



Improving Graduate Student Oral Presentations Through Peer Review

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Abstract

For several decades, peer review has been a popular instructional strategy in courses throughout the university. Employed most often for written documents, it is less commonly used for oral presentations, especially at the graduate level. Yet engineering graduate students frequently make oral presentations, whether in their research group meetings, at professional conferences, in internships, or during their job search. This paper presents an overview of the research in oral presentation peer review, focusing on its motivation and use in various engineering contexts. Because peer review depends on effective rubrics, their construction is explained and examples are provided. These rubrics can be used to provide feedback in electronic, written, or oral forms, each of which has its advantages and disadvantages. The paper also discusses how instructors can offer a supportive classroom environment in which constructive criticism is given and accepted.

The authors further describe how they and another professor implement peer review of oral presentations in different contexts with engineering graduate students and discuss some challenges, including student reluctance and language and cultural differences. Finally, the authors present the results of end-of-the-course surveys that ask the students to evaluate the perceived usefulness of the peer review activities, both as a peer reviewer and as the recipient of peer review, and provide suggestions for improvement.

Introduction

By now there is a consensus, reinforced by ABET, that students graduating with bachelors' degrees in engineering need to possess effective communication skills along with their technical knowledge. It does not matter whether they go into industry or on to graduate school—writing and speaking are part of the territory¹. Since ABET 2000, undergraduate engineering programs have ramped up their attention to communication skills via dedicated courses and/or inclusion in various courses throughout the curriculum.

For graduate students, effective communication skills are arguably even more important. At this level, students are writing professional documents such as conference and journal papers in addition to any written class assignments. While writing a master's thesis is often an option rather than a requirement, virtually all doctoral students write a preliminary document and dissertation.

However, writing is only part of the communications skill set graduate engineering students need to be successful. Starting early in graduate school, engineering students are expected to give structured talks in research group meetings, at poster presentations, at conferences, and job interviews, and, if they are teaching assistants, to their classes. How do they learn to do these presentations, and how do they know if they are communicating effectively? This is where peer review can help.

This paper provides a summary of the limited literature on peer review of oral presentations, including information on rubrics and other tools available to conduct peer reviews. The

summary is followed by detailed descriptions of three contexts in which peer review has been employed to improve engineering graduate students' oral presentations. The paper concludes with a discussion of what was learned in those three contexts and plans for future studies of peer review of oral presentations.

Literature Review

Also known as peer evaluation or assessment (although sometimes these words may carry somewhat different meanings), peer review is often associated with Peter Elbow's teacherless pedagogy of the 1970s, shifting the responsibility for feedback from the instructor to the student.²

The literature refers to numerous benefits from peer review. Topping *et al.* suggest that peer review can create "an enhanced sense of ownership and personal responsibility."⁴ Peer feedback may also support student engagement and reflection in their learning.⁵ In fact, some research suggests that students may actually get as much or more from student critiques of their work as from instructor feedback.³ In addition, work in peer review also proposes that students can learn from giving as well as receiving feedback.^{4,5} Topping *et al.* lists a wide array of crucial interpersonal and academic skills students can develop from doing peer critiques, including empathy, objectivity, and improved written and oral communication.⁴

Some important work on peer review goes back to Topping's research in the late 1990s, when he examined 109 studies on peer assessment in higher education dating back to the 1960s.³ Much of the literature on peer review, especially on the graduate level, focuses on peer review of written work. For good reason—peer review of written work is pervasive in the professional life of the engineering academic. Abstracts and then papers are subjected to peer review as a way to maintain publication and conference standards, and often only papers appearing in peer-reviewed journals count towards publication totals for academics up for promotion. Many professors pass along papers they have been asked to review to their graduate students to give them practice in an activity that will become common in their professional careers.

Peer review of oral presentations may be most prevalent in graduate TA training courses for students who are not native speakers of English. Van Ginkel *et al.*'s study of 52 publications covering the topic of oral presentations and peer assessment in higher education over a 20-year period included none specifically on the graduate level in engineering.⁶ It thus appears that the pedagogy has not been widely disseminated to graduate-level engineering courses; work at the Universidad de Málaga in Spain is a notable exception in the literature.⁷ Because of the relatively limited research on peer review of oral presentations as a way of giving graduate engineering students the feedback they need to improve, this paper necessarily draws on some of the literature on peer review of writing on undergraduate and graduate levels, in engineering and research in higher education, and extrapolates some findings to oral presentation peer review. The paper focuses on why peer review is useful, different methods of it, and several classroom examples.

Rubrics

Effective peer review is only as good as the criteria on which it is based and the instruction provided. Yet, similar to the process of learning to do oral presentations, engineering graduate students often lack formal training in performing peer reviews. Grainger calls it a “rite of passage” that doctoral students go through “instinctively.”⁸ This is a disservice to the presenter *and* the reviewer.

For peer reviewers to provide high-quality feedback, instructors need to be specific in the areas for their students to address. Otherwise, some students may fall back on saying that all aspects of a particular oral presentations are “good.” Therefore, the instructor needs to function as the designer and facilitator of peer review documents.

Rubrics are a type of assessment tool that are at the center of the peer review process. An effectively created rubric provides clarity of the instructor’s expectations for a given assignment; the rubric should make the instructor’s criteria transparent. The rubric also must be tailored to the specific assignment, listing the types of behavior expected from the presenter. In the case of an oral presentation, one such statement might read, “The presenter looks at the audience while speaking.” A by-product of a carefully structured rubric is the presenter may have more confidence in the peer reviews they receive.⁹ In addition, if students do not believe in the usefulness of the chosen performance criteria in the rubric, they are not as likely to learn from the feedback based on it.¹⁰ A helpful overview on rubric types and construction can be found in Boettger.¹¹

As Utschig points out, rubrics for oral presentation in engineering exist at a number of North American universities, such as Carnegie Mellon, Ohio State, University of Illinois.¹² The Norback & Utschig Presentation Scoring System is a rubric created at Georgia Tech University with input from engineering executives and faculty. It divides oral presentation competencies into four categories: “Customizing to the Audience,” “Telling the Story,” “Displaying Key Information,” and “Delivering the Presentation.” Each category is further separated into three or four subtopics.

Once the rubric criteria are determined, they need to be written in a user-friendly format. They can be compiled in lists or tables of declarative statements or questions, and the reviewers can be instructed to answer yes-no, use a Likert scale (for example, rating a criterion on a ten-point scale), and/or provide written comments. [See the appendix for examples of the authors’ rubrics.]

Review tools and their use

Once a rubric is designed, the instructor must choose the method of delivering feedback. Traditionally, students have written their comments on a paper copy of the rubric, but it is also possible to upload comments to an electronic platform, or a class website or wiki. A handheld Student Response System (SRS), sometimes referred to as classroom clickers, has also been used to collect peer feedback on presentations.¹³ A common internet-based review tool is Calibrated Peer Review™ (CPR), created at UCLA in 1997. Originally used to help students improve their own writing by learning to calibrate the essays of others, CPR 5 allows for visual and oral

communication assignments to be uploaded to the system for assessment.¹⁴ Another internet-based system which allows for peer review of oral presentations and other multimedia files is the Moodle Learning Management System, a free open-source learning platform (www.moodle.org). In addition, *Virtual-I Presenter* is another software program that can be used for the entire oral presentation process—from its creation to review.¹⁵ Of course, as Demirbilek points out, using these online tools involves additional training in their use.⁵ However, his research with university students using social media—Wiki or Facebook—suggests that students were quite positive in their perceptions of online assessment; all commented on the “intrinsic motivation” of the online environment.

Typically, the presenter will be reading the peer reviews at a later time. However, an unexpected benefit of peer review, as compared to instructor review, is that the feedback may be more timely.¹⁶ Supplementary oral comments by classmates right after the presentation can give the presenter more immediate, albeit ephemeral, feedback. Anecdotally, in such a situation, one author has repeatedly found that the other students tend to chime in with helpful hypothetical comments such as, “What if you...?” which can lead to additional group brainstorming.

Although instructors must decide whether peer reviews of writing will be double-blind, this is not feasible for oral presentations. However, the reviewer may remain anonymous. De Graz and Valcke suggest that anonymity promotes more honest criticism and helps maintain group harmony,¹³ the latter of which is an important value in the culture of many international graduate students.

In assigning peer reviews of oral presentations, an instructor can engage in some type of deliberate or random peer-matching for one-to-one reviews, as well as allowing “free-selection”¹⁷ In addition, all the students could be required to evaluate each of the oral presentations. This provides much richer learning experience for both the reviewer and the reviewee, which benefits the presenter by giving them multiple suggestions for improvements.

In addition, the instructor must decide whether the peer review carries any weight in the presenter’s grade. Liow indicates that some students object to this because of several reasons relating to the reliability of a score given by a peer reviewer of an oral presentation.¹⁸ Based on the results of a student’s calibration work, a program such as CPR can eliminate the potential subjectivity of peer reviewers by determining scores for the quality of a student’s assessment of others’ assignments. Related to this, some research suggests that some students are uneasy about giving grades to their peers and that this process can actually “inhibit cooperation.”¹⁶ Whether peer reviewers should earn some type of credit for doing their review is another decision to make. Some instructors may do this to encourage student-reviewers to be more invested in making valuable comments.

Even if using a system such as CPR, the instructor needs to take class time to discuss the purpose and appropriate tone of peer reviews with students *before* beginning the feedback process. Students need ample opportunity to discuss the assessment criteria used in the rubric and to practice their skills at reviewing.¹⁹ While American students may be familiar with peer review work from as far back as public school, many international students, in particular, have had little

or no experience critically evaluating the ideas of others.^{20, 21} Culturally, this activity may contradict a set of values which privileges the words of certain sources, especially those who are well-known and/or older. Without instructor input, some students also may mistakenly assume that the purpose of a review is merely to identify sentence-level errors.²⁰

In situations in which peer review occurs throughout the course, Topping *et al.* suggest continuing to discuss the process with students.⁴ This iterative activity can help clear up any confusion and result in more effective reviews.

Three Educational Contexts Using Peer Review of Oral Presentations

This section covers the uses of peer review of oral presentations done in three distinctive graduate engineering contexts at Purdue University in West Lafayette, Indiana. The graduate program in Purdue's College of Engineering was ninth in the *U.S. News and World Report* rankings for 2017 (released in March 2016), and the graduate international enrollment in the College was 57.6% of the approximately 3,300 students enrolled in fall 2015. The following examples show how peer review of oral presentations can be adapted to various situations and be submitted in written, oral, or electronic form. In addition, each instructor asked her students to provide some feedback on the peer review process, and this information is presented as well. Table 1 provides an overview of the types of peer review used in each context.

Table 1: Comparison of Peer Review in Three Engineering Contexts

	Dedicated Course	Communications Workshop	Integrated Assignment
Feedback Channel	written	online	written/oral
Anonymity	single-blind	single-blind	single/not blind
Answer type	Likert & open-ended	performance levels & open-ended	open-ended
Usefulness	9.3/10	8.4-10.0/10	8.4/10.0

First context: A discipline-specific course on engineering communications

Nuclear Engineering 580, Essential Communication Skills for Nuclear Engineers, is a required three-credit course for graduate students in Nuclear Engineering at a major research university. The enrollment is typically 20-30 students with 5-10 of them being advanced undergraduates who choose to take the course. Course objectives include learning to communicate effectively about nuclear-related topics, orally and in writing, to both technical and non-technical audiences. There are no quizzes or exams. Every effort is made to create an atmosphere in which students and the instructor work together to improve communications skills. The students do a semester-long project that requires a written report and a final oral presentation. Throughout the course, students are assigned a series of short essays and presentations, receive detailed feedback, revise

the written assignments, and use comments on oral presentations to improve their performance the next time.

Since this paper is about peer review of oral presentations, the focus will be on two of the oral presentations assigned in NUCL 580 and peer review of those presentations. The following paragraphs will provide a description of the oral assignments, an overview of the instructions students are given prior to preparing and evaluating presentations, and a short description of the peer review process. This section of the paper will conclude with a discussion of the students' assessment of the peer review process.

The first oral presentation is a three-minute presentation to the public, without visual aids, on a nuclear-related topic of the student's choice. Students select a topic they think might interest the public such as use of radiation to diagnose and treat disease, recycling of nuclear waste, or irradiation of food to kill bacteria and improve shelf life. Prior to the assignment, students receive some pointers on delivering technical material to the public. It is important that the instructor provide a clear set of expectations. Expectations covered include having a specific take-home message, connecting with the audience by relating the topic to their interests, organizing the material in a way that makes it easy to follow, making good eye contact, speaking at an appropriate pace with variations in tone and volume, providing solid content using appropriate vocabulary, summing up and repeating the take-home message, and avoiding distracting mannerisms.

In addition, prior to preparing the three-minute presentation, students receive instruction on how to give clearly stated, specific, actionable, friendly, and constructive criticism. Students are told that all members of the class will be completing an anonymous evaluation for each speaker with the goal being to help each person make a better presentation the next time. Some time is also spent on preparing students to receive feedback by explaining that not everyone will agree on what makes an effective presentation and giving speakers "permission" to ignore comments they do not think are appropriate.

The evaluation process is straightforward. Following each presentation, all students in the class complete an anonymous form that provides a rating (1-5) on aspects of the presentation such as amount of eye contact, whether the speaker was easy to hear and understand, and whether the vocabulary was appropriate for the general public. In addition, students answer three open-ended questions: (1) what was the take-home message, (2) what did the speaker do well, and (3) what could the speaker do to improve the presentation. Students have about three minutes to complete the forms, which are then collected and handed immediately to the speaker.

The second peer-reviewed assignment is a 12-minute presentation, with visual aids, on the semester-long project. In this case, the audience is assumed to be the students' peers, some of whom are quite familiar with his or her research area and others who are only vaguely familiar with it. About three weeks prior to the presentations, students are reminded of the previous pointers they were given on making effective presentations. Some additional information is provided on preparing effective visual aids. Students are also cautioned to avoid the temptation to read from the slides rather than staying focused on the audience. Hard copies of the slides are

submitted to the instructor a couple of weeks before the presentations, and students are given feedback on their content with time to make revisions.

These technical presentations are peer reviewed using the same process as was employed for the first oral presentation. The rubric is similar to the first one except that open-ended questions about the slides (What was particularly effective? What could be improved?) are included (see Appendix A).

Near the end of the class, students indicated that it would be valuable to have a list of some of the more common observations that their classmates made on the evaluation forms. They were not particularly interested in the numerical ratings but chose to focus on the comments on what students did well and what could be improved. Some of the most common suggestions were as follows: try to make more eye contact rather than reading from the screen, speak a little slower, make the text on the slides large, explain the figures on the slides more completely, and correct a variety of distracting phrases or mannerisms.

Students taking NUCL 580 over the years have been asked informally whether they found the peer review to be valuable and what could be done to improve it. At the end of the Fall 2015 course, students were asked for the first time to write answers to some questions about the peer review process. Four questions, in particular, provided insights:

1. Were the peer review comments on your presentation helpful?
2. What, if anything, did (or will) you changes as a result of comments made in a peer review?
3. Were the reviews from your classmates fairly consistent? If not, how did you decide which comments to accept?
4. Is there a better format for providing feedback to your peers than the written forms? If so, please describe it.

Responses to the questions were as follows:

1. Almost all of the students found the peer reviews to be helpful to some extent. Several noted that the responses to the open-ended questions were much more valuable than the numerical evaluations. Some students said that the comments confirmed what they already knew to be strengths or weaknesses while others were truly surprised by what they heard. One said, "For example, I did not realize I was using 'umm' between sentences."
2. Every student gave a clear statement of at least one specific change he or she will make when presenting the next time. Changes included speaking louder (almost no one who spoke softly realized he or she was doing so), avoiding technical jargon when speaking to a non-technical audience, relying less on note cards and slides, improving eye contact, and avoiding distracting mannerisms.
3. Twelve of the 14 graduate students completing the questionnaire said that the comments were fairly consistent.

4. Generally, students liked the current format. Some, commenting as reviewers, noted there was not enough time to write thorough comments, and circling a number was faster, while others, commenting as speakers receiving reviews, observed that the written comments were more valuable than the numerical ratings.

Second context: Noncredit communications workshops for engineering graduate students

The first author has used peer review of engineering graduate student oral presentations in many different educational situations over the years. Despite the different contexts, these oral presentations have in common several characteristics: the content is authentic, there is an audience, and written peer review is based on guidelines created for the particular situation. Furthermore, in each situation, the guidelines were given to all the presenters during earlier workshop sessions covering the basic principles of designing and delivering oral presentations.

In her first year as the Graduate Technical Communications Specialist in the College of Engineering Graduate Programs Office, this author has developed a number of short (ranging from one hour to ten hours) noncredit workshops on various oral, written, and nonverbal communications topics for graduate students throughout the College. The students who enroll in the workshops are fairly heterogeneous; enrollment tends to average around 10. Although the majority are male international students, they represent many of the 13 engineering disciplines and range from first-year graduate students to post-doctoral staff. Of the workshops offered, three of them—“Designing and Delivering Oral Presentations,” “Doing a 3-Minute Research Talk,” and “Designing and Giving a Poster Presentation”—require live presentations of the students’ research before an audience of fellow workshop participants. These presentations are filmed, and students can later access electronic files to review their performance and compare it to the written and oral feedback they receive from fellow students and the instructor.

Students receive a list of guidelines for their talk in advance. These guidelines, condensed into an oral presentation rubric in a table format, are given to audience members to complete anonymously while they are watching their classmates’ oral presentations (see Appendix B). The categories cover various aspects of the content, delivery, and slide/poster design, which are discussed on the first day of each workshop. The instructor also fills out the same review form during the student presentations. These forms are collected and given to the students at the end of the presentations. In addition, audience members are encouraged to provide real-time oral feedback to the presenter directly following the presentation.

In the written evaluation of these workshops, which the students complete on the final session, there is a question asking how useful they felt the peer reviews were on a scale of one to ten. Because these workshops are part of a new program that began in January 2015, they were offered for the first time at various times over the past year, so the number of results varies. For the “Designing and Delivering Oral Presentations” workshops, the average “usefulness” scores were 9.4, 8.4, and 9.5 for the past three offerings. The average for “Doing a 3-Minute Research Talk” in Summer 2016 was 10.0; for “Designing and Giving a Poster Presentation in Fall 2016, it was 9.4. Unfortunately, few of the students provided written comments to supplement the quantitative results.

In the most recent iteration of the “Designing and Delivering Oral Presentations” workshop, held in January 2016, students were asked to provide answers to the same survey of peer review practices used in NUCL 580. Responses to the same four questions revealed the following information:

1. All six students found the peer review comments helpful. Generally, they appreciated the opportunity to learn where they could improve their future presentations.
2. Again, all the students indicated that they would change some aspect of their presentations. A couple mentioned some aspect of their vocal quality, while others referred to changes in their slides, or the need for clarification of material.
3. Four of the six students agreed that their classmates’ reviews were fairly consistent. The other two students were more ambivalent. One commented that he would use the review comments “conservatively.”
4. In terms of a better feedback format, not all the students’ commented. Notably, however, two expressed opposite opinions. Where one student suggested giving only verbal feedback, the other said that written peer review was better—“...easier to be direct and presenter can go back and review comments.”

Third context: Oral presentations as an assignment in a course in machine learning

In the final scenario, an electrical engineering professor uses peer evaluation with students taking her course “Statistical Decision Theory and Pattern Recognition,” a graduate course she offers every two years. The course tends to be large for a graduate-level course offered every other year, with 66 masters and Ph.D. students (in the spring of 2014) representing other engineering disciplines (computer, civil, nuclear, and industrial) and other departments (mathematics and computer science). The context for peer review of an oral presentation is the assignment of a “slecture,” a term coined by the professor to refer to a student online lecture. These lectures are based on topics in the course teaching material; students are allowed to choose one which interests them. They can also choose the medium of instruction for the slecture—text, video of a student explaining at the blackboard, video of a hand on paper with audio, or a PowerPoint presentation with audio. These options help students who may feel uncomfortable speaking and appearing in a video. The completed slectures are posted on a free and publically accessible website called Project Rhea (www.projectrhea.org).

Thus, two characteristics differentiate these oral presentations from the previous two educational contexts. First, the peer reviewers are not evaluating the slecture presenter in real time but via a recording they view online. Next, peer reviews are also posted online in the Comments/Questions section of the slecture, and the reviewers receive course credit for their timely completion of the review. Although peer reviewers have the option to be anonymous, all but one of them chose to use their name. The professor decided to have the reviews posted online so that the potential worldwide audience for the slecture would know whether the slecture is worth viewing, much like book or movie reviews.

In terms of preparing the students to do their slecture peer review, the professor provided little in terms of specific instruction (and unlike the more specific written instruction she gave her

students when they reviewed each other's homework, which she compared to doing a manuscript review). Instead, she suggested the students evaluate the slecture as if it were a consumer product, a concept with which she felt they were familiar. Beyond that, she asked the reviewers to note any editing and/or content errors.

On the end-of-the-semester evaluation form, the professor asked the students about the usefulness of doing a peer review on the slectures (in comparison, "making a slecture" was rated 8.17). On a scale of 1-10, the average score was 6.76. Students also had an opportunity to write comments on peer review. Of the 43 responses to a general question concerning peer reviews, approximately 62% were positive. Most of the written comments mentioned the importance of peer reviews to "learn from others."

Limitations/Discussion

Students in all three contexts more or less agreed that peer review of their oral presentations was useful (from 6.76 to 10.0 on a 10-point scale). Interestingly, results of post-class surveys for the second and third educational contexts indicated that the students actually gave *doing* the oral presentation somewhat higher ratings than the *usefulness* of the peer review they received.

Even with effective rubrics and instructor mentoring, some students may well resist peer review work. Among international students, a lack of language proficiency may be used as a reason why they are unable to judge a presenter—they cannot aurally comprehend everything that is said, and/or they may not have the oral or written proficiency to comment on the talk. Another issue is that many international students come from educational contexts where they have had no experience critiquing a peer's work.²⁰ Related to this is that some of these students only value feedback from instructors.²¹

Some research indicates that the perception of usefulness of peer review is based on student belief in the quality of the assessment, including the tools used and the reviewers' objectivity, both of which can be improved by adequate training in doing peer review work.^{19, 22, 23}

Both international and native-speaking graduate students often cite a lack of technical knowledge for being unable to provide effective feedback. This is true for students in the same discipline but with varying knowledge levels, as well as for a heterogeneous group of engineering graduate students. Conversely, students in this latter group sometimes complain about the usefulness of having peer review work done by students who are unfamiliar with their field. Interestingly, majority (93%) of the students in the inclusive graduate course discussed in this paper indicated that they felt qualified to provide feedback to their classmates. In addition, the majority (86%) believed that their classmates' reviews were at a minimum "fairly consistent."

What feedback causes students to make improvements? Student belief in the accuracy of the peer review is one reason; receiving fairly consistent peer feedback could be another. From student comments on the survey in the inclusive course and the workshop, we can infer that the specific peer review comments these students received may result in change. In fact, all 20 students indicated that they had or would in the future make one or additional changes based on the peer review they had received.

Related to this, van Ginkel *et al.* mentioned the importance of *timing* of the feedback, referring to research that shows that the optimum time for feedback is between the first and second oral presentations.²⁴

Future Work

Unlike some undergraduate engineering programs in which oral presentations are integrated throughout the curriculum, there does not appear to be a similar situation in the graduate-level literature. Thus, for the three contexts discussed, there exists no structured follow-up to determine whether the students continued to improve in their oral presentations skills in the future. Given the logistics with several thousand graduate students, it is difficult to envision a large-scale way to gather longitudinal data on the improvement of students' oral communication skills. However, graduate students in engineering are expected to take responsibility for their own professional development. They know, or are learning, that making excellent oral presentations is essential for their career success. Thus, constructive, actionable comments are likely to be of some value even without follow-up on the part of the instructor.

Formal measurement of improvement may need to be limited to the individual course in which oral presentations are assigned. Hence, by means of a survey, faculty could ask students to quantitatively and qualitatively assess their oral presentation skills at the beginning and the end of courses in which the students give multiple talks. If student presentations are recorded, the student could also be required to reflect on their performance using the same or a slightly modified rubric. Self-assessments could then be triangulated with results of peer and faculty review of student presentations.

Engineering faculty awareness of the importance of peer review of student oral presentations is key. On-campus writing labs and various websites (such as university engineering communication centers and professional societies) offer resources to help faculty create or adapt rubrics to fit the needs of their oral presentation assignments. Another online resource is the listserv at the website of the two-year-old Consortium on Graduate Communication (<https://gradconsortium.wordpress.com/>), an organization of over 300 educators who are interested in academic communication skills for graduate students.

Currently, opportunities for implementing instruction on and peer review of oral presentations are underexploited in the graduate engineering curriculum. Faculty often ask students to present overviews of already published papers or give a talk on an assigned topic in class but neglect to give them any guidance on making effective presentations or to help them learn from this experience by receiving peer review. Another untapped possibility is to have brief instruction and peer review become a standard part of research group presentations to reinforce these important skills. Students may be getting the practice, but it is brief, effective instruction coupled with feedback that will help them improve their ability in giving oral presentations. To this end, this summer we intend to implement a workshop to help engineering faculty who would like their graduate students to benefit from doing oral presentations. Faculty will have an opportunity to exchange ideas about the characteristics of an effective presentation, learn how to

develop an oral presentation peer review rubric for their particular context (for examples, courses or research group meetings), and learn how to teach their students to do effective peer reviews.

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Appendix A – NUCL Final Oral Presentation Feedback

Feedback on Final Reports– NUCL 480 and 580

Name of Presenter _____

For each statement, circle the appropriate number.

	Strongly Agree	Agree	Neither A or D	Disagree	Strongly Disagree
Speaker made good eye contact	1	2	3	4	5
Speaker spoke clearly	1	2	3	4	5

Describe one strength of the slides used in this presentation.

Suggest one way to make the slides better.

List one thing the speaker did particularly well.

Describe one way the speaker could improve the presentation.

List one thing the speaker did particularly well.

Describe one way the speaker could improve the presentation.

Appendix B -- Rubric for Oral Presentation Workshops

Presenter: _____

Oral Presentation Peer Review Rubric

	Needs Work	OK	Excellent		Comments
Content & Organization					
Purpose				Achieves presentation goals	
Key points				Stresses important information	
Logical flow				Has clear sections, uses verbal transitions	
Audience awareness				Adapts appropriate detail level & language	
Delivery					
Vocal quality				Speaks loudly, slowly, clearly	
Body language				Makes eye contact, uses gestures; does nothing distracting	
Visuals					
Readability				Uses legible fonts & colors, correct spelling & grammar	
Layout				Is uncluttered & well organized	
Completeness				Displays slide number & meaningful title; labels images & provides citations	

**Additional
comments:**

