What is Service-Learning?

It is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience and strengthen communities.

The core concept driving this educational strategy is that by combining service objectives and learning objectives, along with the intent to show measurable change in both the recipient and the provider of the service, the result is a radically-effective transformative method of teaching students.

http://www.servicelearning.org/what-service-learning
Characteristics of Service - Learning

Authentic service - learning experiences, while endlessly diverse, have common characteristics

• Positive, meaningful and real to the participants.

• Involve cooperative rather than competitive experiences.

• Promote skills associated with teamwork and community involvement and citizenship.

• Address complex problems in complex settings rather than simplified problems in isolation

http://www.servicelearning.org/
Characteristics of Service - Learning

• Engage in problem-solving by requiring participants to gain knowledge of the specific context of their service learning activity, rather than only to draw upon generalized/abstract knowledge such as might come from a textbook.

• Offers powerful opportunities to acquire critical thinking skills—i.e. the ability to identify the most important questions or issues within a real-world situation.

• Immediacy of experience - There are no "right answers" in the 'back of the book'. As a consequence it challenge values as well as ideas, and supports social, ethical, emotional and cognitive learning and development.
<table>
<thead>
<tr>
<th><strong>Recipient</strong></th>
<th><strong>Beneficiary</strong></th>
<th><strong>Provider</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>Focus</td>
<td>Learning</td>
</tr>
<tr>
<td>Community Service</td>
<td>Field Education</td>
<td></td>
</tr>
<tr>
<td>Volunteerism</td>
<td></td>
<td>Internship</td>
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</tbody>
</table>

Service - Learning

Ref. Furco 1996
Is service-learning a new idea?
The practice of service-learning dates back much further than the term itself, beginning with educational movements and social change in the late 1880s!

The intellectual foundations of service-learning in the United States trace back to the early 1900s with the work of John Dewey, William James, and others who promoted models of “learning by doing,” and linked service to personal and social development.

The term “service-learning” was coined in 1967 to describe the combination of conscious educational growth with the accomplishment of certain tasks that meet genuine human needs.
Impacts of Service-learning

A national study of Learn and Serve America programs suggests that effective service-learning programs improve academic grades, increase retention, enhance motivation, and develop personal and social responsibility.

Helps students learn critical thinking, communication, teamwork, civic responsibility, mathematical reasoning, problem solving, public speaking, vocational skills, computer skills, scientific method, research skills, and analysis.
Service-learning

Five Core Components

• Investigation
• Planning
• Action
• Reflection
• Demonstration/Celebration
Designing a Service-Learning Project

The Service-Learning Six-Step Model

• Discuss
• Investigate
• Address
• Plan
• Execute
• Review

Source: service-Learning Northwest
Designing a Service-Learning Project

Step 1 - DISCUSS

Strong student voice

What is community?
What is the community need?

Instructor as facilitator

Student ownership

Source: Service-Learning Northwest
Designing a Service-Learning Project

Step 2 - INVESTIGATE

Team Research

or

Individual Research

Source: Service-Learning Northwest
Designing a Service-Learning Project

Step 3 - ADDRESS ACTIVITIES

- Presentations
- Campaigning
- Voting
- Declaration of Determination

Source: Service-Learning Northwest
Designing a Service-Learning Project

Step 4 - PLAN

• WHEN?
  Project timeline => Project Management
• BY WHOM?
• HOW?
• WHAT IS THE GOAL?

Source: Service-Learning Northwest
Designing a Service-Learning Project

Step 5 – EXECUTE

Schedule and perform the activity

Source: Service-Learning Northwest
Designing a Service-Learning Project

Step 6 - REVIEW

Final Reflections

Review and Celebrate

Evaluate

Awards

Source: Service-Learning Northwest
Service-learning

Quality Check: Does Your Service Learning Project Incorporate These Key Components?

- Student Voice
- Curriculum Integration
- Meaningful Service
- Community Partnerships
- Structured Reflection

http://www.servicelearning.org/what-service-learning
EPICS at ASU: Make A Difference, Change The World!

Courtesy of Richard Filley, Director, EPICS at ASU
Social Entrepreneurship

Recognizing a problem within society and using entrepreneurial principles to organize, create and manage a venture to make social change while seeking both financial and moral return.

Roger Martin & Sally Osbert, Stanford Social innovation Review
What is EPICS?

Founded at Purdue in 1995, "EPICS" stands for Engineering Projects In Community Service. In the program, teams of multi-disciplinary students with varying interests and strengths work on community projects.
GOLD gives EPICS some Sun Devil Spirit as we send our student teams out into the world. The work of each EPICS team will be:

- **Green** and Sustainable
- **Original** and Creative
- Promote **Leadership**
  Development and Teamwork, and
- Be based on **Design** and Engineering Fundamentals.
Why EPICS Makes Sense to Students

- Being an engineer NOW!
- Gaining practical leadership experience while learning.
- Developing communication skills – writing, speaking, graphic design – selling one’s ideas to others.
- Learning to budget and spend REAL MONEY!
- Getting valuable teaming skills and experience, and… opportunity to win awards that light up the resume!
### Entrepreneurship for Social Good

#### High-Tech Storytelling
- Project C.U.R.E. Multimedia Exhibit Display One
- Project C.U.R.E. Multimedia Exhibit Display Two
- Project C.U.R.E. Multimedia Exhibit Display Three

#### Idea Factory
- Senior Capstone: Maternity Clinic Container design for Malawi
- Container-based Wind Turbine: Low Cost and Lightweight
- SKY-Y Camp – Recycling Program
- Clarkdale Sustainability Park Waste to Energy Project

#### Taming Water
- Rio Salado Habitat 7th Avenue SW Drainage Outfall
- Rio Salado Habitat Central Drainage Outfall
- SKY-Y Camp - Stormwater and Erosion Control
- Clarkdale Sustainability Park – Water Recharge Wetlands Project

#### Citizen Science
- eBird Hotspot Wiki Upgrade Birding Website
- Smithsonian Tropical Research Panama – Vidyo® Streaming Link

#### Skill Building
- Create an iPad app for Social Entrepreneurs using TRIZ
- The Mysterious World of Dr. Biology— Online Comics Builder
- SKY-Y Camp – Leadership Challenge Courses

#### Changing the World
- Bangla-EPICS Solar Energy and Clean Water (3 projects)
- Doc-In-A-Box Haiti Earthquake Telemedicine Container Upgrade
- Malawi Empowerment Village Maternity Clinic in a Container
- Bridges To Prosperity—Build a Suspended Bridge in El Salvador

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**Engineering Projects in Community Service**
Why EPICS?

“I believe the knowledge I gain from EPICS cannot be met in any other class here on campus. I am working on problems within the community while gaining experience that I can carry with me after college.”  
**Gabrielle Palermo, Bioengineering**

“EPICS bring engineering out of academia and into the light of day! It’s fun, and this class has reinforced my decision to go into mechanical engineering.”  
**Alan Gillespie, Mechanical Engineering**

“EPICS has taught me about professionalism and communication. Now I am confident in my ability to give presentations and communicate with other engineering students and faculty.”  
**Taylor Barker, Chemical Engineering**

“EPICS has been great for me and I highly recommend the class to students who wants an eye-opening experience!”  
**Michael Chou, Mechanical Engineering**

“EPICS has been a very positive experience for me, and I have learned a lot from the class. I plan on continuing with our group’s project until I graduate, including working on it for my capstone.”  
**Jasmine Nejad, Bioengineering**
Maximizing Benefits of Service-Learning in Engineering

1. Be Informed of the History and the Research literature on Service-Learning
2. Seamless Integration into Core Academics
3. Aligning with and Fulfilling ABET Criterion 3
4. Encourage involvement with ill-defined problems that have open-ended solutions

Linda Barrington and John Duffy--ASEE 2010
EPICS GOLD Outcomes

* Discipline Knowledge: ability to apply material from their discipline to the design of community-based projects.
* Design Process: an understanding of design as a start-to-finish process.
* Lifelong Learning: ability to identify and acquire new knowledge as a part of the problem solving/design process.
* Customer Awareness: an awareness of the customer.

Engineers want to change the world to make it a better place
EPICS GOLD Outcomes

* Teamwork: an ability to function on multidisciplinary teams and an appreciation for the contributions from individuals from multiple disciplines.
* Communication: an ability to communicate effectively with widely-varying backgrounds.
* Ethics: an awareness of professional ethics and responsibility.
* Social Context: an appreciation of the role that their discipline can play in social contexts.

Engineers want to change the world to make it a better place
Thank You!

Questions?