Recently, when employers of entry-level engineers were asked to prioritize the need for further instruction, over 60% of these employers identified communication skills as the primary curricular element needing increased emphasis. Two of the top 10 required skills ranked as important to engineering practice related to making oral presentations. Public speaking, however, is not always required at the university level for engineering students. In an attempt to rectify this situation in a senior-level electrical engineering course at a midwestern university, a team of instructors in the speech communication department was approached to develop a public speaking workshop. The challenge was to condense what would normally be an entire semester's worth of speech instruction into a 90-minute workshop for the engineering students. This paper describes the workshop's development and implementation, including assessment of the situation, goals for the students, and the overcoming of public speaking anxiety. The paper notes that students were highly participative during the workshops and evaluations immediately following the workshops were positive. (NKA)
Public Speaking 101: In 90 Minutes or Less

Pamela A. Hayward

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The Challenge

Having adequate communication skills is becoming more important than ever in the technical workforce. Recently, employers of entry level engineers were asked to prioritize the need for further instruction. Over 60% of these employers identified communication skills as the primary curricular element needing increased emphasis.¹

When ranking the top 30 types of communication, by importance, to engineering practice; two of the top 10 required skills relate to making oral presentations.² However, despite this increasing need for engineers to demonstrate proficiency in oral presentations, public speaking instruction is not always required at the university level for these students. Although some students may have already taken a speech class prior to entering the university, additional training in public speaking is necessary.
because speechmaking in college and the real world differs markedly from what most students learn in high school.\textsuperscript{3}

Students unskilled in public speaking, find themselves in a difficult position when asked to make an oral presentation in an engineering course. Although the project that the student is presenting may be well-designed poor presentational skills can detract from his/her engineering expertise and hurt his/her credibility in the course. The student is placed in a no-win situation. His/her project grade hinges on his/her ability to make an effective oral presentation, however the student has been given no formal instruction in the necessary skills.

In an attempt to rectify this no-win situation for students in a senior-level electrical engineering course at a midwestern university, a team of instructors in the speech communication department was approached to develop a public speaking workshop. The challenge for this workshop team was to condense what would normally be an entire semester's worth of speech instruction into a 90-minute, evening workshop for the engineering students.
The Assessment

The key to any successful training program is an assessment of the situation prior to implementing a workshop. In order to get a better feel for the problem at hand, a member of the workshop team met with the course professor to find out what difficulties students had with their presentations in the past. The presentation requires the seniors to give a half-hour group presentation of the project that they have been working on all semester. During the presentation, students are expected to act as if they are a "design team" showing their project to senior members of "the firm." Each group presentation also requires the use of an overhead projector and transparencies.

The professor and several of his teaching assistants identified the primary problems with student presentations in previous semesters. They explained that students exhibited a high level of anxiety, a lack of organizational focus, poor delivery skills, and awkward use of the group presentation format. It was also explained that transparencies were poorly prepared, and students were not professionally dressed.

In order to better assess the students' levels of experience and comfort in public speaking, a short survey was
administered by the workshop team to 20 students in one of the course discussion sections. Results indicated that only two of the 20 respondents had ever taken a public speaking course and only eight of the 20 students indicated they felt "somewhat" or "very comfortable" when giving an oral presentation.

Workshop Goals

Once the assessment was complete, the next step was to develop overall goals for the 90-minute workshop. It was decided that it would be best to run four workshops with approximately 20 students in each, as opposed to one large workshop for all 85 students. This way each student could become directly involved in the learning experience and the trainer-student ratio would be kept at a manageable level. In training students to improve their public speaking skills, it is important that everyone in attendance get a chance to actually speak.

Three primary behavioral objectives were developed by the workshop team:

1. To introduce students to tactics for coping with anxiety about speaking.
2. To introduce students to principles of effective delivery including the design and use of visual aids in an oral presentation.

3. To introduce students to principles of organization relevant to a group and/or individual oral presentation.

Workshop Implementation

The workshop consisted of several sections. The goals of the first portion were to establish rapport between the instructor and the audience, to communicate an outline of the workshop to the students, and to give everyone the opportunity to speak at the beginning of the workshop. The instructor was able to establish rapport by generating interest in public speaking and its value in today's technologically advanced world. After the goals of the workshop were introduced, each person was asked to introduce him/herself and to describe one characteristic of a speaker they enjoy or admire. While the students shared names and characteristics, the instructor kept a running list on the board. Common threads between these effective speakers on the list were shared.
The second section of the workshop was a fairly brief one. Participants were given some quick pointers on how best to work as a group for this type of oral presentation.

In order to discuss speaking anxiety and its impact on presentations, participants were asked to generate a list of physical "symptoms" of speaking anxiety. This activity was followed by an explanation of what causes speaking anxiety, as well as realistic tips the students could use before and during their speeches. Students were also asked to share any tips they had discovered on their own for coping with anxiety.

It is impossible for students to learn all there is to know about effective delivery skills in such a short period of time; however, a list of some of the most important elements of strong delivery were pointed out. It was stressed that students should allow their commitment to their ideas and to the audience to be revealed in voice and body. Included in this section of the workshop was an explanation of how to dress appropriately for a presentation to "senior members of the firm."

Time was also spent on guidelines for using visual aids. Students were instructed to plan their visual aids, to practice with their visual aids, and then to effectively present their
visual aids. The course professor had provided the workshop team with many ineffective transparencies from past presentations. Students were asked to explain why each visual aid was unsuitable as it was shown. Suggestions to improve the imperfect aids were also generated by the students.

After discussing visual aids, the instructor discussed effective presentation organization. Once again, a semester's worth of material was condensed to its most essential elements in the accompanying handout.

Finally, the workshop concluded with two self-reflective handouts for the students. They were provided with a self-critique checklist to use as they were practicing. They were also asked to fill out a personal goals sheet. This worksheet asked students to identify their strengths and weaknesses as a speaker. They were also required to set several public speaking goals for this assignment. It was important that students focus not only on the areas they wanted to improve, but to remind themselves of their strengths as a presenter.
Conclusion

Although a 90-minute workshop on public speaking skills is not the equivalent of taking an entire course, it did prove to be beneficial to the students. Students were highly participative during the workshops and evaluations immediately following the workshops were positive. Once the presentations were over that semester, the workshop team received feedback from the professor that the presentations were greatly improved over previous semesters.

Ideally, engineering students should be exposed to more than 90 minutes of oral presentation instruction. However, even 90 minutes of exposure is helpful. If students are not required to take a public speaking course as part of their program, a workshop can assist in developing confidence and skills for their oral presentations.

Note: The author would like to acknowledge the other members of the workshop team: Ann Darling, Joni Elsenpeter, Brad Kolar and Kathy Sturgis.
References


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