 staff member (AEE)
- 3 faculty members (1 AEE, 2 Forestry)
- 2 undergraduate students (AEE)
- 2 graduate students (1 AEE, 1 Wildlife)
- 2 borough members (1 urban forester, 1 manager)
- 10 Governor's School participants
- 4 CAS Staff/Administrators



Purpose

- Conduct an engaged/meaningful community-based service-learning project.
- Expose learners to opportunities available in agriculture; specific content, as well as teaching.



Objectives

- ❑ Students will learn how arborists/silviculturalists use science, math, and technology to analyze, catalog, and map trees
- ❑ Students will experience a complete service-learning project
- ❑ Students will utilize technology to complete the service-learning project



Our Project Structure

- Three Friday's and one Saturday (8am – 5pm)
 - Conduct a inventory of trees in a local community
 - Size, Type, Location, Health



Our Project Structure

- Day 1
 - Project Overview
 - Develop Teams (Tree Species)
 - Silviculture
 - Use of GPS
 - Tree Risk Analysis



Our Project Structure

- Day 2
 - Use of iStreet/iTree applications
 - Tree walk of State College, PA
 - iTree survey practice
 - Tree climbing practice



Our Project Structure

□ Day 3

- Tree Inventory of Bellefonte, PA
 - Working in 3 teams
 - Surveyed approximately 200 trees

□ Day 4

- Develop reports of tree inventory
- Develop group presentation on experience/reflection of experience



Results

- **A Summary of Tree Health for Community**
 - **Examined approximately 200 trees on 137 streets in the borough**
 - **Summary report was provided to Bellefonte borough**
 - **Recommended maintenance on 64 trees inventoried**
 - **Provided data on canopy cover information (shade and storm water benefits)**
 - **Recommended focused future inventory on older-class zones in borough**

- **Content Learned**
 - **Tree Identification**
 - **Tree health indicators**
 - **Structural problems with trees**
 - **Tree climbing skills**



Recommended maintenance

<u>Maintenance</u>	<u>Count</u>	<u>%</u>
Crown raising over sidewalk (SW)	13	7.0
Crown raising over street	7	3.8
Crown raising over (SW) & street	14	7.5
Deadwood larger than 4 inches	15	8.1
Structural prune – young tree	9	4.8
<u>Multiple issues</u>	<u>6</u>	<u>3.2</u>



Results

□ **Technology Use**

- **Use of iPad**
- **iTree application (Species, location, health)**

□ **Teamwork**

- **Communication**
- **Team dynamics**
- **Presentation/teaching experience**

□ **Immersion into Service-Learning**

- **Developed understanding of practices in service-learning**



Conclusions

- Service-learning opportunities provide students the chance to link classroom learning to real-life experiences.
- Students were able develop knowledge, skills, and dispositions for engagement to support a community need.



Conclusions

- ❑ Students were able develop knowledge and skills specific to the content.
- ❑ Students were able develop their own team work and presentation skills.