Project Name

Electronic Portfolios to Enhance Experiential Learning and Assessment in Internship Courses

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Campus Stony Brook University

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Tier Tier Two

Overview Summary

Use of e-Portfolio to ensure a meaningful, academically rigorous outcome from internships, including a template based upon standards and goals of experiential learning and a website which connects students with a Long Island Alternative Energy Consortium of seven academic institutions dedicated to strengthening energy education.

Outcomes Summary

A 16 minutes video describes project outcomes, and the value of using ePortfolio in engineering education is described with data and outcomes in this presentation.

Project Abstract

Internships are academic experiences for which a student earns credit in an agreed-upon, short-term, supervised work experience related to a major field or area of interest. For students, internships are opportunities to expand learning, build responsibility, explore career interests, expand social and professional networks, and build their reìsumeìs. Most importantly, internships can increase students' self- efficacy, the belief in one's ability to independently identify, learn and apply new knowledge and skills, which has been cited as the single most important factor for student success in engineering programs. Industry utilizes internships to contribute to workforce development needs, train (and test) potential future employees, and test a new technology, design or product. Likewise, internships in policy-making bodies help instill an appreciation for technology assessment, ethical behavior and the legislative process in a new generation of involved citizens. Meeting these learning objectives requires that the internship be made rigorous and responsive to the needs of students, their mentors and their academic programs – a challenging task for which the use of

electronic portfolios is ideal.

An electronic portfolio (or eportfolio) is a digital compilation of student work and self-selected information which gives evidence of student knowledge and accomplishments. As opposed to a physical portfolio (with inherent space and temporal restrictions), the eportfolio allows the student to continually add reflections, to show connections between academic work and life activities, and tie together courses, presentations, awards and journal-format descriptions of learning which demonstrate growth and mastery and which can be used by faculty, advisors, and potential employers or graduate programs to assess student achievement. While the eportfolio platform at Stony Brook is Digication, the importance is in the content, not the format. Content can be exported to and from other platforms, and the templates developed to direct student learning evidence and reflection can be easily adapted for platforms at other SUNY campuses.

A key function of internship courses is to provide an ideal mechanism for 'experiential learning', defined as "knowledge, skills, and/or abilities attained through observation, simulation, and/or participation that provides depth and meaning to learning by engaging the mind and/or body through activity, reflection, and application." (Craig 1997). The Middle States Commission on Higher Education's Experiential Learning Standard 13 (2011) states that "procedures to assess learning for the award of academic credit [for internships]... should define college-level learning and state clearly that credit is awarded for demonstrated learning, and not merely for experience." Hence assessment must be rigorous, and the structure of the course should be guided by a template which reflects skills and learning. Experiential learning is also a critical mechanism for meeting the learning outcomes defined by the Accreditation Board for Engineering and Technology (ABET), especially those outcomes which reflect student ability to function on multi-disciplinary teams, communicate effectively, act ethically and engage in life-long learning. While experiential learning can help meet these outcomes, demonstrating proficiency requires the mechanism provided by eportfolios.

Most engineering degree programs require or strongly encourage students to complete at least one internship (and meet ABET criteria). For example, the Engineering Science program at Stony Brook University includes an internship course, coordinated by the P.I., used to fulfill a technical elective requirement. Use of eportfolios in this course will provide a prototype which can be studied and optimized for application in other programs and campuses. We are fortunate to have a mechanism in place to disseminate the eportfolio methodology, template and assessment tools through the P.I.'s participation in the Long Island Alternative Energy Consortium (LIAEC), a collaboration of seven academic institutions (including four SUNY four year institutions (Farmingdale, Old Westbury and SUNY Maritime, and Stony Brook) and two community colleges (Suffolk and Nassau) in the SUNY system) dedicated to strengthening energy education through a multi-disciplinary academic curriculum which includes cooperative learning in energy development and applications through internships, facilitated via existing and new partnerships between academic institutions, industry and legislative offices.

We propose to design and implement an eportfolio approach to ensure a meaningful experiential learning outcome from internships. A template based upon the standards and goals of experiential learning will be developed in collaboration with Dr. Janet Nepkie, an innovator in experiential learning and internships, and Nancy Wozniak, a learning architect and eportfolio expert in the Teaching, Learning Technology department at Stony Brook. The project will include a student staff member dedicated to teaching students how to develop meaningful portfolios, and a second graduate assistant to develop and maintain a web site which connects students with internship opportunities, introduces the template, and builds dissemination with LIAEC institutions. An assessment rubric will be created and implemented with Dr. Pat Aceves (Director of the Faculty Center) and staff. The grant will also support two major workshops for industry internship supervisors, representatives from regional industrial associations, faculty coordinators, and our experts in experiential learning, eportfolios and assessment, in order to collaboratively enhance the template and web- based tools, explore best practices for experiential learning, generate meaningful internship opportunities, and assess program progress and benefits to both student learning and workforce development.

Reports and Resources

- [Poster presentation](#) from the "SPARKS of INNOVATION: The Future of Teaching and Learning" conference at Stony Brook University, Friday, April 12, 2013, entitled "Electronic Portfolios to Enhance Experiential Learning and Assessment in Internship Courses".
- [Oral presentation](#) from the "SPARKS of INNOVATION: The Future of Teaching and Learning" conference at Stony Brook University, Friday, April 12, 2013, entitled "Electronic Portfolios to Enhance Experiential Learning and Assessment in Internship Courses".
- [Video presentation](#) from the "SPARKS of INNOVATION: The Future of Teaching and Learning" conference at Stony Brook University, Friday, April 12, 2013, entitled "Electronic Portfolios to Enhance Experiential Learning and Assessment in Internship Courses".
- [Electronic portfolio](#) template developed for this project details what is expected as learning outcomes from students in internships.
- [Project Website](#)

Assessment, Understanding, Monitoring Student Progress

- E-Portfolios
- Outcomes Assessment

Instructional Design

- Online Education