Assessing Impact without Using Grades: Quality Review of Community Engagement
Outline

- SEECS Goals and Objectives
- Need for Assessment
- Assessment Perspectives & Definitions (Section 3)  
  - Will give perspective, not data
  - Project Quality
  - Student Identify and Attitude
  - Faculty Satisfaction
  - Service-Learning and Engagement
  - Non-Profit Site Relationship
- Assessment Results (Section 4)
- Lesson Learned and Future Plans (Section 5)
NSF S-STEM SEECS Grant Objectives

Need for Assessment

Assessment Value-Chains
  - Project Quality
  - Student Identify and Attitude
  - Faculty Satisfaction
  - Service-Learning and Engagement
  - Non-Profit Site Relationship

Facts from the Data

Lessons Learned and Future Plans

Outline

Scott Steinbrink

Karinna Vernaza

Theresa Vitolo

Barry Brinkman
History of the Scholarship

- NSF, Directorate of Undergraduate Education
  Scholarships in Science, Technology, Engineering and Mathematics (S-STEM)

- Applied in November 2007

- Grant of $600,000 awarded in July 2008

- 18 graduates of the program, to date

- 20 current SEECS scholars (four seniors, six juniors, eight sophomores) and twelve offers to 2013 freshmen
Goals

Increase enrollment of academically talented, financially disadvantaged students

Foster professional development

Assist students through to graduation
Grant Objectives

#1
• Support 20 students
• Per year
Need for Assessment

- Cyclic feedback for improvement
- Of process and relationships

- Consideration of streams/ chains of value

- Concept endorsed by Learning through Service (LTS) Workshop
Assessment Perspectives

Value-Chains

- Faculty Satisfaction
- Service-Learning and Engagement
- Stakeholder Relationship
- Project Design Quality
- Student Identity and Attitude towards Service
Dimensions

1. Encourage significant interdisciplinary work among students
2. Engage students in the profession of engineering
3. Provide students with a sense of professional identity
4. Support the mission of the university and of the Catholic Church
Less formally assessed

Interdisciplinary work

Faculty oversight

Engagement in engineering

Assessed through student identity

Professional identity

Mission support

Guided by Service Learning Office
Two annual surveys

- Participant Survey of Effectiveness
- Engineering Environment, Identity and Students’ Attitudes towards Service-Learning: Participant Survey

Four Categories Emphasized by SEECS

1. Engineering Environment
2. Engineering Identity
3. Attitudes
4. Skills
Impact on Knowledge, Skills, Attitudes, and Identity,
From Service-Learning Survey: Engineering Identity

<table>
<thead>
<tr>
<th>... have provided opportunities to assess my abilities and <strong>interest</strong> in my chosen <strong>major and career</strong></th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>... have <strong>redefined</strong> engineering as a helping profession</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>From Service-Learning Survey : Attitude</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>... have allowed me to understand the <strong>impact</strong> of engineering solutions in a societal context</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>... have increased my <strong>self-esteem</strong></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>... have challenged my <strong>creativity</strong></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>... have improved my attitude towards <strong>community service</strong></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Statement</td>
<td>Response</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>... have increased my self-confidence to operate in multidisciplinary</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>teams</td>
<td></td>
</tr>
<tr>
<td>... have improved my ability to communicate effectively</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>
I value my contribution to service learning and to SEECS because ....

1. Gain items for dossier
2. Connect profession with community
3. Gives career purpose
4. Givers deeper connection with students
5. Student learning more fully
Comparison of Faculty Assessments

- Students learning more fully
- Gives deeper connection with students
- Gives career purpose
- Connect profession with community
- Gain items for dossier

Responses

- Strongly
- Agree
- Disagree
- Strongly Disagree
- Not a
‘Service-learning is a credit-bearing, educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility.’

Overall, the seminar and its experiences have allowed me to understand the impact of engineering solutions in a societal context.

Overall, the seminar and its experiences have improved my attitude towards community service.
The interactions with the SEECS program, its faculty, and the scholars did allow me and my organization ...

1. To be informed
2. To participate in design and development
3. To offer feedback
4. To confirm the project had value to the students
5. To value the SEECS program, in general
Stakeholder Assessments

- To be informed
- To participate in design and development
- To offer feedback
- To confirm the project had value to the students
- To value the SEECS program
Lessons Learned

Annual survey of SEECS Scholars shows:

- Overall satisfaction with seminar
- Better appreciation of aspects of engineering design
- Improved awareness of interdisciplinary interactions within engineering field
- Heightened appreciation for service as professional aspect

Maintaining good stakeholder relationships is critical

- Have mechanisms and processes in place
Future Plans

- Continue to offer valued experiences
- A model for an Engineering Honors program emphasizing experiential learning
- Seek outside sponsorship for scholarships
Acknowledgement

This work is supported by the National Science Foundation Award DUE-0806735.

References


Questions ?