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Addressing ABET Program Outcome 'i': A First-Year Engineering Program and Library Instruction Initiative Collaboration

Debbie Morrow, Grand Valley State University

Available at: https://works.bepress.com/debbie_morrow/2/
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A First-Year Engineering Program and
Library Instruction Initiative
Collaboration

A series of very fortunate events!

Debbie Morrow, MLIS
Grand Valley State University (Mich.)
ASEE ELD ‘Lightning Talk’
Monday, 27 June 2011, 12:30pm
The Context: Fall 2009

• GVSU School of Engineering ABET re-accreditation looms ...
  – Self-study due June 2010
  – visit scheduled for Sept. 2010

• GVSU Libraries staff changes and Liaison reassignments ...
  – Debbie Morrow becomes new Liaison Librarian for Engineering as of July 2009
ABET

• *Criteria for Accrediting Engineering Programs*
  
  – Criterion 3. Program Outcomes
    
    • (i) a recognition of the need for, and an ability to engage in life-long learning

Perennial challenge: defining “life-long learning” and getting it into the curriculum

http://www.abet.org/forms.shtml
GVSU School of Engineering

• ABET program criteria have been mapped throughout the BSE curriculum, in a scaffolded fashion
  – EGR 220, Measurement & Data Analysis
    • ABET 3(b) – design & conduct experiments, analyze and interpret data
    • ABET 3(f) – professional and ethical responsibilities
    • ABET 3(g) – communicate effectively
    • ABET 3(i) – lifelong learning
SoE Lifelong Learning Assessment Rubric – 1st year outcomes

- ability to effectively conduct internet or library searches;
- ability to find, evaluate and use information independently; and,
- ability to apply course concepts in an independent manner.

<table>
<thead>
<tr>
<th>Outcome element</th>
<th>1: Below Performance Expectations</th>
<th>2: Progressing to Performance Criteria</th>
<th>3: Meets Performance Criteria</th>
<th>4: Exceeds Performance Criteria</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>Internet/library searches</td>
<td>Demonstrates no ability to search the Internet or library resources and distinguish quality resources</td>
<td>Demonstrates limited ability to search the Internet or library resources and distinguish quality resources</td>
<td>Demonstrates an ability to search the Internet or library resources and distinguish quality resources</td>
<td>Demonstrates extensive ability to search the Internet or library resources and distinguish quality resources</td>
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<tr>
<td>Ability to find, evaluate, and use information independently</td>
<td>Students demonstrate no ability to find or utilize information independently</td>
<td>Students seek information from outside sources when necessary, but use few sources and primarily non-technical sources</td>
<td>Students seek information from multiple sources, including technical reports and papers</td>
<td>Students seek information from a variety of sources and show discernment in the use of information</td>
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<tr>
<td>Ability to apply course concepts in an independent manner</td>
<td>Cannot connect course content to project in a meaningful way</td>
<td>Makes some connection of course content to project, but makes errors in application of concepts</td>
<td>Connects course content to project but makes minimal or superficial meaning of the applied concepts</td>
<td>Connects course content to project and makes appropriate applications with meaningful outcomes</td>
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</table>

**AVERAGE SCORE:**
Meanwhile, in the University Libraries . . .
ACRL

• “Information Literacy Competency Standards for Higher Education” (Jan. 2000)
  – Information Literacy Defined
    • a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."

http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm
“Information Literacy Core Competencies”

- What is information literacy?
  - a set of skills which includes finding information effectively; managing the abundance of information available; thinking critically about resources; synthesizing and incorporating information into one’s knowledge base; creatively expressing and effectively communicating new knowledge; using information ethically; and using knowledge to better society.

“ILCCs”

Competencies are “scaffolded” for increasing sophistication as students progress in their majors and disciplines.

A Chance Conversation Occurred

“SoE Curriculum Coordinator”

“University Libraries EGR Liaison Librarian”

... And a collaboration was born:
Collaboration – Winter 2010

• Library Skills Workshop
  – 1 hour of EGR 220 lab time
  – Coordinated with introduction of the Final Project assignment
  – Instruction primarily targeting 3 ILCCs:
    • III. Evaluate Sources / Know the difference between scholarly and other types of resources.
    • V. Use Information Ethically / Cite sources appropriately.
    • VI. Develop Subject Knowledge / Be aware of subject-specific resources (e.g., subject guides, subject specific databases, liaison librarians, etc.).
IL-related Observations

- Doing and including background research
  - needs work
- Referencing sources
  - some improvement
- Reference formatting
  - needs work
- Including image credits
  - substantial improvement seen

Three semesters in... I still need work!
Next Steps

- Incorporate more active learning in EGR 220 workshop
- Discontinue pre-/post-tests, or seriously revise
- Librarian plans to do citation analysis instead of observing presentations live
- Tailor ILCCs for Engineering
- Examine ABET 3(i) as scaffolded through the rest of the BSE curriculum, and work toward strategic collaborations between SoE and the Library at upper levels
Debbie Morrow (morrowd@gvsu.edu)
Grand Valley State University

Addressing ABET Program Outcome 'i': A First-Year Engineering Program and Library Instruction Initiative Collaboration

Grand Valley's School of Engineering recently invited the University Libraries to collaborate in an effort to address ABET outcome ‘i’, engaging in lifelong learning, in one of their first year core courses. The Libraries have recently developed an "Information Literacy Core Competencies" document, evolving out of the ACRL IL competencies standard adopted in 2000. Our collaboration has so far been a great exercise in exploring the effective intersection of ABET ‘i’ and information literacy competencies, in the context of incorporation into an existing course in GVSU's first-year engineering curriculum.