

Departmental to inter-collegiate engineering poetry contests

Ann D. Christy and Julie A. Graf
The Ohio State University

Abstract

Engineering poetry contests and assignments have been pioneered by individuals at institutions such as Michigan State University, Drexel University, and University of Michigan. An engineering poetry contest was inaugurated at the Ohio State University (OSU) in the Department of Food, Agricultural, and Biological Engineering during spring 2004 and expanded to the entire College of Engineering in 2005. The objectives were to enhance students' writing skills, to encourage their creativity, and to expand their appreciation for the interconnectedness of all aspects of their college education, especially the arts and humanities. The contest was open to departmental undergraduates, alumni, faculty, staff, and graduate students. Judges were recruited from OSU's Department of English based on their poetry credentials and student recommendations. All three, including OSU's Poet Laureate, were very enthusiastic and supportive of the project. Four categories were awarded: students vs. non-students and technical subjects vs. non-technical. Prizes included rosette ribbons and gift certificates. Entries were read aloud at an evening poetry reading gathering in the student lounge which included live music, food, and a fine art gallery provided by students, staff, and faculty. Evaluation methods included participant interviews and a web-based survey of departmental undergraduates, alumni, faculty, staff, and graduate students that explored their attitudes towards poetry, engineering creativity, and the humanities.

Introduction

Poetry is a compressed form of creative writing which incorporates concrete language, complex imagery, and rich sensory details. Poetry writing can benefit engineering students by enhancing their written communication skills, and giving them the opportunity to explore another side of their creativity. The Accreditation Board of Engineering and Technology (ABET) affirmed the value of several traits that can be enhanced by participation in poetry writing contests by including in their EC 2000 criterion 3 the following:¹

- (g) an ability to communicate effectively
- (h) the broad education necessary to understand the impact of engineering solutions in a global and societal context

The Department of Food, Agricultural, and Biological Engineering at the Ohio State University offered its first engineering poetry contest in the spring of 2004.² This was then expanded in 2005 to include not just the department, but two colleges: The College of Engineering and the College of Food, Agricultural, and Environmental Science.

Michigan State University has, for the past four years, hosted an annual poetry contest within its college of engineering.³ The goals were to initiate more focus on communication skills, to showcase the students' creativity, and to encourage students to write for enjoyment. Initial resistance both within and without the college was gradually broken down as students embraced the contest and exceeded expectations with the quality of their creative work. In 2004, 120 poems were submitted to the contest.

At Drexel University, the E⁴ program (Enhanced Educational Experience for Engineers) structures the freshman year into four components including a Personal and Professional Enrichment Program.⁴ This Personal and Professional Enrichment Program focuses on the development of the student as a whole person and on performing engineering in the wider context of ethical decision making amid a dynamically changing society. This program integrates humanities, especially communication and composition skills, with math, science, and engineering components. Creativity is enhanced by introducing literature, poetry, and journal writing.^{4,5} Concurrent assignments in engineering and humanities classrooms allow the students to explore creative self-expression through writing poetry⁵ about engineered products such as a CD-ROM, laser printer, radar, suspension bridge, or calculator.

The University of Michigan's College of Engineering offers three major writing awards: the George M. Landes Prize for Technical Communication, established in 1981 and presented to the undergraduate engineering student who most clearly combines the highest standards of technical communication and technical excellence; the Cooley Prize, established in 1950 and presented to engineering undergraduates who author winning essays, fiction, or drama; and the Roger M. Jones Poetry Contest, established in 1977 to encourage engineering students to write poetry and develop their creative skills. Winning poems are awarded up to and exceeding \$1,000.⁶

Anecdotal evidence indicates that many students in engineering or technology-based majors think that any time spent on non-technical subjects is not beneficial to their future careers. Over several years, the first author has assigned essays inviting students to reflect on their attitudes toward the General Education Curriculum (GEC) at the Ohio State University (OSU). Fewer than half expressed an appreciation for the value of the GEC component of their education, especially the arts and humanities. Likewise, OSU's College of Engineering annual alumni survey includes questions about the importance of and ability/preparation gained at OSU in a variety of areas including math, chemistry, physics, and humanities. Every year, humanities is ranked the lowest in both categories: importance and ability/preparation.

Objectives

The objectives of the poetry contests were (1) to provide the opportunity for students, faculty, staff, and alumni to explore poetry writing, (2) to enhance students' creativity, and (3) to expand

their appreciation for the interconnectedness of all aspects of their college education, especially the arts and humanities.

Methods

The co-authors organized and publicized the 2004 departmental poetry contest. Posters, banners, e-mails, and word-of-mouth were used to invite student participation from the department's two undergraduate programs: Food, Agricultural, and Biological Engineering (FABE), and Agricultural and Construction Systems Management (ACSM) and graduate students advised by FABE faculty (termed "students"). Faculty, staff, and alumni (termed "non-students") were also invited to contribute poetry. Student and non-student categories were further divided into two additional subcategories: poems dealing with technical subjects (i.e., Ode to a Manure Spreader) and poems dealing with non-technical subjects (i.e., My Love Is Gone, My Money's Gone, and Now My Sobriety Is, Too). There were no rules pertaining to the content, convention, and style of poetry; however, participants were cautioned to be mindful of decency and brevity. There was also no limit to the number of poems participants could submit. An esteemed faculty panel of poetry judges was recruited from OSU's Department of English: Drs. Michelle Herman, Kathy Fagan, and David Citino, OSU's Poet Laureate. The judges' interest was immediately apparent. Within one day of sending an introductory email and asking for their help in judging, all three responded with incredible enthusiasm for the contest. The judges rated each poem on a 1-10 scale, and the sum of their scores was used to choose the best three poems in each of the four categories. Prize money was awarded to the top three poems in each of the student categories, with 1st place receiving \$50, 2nd place \$25, and 3rd place receiving \$10. Posters and flyers were posted throughout the Agricultural Engineering Building to advertise the contest. To build a healthy competitive spirit, students were also encouraged to break Michigan State's poetry submission records.

The author met with OSU Faculty and Teaching Assistant Development (FTAD) personnel to discuss evaluation approaches and the project in general. This allowed the project to benefit from the expertise of that office, and helped in the development and implementation of a survey instrument to assess students' attitudes toward poetry, engineering creativity, and humanities in general. This survey evaluated their attitudes toward creativity, communication, the role of humanities in technical education, and of course, poetry (Figure 1).

Results and Discussion

Twenty-nine poems were submitted in the 2004 forum, out of a potential participation pool of about 400 people. In comparison, MSU received roughly 120 poems that year from a potential participation pool of over 4,000 people. Poetry topics and styles ranged over a broad spectrum. Technical topics included fractured glacial till, septic systems, waste management, infrared sensing, and haikus about wetlands and combined sewer overflows. Non-technical poems ranged from religious musings to a gripping verse penned by a grad student stranded in Mexico while his daughter was being born prematurely. This poem, "The window of my face," was awarded the Grand Champion prize after receiving two perfect "10"s from the judges.

Dear Student / Staff/ Faculty/ Alumnus:

The purpose of this survey is to assess your perceptions of learning in the Department of Food, Agricultural, and Biological Engineering. The survey has been created through a collaborative effort between the Department and the University's Office of Faculty and TA Development. Receiving responses and comments from everyone associated with the Department is critical to the success of this survey. Anonymity will be maintained, as the Department will see only summary comments. No shared information will be identifiable to any individual person.

Multiple choice questions:

What is your current rank? (freshman, sophomore, junior, senior, graduate student, alumnus, staff, faculty)

With what program do you most associate? (FABE, ASM, CSM, other)

Please rate the importance of improving your writing and oral communication skills? (extremely important, very important, important, somewhat important, not important)

Please rate the importance of developing your ability to think creatively? (extremely important, very important, important, somewhat important, not important)

Please rate the importance of having an understanding of and ability to apply knowledge of humanities / social sciences (extremely important, very important, important, somewhat important, not important)

Please rate the importance of having an understanding of and ability to synthesize and integrate knowledge across disciplines (extremely important, very important, important, somewhat important, not important)

Please rate the importance of having an understanding of the relation of engineering to societal and cultural issues (extremely important, very important, important, somewhat important, not important)

Are you planning to submit a poem to the FABE/ ACSM poetry forum this year? (yes, no)

Short-answer questions:

What is the role of creativity in your education and future career?

What is the role of humanities classes in your education and future career?

Figure 1. Web-based survey instrument (Spring 2004)

Four categories were awarded: students vs. non-students and technical subjects vs. non-technical. Prizes in all categories included rosette ribbons (1st through 3rd place) and participant certificates (all entries). Awards were made to the student winners in both technical and non-technical subject areas (\$50 gift certificates to 1st place, \$25 to 2nd place, and \$10 to 3rd place). Winning entries were read aloud at an evening poetry reading gathering in the student lounge which included live music, dancing, and a fine art gallery of drawings, photography, sculpture, beads provided by students, staff, and faculty. The student-run radio station “The Underground” provided a DJ for the event. Poems were posted in the hallway and student lounge of the Agricultural Engineering Building. Winners were also announced later that year at the departmental awards banquet in May.

Judges comments were very favorable. They liked the inclusiveness of the contest, both in terms of the types of poems, and who was invited to participate. Some comments were as follows:

“I was impressed with the quality and range of topics.”

Some of the poems “...could stand on their own outside this kind of modified contest.”

“Some very, very good works -- [could be] put against anything, anywhere.”

Student comments were also positive, including the following:

“I was expecting really bad poetry, but I was so impressed.”

“I particularly liked the poems about waste management and septic systems. How neat!”

“I came for the free food, but I dug the music and art.”

“I had a lot of fun tonight. While I might be a bit biased since I won some awards, I can’t wait for the next poetry forum.”

An engineering alumnus emailed this response to the contest organizers: “Looks like a few things have changed since I left the department in 1986. I salute the efforts to get students to participate and grow in the arts. The two things most underdeveloped in young folks I work with are creativity – expanding beyond the lines and expressing compelling logic. Your contest seems to hit those things very well.”

The 2004 survey results included 91 responses, 36% of which were undergraduate students. Figure 2 shows the mix of who responded to the web-based survey:

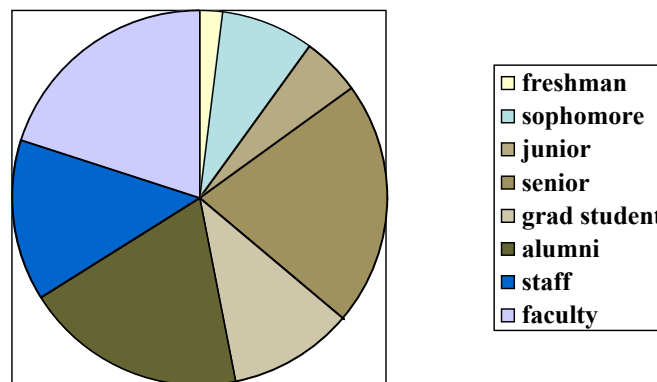


Figure 2. Survey participation by type.

The results to several of the survey's multiple choice questions are summarized in Figures 3-5.

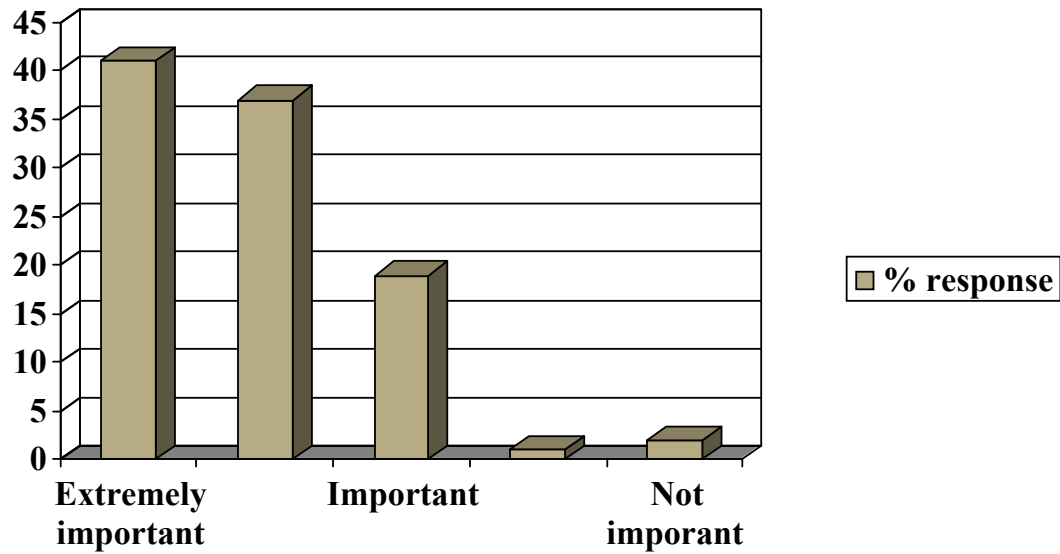


Figure 3. Survey responses to the question, “Please rate the importance of developing your ability to think creatively.”

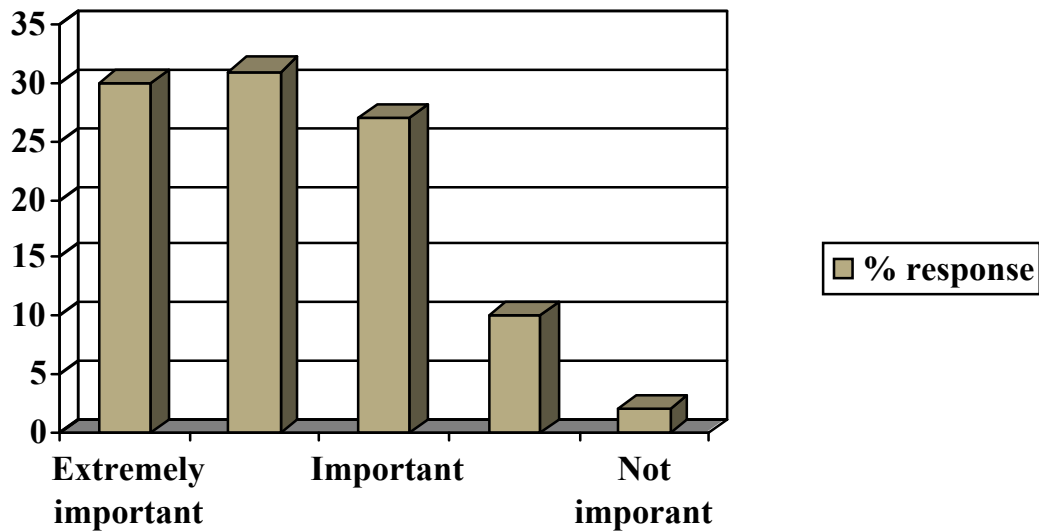


Figure 4. Survey responses to the question, “Please rate the importance of improving your writing and oral communication skills.”

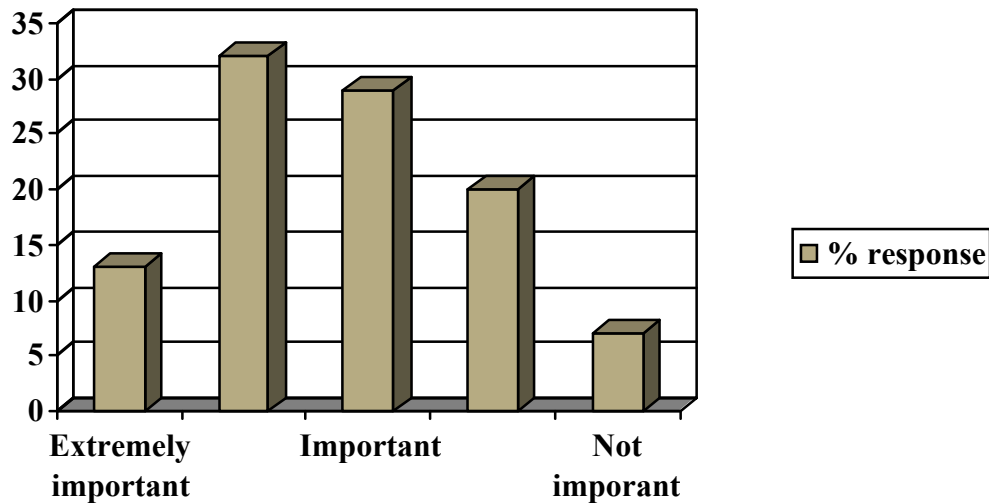


Figure 5. Survey responses to the question, “Please rate the importance of having an understanding of and ability to apply knowledge of humanities / social sciences.”

It is interesting to note that survey respondents rated creativity as more important than communication skills, and rated communication skills more highly than the ability to apply knowledge of humanities and social sciences. Selected representative responses to the two short-answer survey questions are collected below:

What is the role of creativity in your education and future career?

“Creativity is a daily requirement of solving problems large and small”

“Creativity is the spark of genius in engineering”

“In this age of interdisciplinary efforts and job retraining, creativity and critical thinking are vital”

“Although it’s constantly stifled in college and unrequired in classes, creativity makes the difference between being an invisible gnome in a cubicle and having a career that changes the world”

What is the role of humanities classes in your education and future career? CONs

“None, I think the university should get rid of most of these classes”

“Tea party knowledge...something to talk about at parties... no further importance whatsoever”

“They are a pain to complete and completely worthless”

“I would have gladly traded the hours for a couple more engineering classes”

What is the role of humanities classes in your education and future career? PROs

“For now they’re nice, easy GPA boosters. In the future, they will make me a more well-rounded person, not just someone who can spout Planck’s constant on cue”

“To help connect to people across time and culture”

“Essential to a complete understanding of our society”

“More important than I would like”

“The humanities themselves are very important. Whether a class is the proper forum for one to develop these abilities is an open question”

“I do like the idea of informally integrating poetry, etc., into some of our engineering coursework”

Following the success of the 2004 departmental poetry contest, plans were made to extend the contest to both of the colleges which the department spans: the College of Engineering and the College of Food, Agricultural, and Environmental Sciences. This inter-collegiate poetry contest will be held in the spring 2005, with the department acting as host for the event. The web-based survey will be used to identify any changes in departmental culture that may have resulted from the poetry contests, and to assess differences in attitudes between the two colleges. Detailed results will be presented at the 2005 ASEE Annual Conference.

Conclusions

The vital connection between humanities and engineering is rarely mentioned on either side of the disciplinary divide. Instead, the differences are stressed. Thus it is left to the student to integrate the two, or more commonly, to love one and despise the other. We are all the poorer, as a society, due to this false dichotomy. Engineering poetry contests can help bridge this divide. This newly inaugurated engineering poetry contest provided an opportunity to enhance the educational experience of OSU undergraduate students currently enrolled in two colleges (Engineering and Food, Agricultural, and Environmental Sciences) along with alumni, graduate students, faculty, and staff. Students' survey responses indicated that they had experienced increased creativity and had expanded their appreciation for the arts and humanities.

Acknowledgements

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Biographic Information

ANN D. CHRISTY is an Associate Professor of Bio-environmental Engineering in the Department of Food, Agricultural, and Biological Engineering at the Ohio State University. She earned both her B.S. in agricultural engineering and M.S. in biomedical engineering at the Ohio State University, and her Ph.D. in environmental systems engineering at Clemson University. She is a licensed professional engineer in the State of Ohio.

JULIE A. GRAF is a Graduate Teaching / Research Associate in the School of Natural Resources at The Ohio State University. She earned her B.S. in Food, Agricultural, and Biological Engineering at The Ohio State University.