



## Insights into the Process of Building a Presentation Scoring System for Engineers

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Dr. Judith Shaul Norback, Ph.D. is faculty and the Director of Workplace and Academic Communication in the Stewart School of Industrial and Systems Engineering at Georgia Institute of Technology. She has developed and provided instruction for students in industrial engineering and biomedical engineering and has advised on oral communication instruction at many other universities. The Workplace Communication Lab she founded in 2003 has had over 19,000 student visits. As of Spring 2013, she has shared her instructional materials with over 200 schools from the US, Australia, Germany, and South Korea. Dr. Norback has studied communication and other basic skills in the workplace and developed curriculum over the past 30 years—first at Educational Testing Service, then as part of the Center for Skills Enhancement, Inc., which she founded, and, since 2000, at Georgia Tech. She has published over 20 articles in the past decade alone, including articles in IEEE Transactions on Professional Communication, INFORMS Transactions on Education, and the International Journal of Engineering Education. Over the past ten years Norback has given over 40 presentations and workshops at nation-wide conferences such as the American Society for Engineering Education (ASEE), where she currently serves as chair of her division. Dr. Norback also holds an office for the Education Forum of INFORMS and has served as Associate Chair for the Capstone Design Conference. Much of her work in the past five years has been conducted with Tristan Utschig, Associate Director of Assessment at Georgia Tech's Center for Teaching and Learning. Dr. Norback's education includes a bachelor's degree from Cornell University and master's and Ph.D. degrees from Princeton University. Her current research interests include increasing the reliability of the Norback & Utschig Presentation Scoring System for Engineers and Scientists and the cognitive constructs students use when creating a graph from raw data.

# **Insights into the Process of Building a Presentation Scoring System for Engineers**

## **Abstract**

Over the past decade and more, many engineering schools have been working to implement effective oral presentation in their instruction. But the problem of engineering students' lack of oral presentation skills persists. During the past three years at Georgia Tech, we have built, tested and implemented a set of tools designed to improve student presentation skills. The tools are based on empirical research (in particular, input from executives with engineering degrees) and include a scoring system listing 19 skills, a teachers' guide and a description of the "wow" performance for each skill. All instructional materials will be available at the presentation.

In this paper we provide insights into the process of building a presentation scoring system for engineers. In part one of the study, we describe feedback collected about the scoring system by various stakeholders (faculty, administrators, graduate students, undergraduate students). We describe the categories of comments, such as which segment of the skill was focused on by the respondents when they were rating the skill, for example, although the definition for Relevant Details included concrete details and details familiar to the audience, the respondents focused only on the quality of the details. Overall, these comments indicated some skills are rated more consistently than others among different raters. Second, we describe how we gathered reactions from different stakeholders to the feedback in part one. We provide the categories of the comments and examples, such as in complete consensus, all respondents agree that the skill of Appropriate Language is easy to rate.

We also describe our current work to improve the inter-rater reliability of some of the skills we have identified. We are using a modified Delphi method to improve the inter-rater reliability and are in the process of implementing the revised suite of tools in three very different engineering departments (Industrial, Biomedical, and Aerospace) at Georgia Tech. The Delphi method is a process of structured communication designed to aid a group of individuals in coming to consensus about a complex issue. Our communication process involves two rounds of feedback from various stakeholders: faculty, students, teaching assistants, and executives.

Finally, we summarize how the stakeholder suggestions were used to modify the Norback & Utschig Presentation Scoring System, reducing it from 19 skills to 13 skills. For example, the definition for the skill of Personal Presence (which includes energy, inflection, eye contact and movement) was changed to include three of the four, with inflection being moved into the skill of Vocal Quality.

## **Introduction**

Our focus in this paper is sharing insights in the process of evaluating a scoring system for engineering presentations. Over the past decade and more, many engineering schools have been working to implement effective oral presentation in their instruction. Despite this recognition of the importance of communication skills for engineering students, the problem of engineering

students' lack of oral presentation skills persists. During the past three years at Georgia Tech, we have built, tested and implemented a set of tools students report improve their presentation skills significantly<sup>1,2</sup>.

The scoring system itself contains a set of skills in four overarching categories, a scale for rating the skill during a presentation, and a definition for each skill. For example, the overarching category of Telling the Story has four skills in it, such as the skill of Key Points, defined as, "consistently refers to how key points fit into the big picture." Finally, a 5-point Likert scale is included with the ratings of "No," "Not much," "Yes, but," "Yes," and "Wow." The complete scoring system is included in Appendix A.

We are now in the process of systematically refining the scoring system. In the first part of this study, we gathered feedback about the scoring system from various stakeholders. The stakeholders were executives, faculty, administrators, teaching assistants, and students. One example of comments is given here and others will be discussed in more depth in the results section. One type of comment received was about which segment of the skill was focused on by the respondents when they were rating the skill. Specifically, although the skill of Relevant Details includes concrete details and details familiar to the audience, the respondents focused only on the quality of the details.

In part two of this study, we gathered comments from faculty and teaching assistant stakeholders as they responded to a summary of the part one feedback. They responded by noting whether they agreed or disagreed and then by indicating any other input they might have about the scoring system skills. Again, our focus will be on insights provided by the different types of input. For example, in the categories of complete consensus, all respondents agree that the skill of Appropriate Language is easy to rate.

This set of input will be described in depth in the results section. As a result of this work we have refined the scoring system to create a more easily understood tool with 13 skills rather than 19. We changed the scoring system in the following ways.

- The structure of the overall rubric is now more balanced across its four sections.
- Skills with significant overlap have been combined. For example, the skill Amount of Text has been incorporated into the skill Layout and Design.
- Language that is interpreted differently by different users has been modified or removed. For example, the skill "stature" has been removed.

The complete listing of the revised scoring system is in Appendix B.

In the rest of this paper, we will provide 1) a brief background of the development of the Norback & Utschig Presentation Scoring System for Engineers, 2) a review of related literature, 3) a description of the feedback and analysis method used in this study, 4) the results and discussion about stakeholder comments about the presentation scoring system for engineers, and then 5) a conclusion.

## **Background**

In this section we give a brief description of the work already completed on the Norback-Utschig Presentation Scoring System. The system was developed through input from 72 executives with engineering degrees, working in a variety of settings, and input from engineering faculty. We gathered scores from raters in three different contexts: (1) the researchers and teaching assistants rating videotaped presentations from capstone design, (2) the researchers and a group of ASEE workshop attendees rating different videotaped presentations, and (3) one researcher and students rating presentations in a course. The overall reliability for each skill was determined by combining the results from three (3) settings for two (2) types of criteria (reference criterion and pairwise matching) and for two (2) levels of agreement (exact and within 1 point). This gave 12 individual reliability measures (3 x 2 x 2) for each skill. Among these individual reliability measures, an overall inter-rater reliability index was assigned for each of the 12 individual reliability measures for each skill. This index is used to judge whether a skill is highly reliable, moderately reliable, or marginally reliable.

In part one of our study, in order to fully develop the scoring system, we gathered comments that we categorized. The results enabled us to measure the degree of agreement among different raters (inter-rater reliability). We collected scores from raters

We established the definitions of high, good, and reasonable reliability by comparing our results to those of other researchers doing similar research. Based on the literature, a high level of agreement indicates that raters score skills within  $\pm 1$  point on a five point scale at least 90% of the time. The literature further indicates that acceptable agreement occurs when different raters agree to within  $\pm 1$  point on a five point scale at least 70% of the time. For exact matches, high levels of reliability occur when different raters match exactly at least 50% of the time, and exact agreement at least 30% of the time indicates acceptable reliability. Our analysis of ratings for each of our 19 skills showed, in general, that the reliability of the overall rubric is acceptable. However, there was some variation in the reliability of each skill. In particular, we saw:

- a. High reliability for seven of the skills,
- b. Good reliability for an additional four skills,
- c. Reasonable but lower reliability for eight skills.

The stakeholders' comments enabled us to identify the inter-rater reliability, or consistency among raters, for each skill. These different levels of reliability are shown in Table 1. As you can see, our 19 skills are generally quite reliable. However, 8 of the 19 skills in the scoring system were found to have reasonable but lower reliability. For these skills, our future work will help increase reliability so different people at different schools reviewing the same presentation would give it a similar rating.

Table 1 – Scoring Skills Organized by Level of Reliability

Excellent Reliability	Good Reliability	Reasonable but Lower Reliability
Appropriate Language	Audience Connection	Sequencing
Vocal Quality	Taking Questions	First/Last Impression
Relevant Details	Appropriate Graphics	Flow

Elaboration	Personal Presence	Context
Sensitivity to Time		Engaging Graphics
Layout and Design		Stature
Focused Content		Amount of Text

Based on part one of this study, we were able to categorize the comments made by the stakeholders. Then in part two we asked stakeholders for their reactions to the comments made in part one. We showed the comments to faculty and TAs and asked if they agreed or disagreed, and whether they had comments.

## Literature Review

Scoring rubrics for oral presentation skills are already in use at other organizations, including high schools, state associations, and other universities. We have built upon the most comprehensive work we know of to date—the work done by Iowa State, which is now used at several other universities<sup>3,4</sup>. Oral presentation rubrics for engineering are also in use, for example, at Carnegie Mellon, Ohio State, Oklahoma State, University of Michigan, University of Arkansas, University of Illinois, University of Wisconsin, and University of Southern California<sup>5-9</sup>. Marie Paretti at Virginia Tech, Maggie Sokolik at UC Berkley, Gisele Ragusa at USC, and Michael Alley at Penn State have also independently developed oral presentation skills rubrics for engineering students.

Another extensive project with engineering communication components and measurement tools included is the Transferrable Integrated Design for Engineering Education (TIDEE) project<sup>10</sup>. In this project, multiple assessment instruments that can be employed for key activities within capstone design engineering programs have been developed. Many of these tools incorporate aspects of communication (with stakeholders, within a team, etc.). We also learned from oral presentation scoring rubrics developed for other contexts, such as one developed for research presentations given by medical residents<sup>11</sup>.

There are some limited resources on identifying the presentation skills engineering students need to develop<sup>12-13</sup>. In the area of general communication, researchers have developed and tested a rubric based on the presentation competencies identified by the National Communication Association<sup>14</sup> and several communication professors<sup>15-17</sup>. Other than this more general resource, typically not much documentation is available about how presentation skills rubrics for engineers were developed. However, the Co-PIs do have significant relevant experience in this area<sup>18-27</sup>. They have also conducted phone interviews and in-person interviews with some of the key personnel involved with, for example, the projects at Iowa State and TIDEE. These sources were added to the literature on building rubrics<sup>28-31</sup>, to guide the process for this work.

## Methods

In this study we used a modified Delphi method to collect and analyze feedback from stakeholders about our scoring system. The Delphi method is a process for achieving consensus among a group about complex issues (e.g., how to score an oral presentation). The modified

Delphi method has been used by others in developing sets of instructional competencies<sup>32</sup>, and for evaluation of difficult outcomes in the program accreditation process<sup>33-35</sup>.

In our modified Delphi method, we are using two stages to refine our scoring system. In each stage, individuals first provide comments on the individual skills in the scoring system. Then we summarize the feedback from all the individuals and ask the individuals to reflect upon the summary to see if their opinions have changed. At the end of the feedback for each of the two stages, we synthesize the overall responses and use the results to modify the scoring system. We have completed the first stage and are now in the second stage shown below.

#### Delphi Method Stage 1 (this study)

1. Part one: conduct small focus groups and surveys to collect information and comments from our stakeholders
2. Part two: distribute summary to each of the stakeholders for reactions
3. Use part one and part two to modify scoring system

#### Delphi Method Stage 2 (in progress, to be reported at 2013 Annual Conference)

1. Collecting stakeholder feedback about modified scoring system
2. Summarize feedback
3. Distribute summary to stakeholders for reactions
4. Modify scoring system again

The participants forming our various stakeholder groups in the Delphi method include 1) executives with engineering degrees, and 2) stakeholders from three types of engineering departments: engineering faculty and instructors, Teaching Assistants and students.

Through the first stage of feedback and document synthesis we received enough information to finalize the changes needed for the definitions of our lower reliability skills within the rubric, and implement those changes toward new skill definitions.

### **Results and Discussion**

Now we turn to discussion of the results: the comments collected in part one and part two of the study. In part one, we split the input into six categories: 1) whether the participant found the skill hard to rate or easy to rate; 2) what there any overlap noted in skills and categories; 3) what the participant focused on when rating a particular skill; 4) which parts of skills belong in other skills (in other words, which parts of skills were in the wrong place); and 5) on which topics did the participants have a split opinion? Now we will give examples of specific comments included in these categories.

Category 1: Whether the participant found the skill hard or easy to rate: the participants revealed they found the skill of Sensitivity to Time easy to rate. They pointed out that time limits are clear.

Category 2: Whether any overlap was noticed in skills and categories: the stakeholders noticed that two categories overlapped with a third. The categories of Vocal Quality (adapts tone,

volume and pace to emphasize key points) and Personal Presence (effectively combines energy, inflection, eye contact, and movement) overlapped with the category of Audience Connection (refers directly to audience needs to help define purpose/goals of the presentation).

Category 3: What the stakeholder focused on when rating a particular skill: under the skill Relevant Details (uses concrete examples and details familiar to the audience), participants indicated that quality details are expected, in particular, from engineers. We noted that comments were made about the details but not the concreteness of the examples. For the skill of Sequencing (links different parts of the presentation and uses appropriate transitions), comments were made about whether the transition was appropriate: participants noted they found it easy to tell if speakers use transitions, but hard to tell or rate the quality of the transition. In this case, no comments were made about linking different parts of the presentation. Finally, regarding the skill of Focused Content (for each slide, information supports only one or two key points), stakeholders wrote that slides should be trimmed down to pertinent content.

Category 4: Whether parts of skills belong to other skills, or whether topics are in the wrong place: some participants said that vocal monotony belonged in the category of Vocal Quality (adapts tone, volume and pace to emphasize key points). And inflection would be removed from the skill of Personal Presence (effectively combines energy, inflection, eye contact, and movement).

Category 5: Whether the stakeholders had a split opinion: various participants gave three different definitions for the skill, amount of text (uses an appropriate amount of text to describe the essence of key point(s)). One person responded that no slides should contain more than eight words per bullet or more than eight bullets per slide. Another response gave the definition as: no more than three to four bullets per slide with “minimal” usage of text. And a third definition focused on the sentences, pointing out that no sentence should span more than one line of text.

So the comments from part one of the study were split into five categories. Then, in part two, respondents were asked whether they agreed or disagreed with the comments from part one’s participants, and also whether they had any comments. Part two was split into two categories: 1) the areas where all stakeholders who made comments agreed versus disagreeing, and 2) the noticeably insightful input that was important to take into account.

Category 1 split into either everyone agreeing (complete consensus) or most people disagreeing. For example, regarding the skill of Appropriate Language (describes concepts at just the right level for the particular audience), everyone who provided input agreed that this skill is easy to rate, since it is simple to catch problems in this skill rather easily. And the categories of Engaging Graphics (Graphics are visually appealing, easy to understand, and include helpful labeling) and Appropriate Graphics (maps/charts/graphs/pictures/illustrations used clearly support key points) were judged as inseparable.

The second part of Category 1 covered disagreement. For the skill of Taking Questions (adeptly accepts and satisfactorily answers audience questions), some respondents reported this was hard to rate and some reported it was easy to rate.

Category 2 of part two’s comments included some noticeably insightful comments. For example, regarding the skill of Context (clearly illustrates major points by linking to additional

relevant information), participants noted that context is meaningless without key points. They indicated that if you cannot identify the key points and see how they fit into the sequence, then the key points are lost.

We have just described the types of comments received about the scoring system and its use. Now, for those interested, we offer a detailed analysis explaining how this information was utilized to guide our refinement of the scoring system to produce the current version shown in Appendix B.

After the initial development and testing of the Norback-Utschig Presentation Scoring System we established the working reliability metrics described in the background section of this paper<sup>36</sup>. While most of the skills (11 of the 19) showed good to excellent reliability, eight skills showed reasonable but lower reliability. Our goal is to continue developing the scoring system until all skills show good to excellent reliability. The modified Delphi method is our current approach to refining the scoring system to achieve higher reliability across the scoring system's skills.

In stage 1 of our Delphi method, we revisited the data from our original sources to form part 1 of this study: the input from 72 executives with engineering degrees and input from engineering faculty, feedback from a TA focus group (four TAs), a skills evaluation workshop (nine faculty from a variety of disciplines), and notes concerning the skills made by the creators of the scoring metric. This data resulted in 81 sets of comments about the skills used in the scoring system. The comments typically contained between one and three- different pieces of information about the interpretation of how to score a skill. After synthesis of these comments we identified 32 distinct reactions in the feedback (these are described above in the five categories of feedback). For example, some of these reactions pertained to interpretations of what behaviors are most important when interpreting skills, e.g. prioritizing information is key to the skill Sensitivity to Time, or vocal monotony is of particular concern for the skill Vocal Quality.

When we saw inconsistencies in how stakeholders rated certain skills, often we also saw inconsistencies in the raters were perceptions of the definition of a skill. We found many instances in which one rater observed a particular weakness in the performance of a skill, and another rater would, for that same skill, state a completely opposing opinion. In a number of cases, similar disagreement about whether or not a skill's definition caused it to seem to overlap with other skills was observed. For instance, whether the Stature skill had too much connection to the skill of Personal Presence (defined by the student's energy, inflection, eye contact, and movement). Half of the raters stated that Stature had nothing to do with Personal Presence, while the other half felt that Stature was a very important part of Personal Presence.

Our analysis also revealed some commonalities between feedback from different raters. For instance, the eight skills which were the least reliable all had definitions which raters perceived to overlap with other skills. For example, the skill for Amount of Text contained definitions that connected to Layout and Design, which itself had definitions connecting it to Appropriate Graphics and Engaging Graphics. Many skills definitions overlapped more than one other skill. When these overlaps involved a lower reliability skill and a higher reliability skill, comments indicated that part of the skill with lower reliability belonged in the skill with higher reliability.

We also found that some of our definitions of skills may have been competing with common perceptions of those skills. For example, two of the lower reliability skills, Sequencing and Amount of Text, were noted as easy to identify in presentations, yet had low reliability. Here, raters appeared to have been rating the skill using personal interpretations of the skill's names that did not match the definitions we provided. One comment about Amount of Text, for example, suggested that no slide should contain more than eight words per bullet point, and no more than eight bullet points per slide. Another comment suggested no more than three to four bullets per slide with “minimal” usage of text. And yet another comment suggested that no sentence should span more than one line of text.

In the end, this information was synthesized into a single file summarizing the feedback for each skill. Care was taken to weigh feedback from different sources equally. This list contained comments of two types: first, comments relating to similar or different interpretations of the skills and their definitions; and second, comments about overlap in the meaning of different skills. To provide an idea of what this document looked like, we provide a subset of the information in Table 2.

Table 2 – example synthesis of stakeholder feedback about use of original scoring system

<b>Telling the Story</b>	Rubric Definition	Stakeholder Comments About Scoring This	Agree/Disagree? Comments
<b>1. Sequencing</b>	Links different parts of the presentation and uses appropriate transitions	<p><i>Rating this skill seems highly open to interpretation; observers rate this inconsistently, yet state that they feel that poor or missing transitions are easy to catch because they are easily noticed and jarring to the audience.</i></p> <p><i>How this overlaps with (15) Flow may make both difficult to rate.</i></p>	
<b>2. Key Points</b>	Consistently refers to how key points fit into the big picture	<p><i>Need to start with key points, illustrate them within the presentation, and end with them, tying them to the big picture.</i></p> <p><i>The connection between (3) Relevant Details, (7) Context and (10) Focused Content make rating this skill more difficult.</i></p>	

In part two of this study, the synthesized results for all 19 skills were presented to faculty, teaching assistants, and students for their reactions. The stakeholders viewing this feedback were asked to agree or disagree with each statement, and to offer any insights about why they felt the way they did.

These reactions to the synthesized feedback about the scoring system were collected from five TAs and four faculty members both representing different engineering disciplines, and four faculty members within those two disciplines. Reactions were collected via individual

interviews or in groups of two or three. The results of our analysis for these reactions (i.e. part two of this study) were presented briefly above. Items with the most consensus were then used to modify the scoring system. When consensus was less evident, particularly insightful reactions to the feedback were used to guide changes to the scoring system.

Our goal for changing the scoring system was primarily to increase ease of use and understandability, thus increasing its reliability. Therefore, reactions to the skills with reasonable but lower reliability were given the most weight when making the changes to the scoring system. Changes to skills with higher reliability were approached with more caution, and greater agreement among the reactions of the stakeholders was required. Table 3 summarizes the changes made to the scoring system in Stage 1 of the Delphi method.

Table 3 – Changes to scoring system made after round 1 of modified Delphi Method

<i><b>Skill with reasonable but low reliability</b></i>	<i><b>Original definition</b></i>	<i><b>Revised definition</b></i>	<i><b>Summary of change</b></i>
<b>Sequencing</b>	Links different parts of the presentation and uses appropriate transitions	Links different parts of the presentation and uses appropriate transitions	<i>Rename skill to Logical Flow</i>
<b>First/Last Impressions</b>	Grabs audience attention at beginning and inspires them with the closing	<i>Now within Initial Connection - Grabs audience attention while defining purpose/goals of presentation</i>	<i>Retained First Impression by combining with Audience Connection which is renamed Initial Connection</i>
<b>Flow</b>	Knows material well without memorization or repeated hesitations, ums, etc.	<i>Removed</i>	<i>Hesitations and “ums” already considered by raters as part of Vocal Quality</i>
<b>Context</b>	Clearly illustrates major points by linking to additional relevant information	<i>Removed</i>	<i>Combined with Key Points because definition used Key Points as a major part of this skill</i>
<b>Engaging Graphics</b>	Graphics are visually appealing, easy to understand, include helpful labeling	<i>Now within Graphics - Maps/charts/graphs/pictures easy to understand and clearly illustrate points</i>	<i>Combine with Appropriate Graphics and rename the combination as Graphics</i>

<b>Stature</b>	Uses good posture and bearing	<i>Removed</i>	<i>Considered part of Personal Presence or often ignored due to confusion as to meaning of the terms “stature” and “bearing”</i>
<b>Amount of Text</b>	Uses an appropriate amount of text to describe essence of key point(s)	<i>Now within Layout and Design - Information is easily understood due to layout, color, and/or amount of text</i>	<i>Moved into Layout and Design as it is really one piece of this larger skill</i>
<b>Key Points</b>	Consistently refers to how key points fit into the big picture	<i>Material presented is clearly linked to major themes/big picture</i>	<i>Avoids the loaded word “consistently” and avoids using the skill name as part of its own definition</i>
<b>Personal Presence</b>	Effectively combines energy, inflection, eye contact, and movement	<i>Effectively combines energy, eye contact, and movement</i>	<i>Move inflection into Vocal Quality</i>

The changes described in Table 3 have been implemented to create a modified version of the rubric with 13 skills rather than 19, and new definitions for several skills. Please see the complete version of the original and the revised scoring system in Appendix A and B respectively.

This version of the rubric is now being tested during interim presentations for capstone design in two engineering programs. The results of the interim presentations are being analyzed for inter-rater reliability in order to support the ongoing process of collecting the second round of stakeholder feedback for the Delphi Method. This work is nearly complete and will result in additional changes to the scoring that will be reported on at the annual conference. Additionally, for the ASEE 2013 conference, the authors will be able to report on the tested reliability of the newly revised scoring system.

## Conclusions

We have described the types of comments stakeholders made during the process of evaluating the Norback & Utschig Presentation Scoring System for Engineers. The types of comments from part one of the study are different than those from part two. For example, part one included five types of input: judging whether a skill was hard or easy to rate; determining whether there was an overlap of skills; identifying what respondents focus on when rating a particular skill;

identifying parts of skills that belong in other skills, and offering split opinions. In part two, stakeholders made comments of two types: whether they all agreed or mostly disagreed whether a certain skill was hard or easy to rate, and other insightful comments. We used these comments to modify the scoring system to make it more useful.

In ongoing work, we are gathering one more round of stakeholder feedback from executives, faculty, TAs, and students. We plan to 1) use this input to make additional changes to the scoring system and 2) start to test the reliability of the revised scoring system. Results from this work—more comments about the scoring system and preliminary reliability data from two engineering schools in Georgia Tech—will be included in the ASEE presentation. We will also make the newest version of the presentation scoring system available to our audience.

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## Appendix A

### Draft Rubric for Engineering Student Presentations, Based on Executive Input

Norback-Utschig, version 4.2 Sr D 08/05/10

<b>II. Customizing to the audience</b>						Audience member characteristics are identified ahead of the presentation as observed through presentation details tailored to audience interests and needs
	No	Not much	Yes, but	Yes	Wow!	
<sup>1</sup> Audience Connection	1	2	3	4	5	Refers directly to audience needs to help define purpose/goals of presentation
<sup>2</sup> Appropriate Language	1	2	3	4	5	Describes concepts at just the right level for particular audience
<sup>3</sup> Relevant Details	1	2	3	4	5	Uses concrete examples and details familiar to audience
<sup>4</sup> Taking Questions	1	2	3	4	5	Adeptly accepts and satisfactorily answers audience questions
<b>II. Telling the story</b>						Displays a logical flow and interconnectedness of the different parts of the presentation to create a memorable, unified message
	No	Not much	Yes, but	Yes	Wow!	
<sup>5</sup> Sequencing	1	2	3	4	5	Links different parts of the presentation and uses appropriate transitions
<sup>6</sup> Key points	1	2	3	4	5	Consistently refers to how key points fit into the big picture
<sup>7</sup> Context	1	2	3	4	5	Clearly illustrates major points by linking to additional relevant information
<sup>8</sup> Sensitivity to time	1	2	3	4	5	Begins/ends on time even with questions throughout presentation
<b>III. Displaying key information</b>						Graphics and written information enhance and reinforce the oral delivery through a focus on key points and helpful supporting information
	No	Not much	Yes, but	Yes	Wow!	
<sup>9</sup> Layout and design	1	2	3	4	5	Information is easily understood due to layout and color is used appropriately
<sup>10</sup> Focused content	1	2	3	4	5	For each slide, information supports only one or two key points
<sup>11</sup> Amount of text	1	2	3	4	5	Uses an appropriate amount of text to describe essence of key point(s)
<sup>12</sup> Appropriate graphics	1	2	3	4	5	Maps/charts/graphs/pictures/illustrations used clearly support key points
<sup>13</sup> Engaging graphics	1	2	3	4	5	Graphics are visually appealing, easy to understand, include helpful labeling
<b>IV. Delivering the presentation</b>						Uses both verbal and nonverbal skills to enhance the delivery of the presenter's message
	No	Not much	Yes, but	Yes	Wow!	
<sup>14</sup> First/last impression	1	2	3	4	5	Grabs audience attention at beginning and inspires them with the closing

<sup>15</sup> Flow	1	2	3	4	5	Knows material well without memorization or repeated hesitations, ums, etc.
<sup>16</sup> Elaboration	1	2	3	4	5	Avoids reading slides and instead elaborates on slide content
<sup>17</sup> Stature	1	2	3	4	5	Uses good posture and bearing
<sup>18</sup> Vocal quality	1	2	3	4	5	Adapts tone, volume and pace to emphasize key points
<sup>19</sup> Personal presence	1	2	3	4	5	Effectively combines energy, inflection, eye contact, and movement

## Appendix B.

### Norback-Utschig Engineering and Science Oral Presentation Scoring System, Based on Executive Input, version 5.3 01/31/13

<b>I. Customizing to the audience</b>						Audience member characteristics are identified ahead of the presentation as observed through presentation details tailored to audience interests and needs
	No	Not much	Yes, but	Yes	Wow!	
<sup>1</sup> Initial Connection	1	2	3	4	5	Grabs audience attention while defining purpose/goals of presentation
<sup>2</sup> Relevant details	1	2	3	4	5	Uses concrete examples and details familiar to audience
<sup>3</sup> Appropriate language	1	2	3	4	5	Describes concepts at just the right level for particular audience
<sup>4</sup> Taking questions	1	2	3	4	5	Adeptly accepts and satisfactorily answers audience questions
<b>II. Telling the story</b>						Displays a logical flow and interconnectedness of the different parts of the presentation to create a memorable, unified message
	No	Not much	Yes, but	Yes	Wow!	
<sup>5</sup> Logical Flow	1	2	3	4	5	Links different parts of the presentation and uses appropriate transitions
<sup>6</sup> Key points	1	2	3	4	5	Material presented is clearly linked to major themes/big picture
<sup>7</sup> Sensitivity to time	1	2	3	4	5	Begins/ends on time even with questions throughout presentation
<b>III. Displaying key information</b>						Graphics and written information enhance and reinforce the oral delivery through a focus on key points and helpful supporting information
	No	Not much	Yes, but	Yes	Wow!	
<sup>8</sup> Layout and design	1	2	3	4	5	Information is easily understood due to organization, color, and amount of text
<sup>9</sup> Focused content	1	2	3	4	5	For each slide, information supports only one or two key points
<sup>10</sup> Graphics	1	2	3	4	5	Maps/charts/graphs/pictures easy to understand and clearly illustrate points
<b>IV. Delivering the presentation</b>						Uses both verbal and nonverbal skills to enhance the delivery of the presenter's message
	No	Not much	Yes, but	Yes	Wow!	
<sup>11</sup> Elaboration	1	2	3	4	5	Avoids reading slides and instead expands upon slide content
<sup>12</sup> Vocal quality	1	2	3	4	5	Uses tone, volume, pace, & inflection to emphasize key points
<sup>13</sup> Personal presence	1	2	3	4	5	Effectively combines energy, eye contact, and movement