Creativity and Engineering: Constructing Poems

Gloria A Monaghan
Wentworth Institute of Technology
Assistant Professor of Humanities at Wentworth Institute of Technology

"Man cannot discover new oceans unless he has the courage to lose sight of the shore."
- Andre Gide

Focus

In the 21st Century engineering students are expected to use creative ways to find problems and solve problems within their fields. A poetry course might be the least likely place you would find budding mechanical, civil and construction management students- but as it turns out, these were the students who signed up for "The Creative Soul," a sixteen week course on poetry, specifically student generated work.

The course is an exploration of the creative process and the student's own specific journey towards the space where creative design unfolds. One of the objectives for the course is to make decisions (that is to problem solve and find problems) about the editing process. These are two completely different things: creating and editing. Ironically, students were not all that good at editing. They were very good at creating poems because they had no real understanding of what poetry was about upon entering the class, therefore they had no preconceived notions of what constituted poetry. Very few admitted to reading poetry, although many admitted to writing it. This was not surprising since many engineering and technical students are hands on in their approach to learning.

Students today do not focus merely on engineering and math skills, they realize the need to employ new ways of problem solving, establishing policy and integrating the arts into their fields. In ancient times and in the Renaissance, art was integrated into technology and science, and vice versa. In this course, students spend the semester writing poetry and workshopping their poems. They become adept close readers and they explore their own creative and emotional process pertaining to design and practice.

Clearly universities under stress are finding ways to cut back courses and programs and are looking at the humanities as not relevant to the student of today. They have it entirely wrong. The humanities are the most important tool we have for understanding, with any kind of historical perspective and critical depth, all of the new arrangements of our world, precisely because those new arrangements of our world are rooted in an associational, interactive, qualitative humanistic concept of mind and society, not in a machinic, quantitative, linear, hardwired, fixed, or even measurable computational model. If our world is changing, humanists have the tools, knowledge, and concepts to address these changes. Cutting humanities programs now is shortsighted indeed. We have an educational system currently

based on preparing kids for the twentieth century. We need a different model to prepare them for the twenty-first, and, it is a model in which all the STEM elements must also be deeply, humanistically reevaluated in light of the Information Age and the humanist assumptions (not all of them positive in theory or application, by any means) that power the World Wide Web. (Davidson)

Data Collection

This study is qualitative, and it focuses on student response and their creative process. To my surprise the students who signed up for the course were not design majors, but construction management, mechanical and engineering students who wish to explore their creative side. These students came into the class having already written some poetry and became completely engaged in the process of reviewing each other's work and examining their own. We went into the city to view and participate in readings. Students were also encouraged to publish their work in literary journals and magazines. As a result of these public endeavors, engineering students will read from their work as part of this presentation.

In order to be creative, one needs to take risks. The creative process ensures a separation from the given norm. It is one thing to write poems in the sacred space of one's room or study, it is another to bring these poems into class and have them analyzed, dissected and commented upon. It is yet another to bring them into an engineering conference and read them in front of your professors. The most important thing regarding this study is to see how the creative process works for engineering and technical students.

Methodology

The need for creative problem solving is ever present in today's world. In class students were expected to participate in exercises to improve impromptu decision-making. Students were asked to collaborate and write spontaneously given a few rules to follow. Such exercises included writing lines with a list of words given, or a specific amount of lines and then passing the paper to the next student to continue the poems. Initially students reacted a number of different ways. Some were quick to write with little pre-thought or direction. They seemed to write literally without hesitation and finish just as quickly, while others stared gloomily at the blank page in front of them. When the paper was successfully passed throughout the class and several students had collaborated on the poem, a couple of things happened that informed how they reacted to the finished product. One, they were disappointed when the poem took a turn in lyrical content. They felt a loss of control over the project. Someone had changed the direction, and the previous writer was unhappy with the outcome. However, another outcome also occurred, the whole poem was amazing and better than anything the individual could have come up with one their own at the time. Both prospects ensured the writer one thing- the loss of expectation. If an engineer, poet or thinker is going to be good at something, he or she should be prepared to lose expectation in the design process, and in some cases that may mean creating better partnerships or abdicating control at some point during the project.

The word 'verse' actually means to turn in Latin. One thing is certain and that is that we all change. While this thought may unsettling to most, what is also true is that the only thing that can be truly experience is the 'now'. The creative process of building poems, like building bridges helps students understand their own process with regard to design and decision making. In our techo-driven society, it makes sense to ask future engineers to think consciously and creatively about their work.

Conclusion and future recommendations:
In today's world and within the confines of an engineering school, faculty and students recognize the need to explore creative solution to real problems. Poetry is the unlikely but perfect personal tool to measure student input in terms of association and reflection.

The need for creativity and problem solving is a global need. Our institutions of higher learning will be better served graduating students who are well rounded, intelligent and most of all creative. Engineering is a creative profession that may be misunderstood. "The ability to measure creativity would not only facilitate the identification of talented individuals, but also would allow the measurement of baseline information necessary to track the progress of educational and training programs aimed at enhancing creativity" (Treffinger, 2003). Students will read from their poetry to illustrate an outcome of the creative process.

Davidson, Cathy ***Why is the Information Age Without the Humanities Like the Industrial Revolution Without the Steam Engine?*** HASTAC BloG **Jan 24, 2010**