ABSTRACT

Through funding from the Information Literacy Course Enhancement Program (ILCEP), Freshman Engineering faculty and two Librarians collaborated to create 3 information literacy modules, based on ABET criteria and ACRL/STS information literacy standards, for a first year Engineering Problem Solving course. The modules included information ethics such as plagiarism and proper citations, information skills including finding appropriate sources for research and evaluating the validity and veracity of online sources, and intellectual property issues. These modules were presented to more than 900 student in 22 sections, involving 10 faculty, over the course of 2 semesters. Student mastery of content was evident in the improved quality of their technical reports and posters.

BACKGROUND

The NEED

- Technical writing is an essential skill for developing and practicing engineers.
- Freshman Engineering students have difficulty
  - Understanding the parts of a technical report
  - Defining and avoiding plagiarism
  - Evaluating the validity and veracity of online sources
  - Finding appropriate sources for research
  - Understanding Intellectual Property

The OPPORTUNITY

- The ILCEP facilitated and incentivized the collaboration between librarians and engineering instructors to address these issues

METHODOLOGY

COLLABORATION & PLANNING (Summer 2011)

- Literature Search
- Added Information Literacy Student Learning Outcomes to ENGR 101 Syllabus
- Developed & Implemented 3 Class Sessions
  - Course Management System
  - In-Class Assignments
  - Homework Assignments
  - Information Literacy Pre/Post Test & Unit Pre/Post Quizzes
- Added Information Literacy components to Technical Report Grading Rubric
- Planned End of Term Poster Session

IMPLEMENTATION (Fall 2011 & Spring 2012)

Fall 2011: 755 students; 18 sections
- 185 students; 4 sections
- 2 Librarians; 9 Engineering Faculty
- 2 Librarians; 3 Engineering Faculty
- 1 Coordinator
- Librarians taught 3 classes/section

Spring 2012:
- 1 Coordinator
- Librarians taught 2-2 classes/section

FUTURE PLANS

- Continue Information Literacy Modules in ENGR 101 (Fall & Spring)
- Modified Delivery:
  - 1 in-class session
  - 1 on-line module
  - 1 Out of Class Experience
- Improved Assessments
  - On-line Pre/Post Quizzes will be larger part of student course grade
  - Faculty will emphasize significance of assignments and quizzes to students
- Additional on-line modules may be developed

INSTRUCTIONAL MODULES

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RESULTS

- New Information Literacy Learning Objectives were integrated into ENGR 101
- Technical Report Grading Rubric was modified to include Information Literacy Criteria
- Student completion of pre-tests and post-tests was not consistent, yielding little usable data for direct analysis
- Faculty Feedback indicated student technical reports were better than in previous years; specifically, students:
  - Selected and used appropriate sources
  - Cited sources correctly
- Qualitative Survey Solicited Student Feedback
  - Overall reaction was positive.
  - Most beneficial:
    - Being able to glean information faster with a focused research strategy
    - Being cognizant of the various information sources other than the internet
    - The ability to access library resources without physically going to the library
  - Least beneficial:
    - Difficulty in remotely accessing information via the library webpage.

CONCLUSIONS

- The infusion of Information Literacy into the Engineering Problem Solving course was successful and worth repeating in future semesters.
- Student learning outcomes were realized.

LESSONS LEARNED

- Modify Delivery System in response to faculty feedback
- Engage students with eCampus assessments

FUTURE ACTIVITIES

- Redesign modules to include:
  - In-class presentation
  - On-line module
  - Out of Class Experience in the Library
- Increase weight of Information Literacy Quizzes in course grade

BIBLIOGRAPHY