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Oral Reports for Design Projects and the Senior Laboratory

When presenting an oral report, it is important to realize that audience members cannot digest material in the same way as they can when reading a report. There will be little time for them to reread a sentence or paragraph, or to study a table or figure. Therefore, it is incumbent upon the speaker to emphasize the important points. The recommendations that follow, though written for any type of oral presentation, are written within the context of a design presentation or a laboratory presentation.

Traditionally, instructions for a presentation consist of the following:

1. tell the audience what they are going to be told,
2. make the presentation,
3. tell the audience what they were told.

With this in mind, here is one way to organize an oral presentation.

Title Page

The subject of the report and the presenters are identified on a visual aid.

Outline

The audience members are told what they will be told, using a visual aid for reinforcement. This is usually an outline of the report. It is not sufficient to list the structure of the report, *i.e.*, introduction, results, discussion, conclusion. A few words abstracting the contents of each section should be included. Note: this outline should not be entitled "Agenda."

Results

Early in the talk, the project, flowsheet, etc., should be described in general, before the details. Also, early in the talk, the "bottom-line" conclusion should be mentioned. These points could be part of the Outline or part of the Results.

The Results portion of the oral presentation follows the outline of the Results section of a written report described in the document entitled *Written Reports for the Senior Laboratory and Design Projects* (henceforward, *Written Reports*). However, there are a few important points to remember. First, a detailed table, e.g., a stream flow table in the case of a Design Report, will not be easily seen or understood by the audience. Second, what is effectively communicated in a table in a written report might be better communicated orally using a graph or pie chart.

Complex tables and figures with small print should be avoided. These cannot be seen in the back of the room, and cannot be digested by anyone regardless of location in the room.

All of the rules on figures and tables in the *Written Reports* document apply to figures and tables in oral presentations as well.

Discussion

Once again, the content is similar to that described in the discussion section in *Written Reports*. The only difference is the method chosen to communicate information.

Conclusions

Here the audience is reminded what they were told, usually as a list or outline. It is important to re-state the bottom line!

Recommendations

This is self-explanatory. If this section and the conclusion section are both short, they can be combined.

Other Important Points When Making an Oral Presentation

PowerPoint Slide Show

Do not use fancy background templates or animation: they are distracting. Special effects should be used sparingly, and only if they add to the effectiveness of the presentation. A simple, color background template is recommended. The background template could be removed when showing large figures, particularly PFDs in a Design Report; such figures should be presented with a white background. Finally, the font size can be set differently on different slides so that the slide appears full.

Content of Visuals

Putting too much on a slide should be avoided. As noted above, a detailed table may not be readable in the back row. When making a slide, the perspective of the audience should be considered: can they learn anything from the slide if it is only seen for 30 seconds or a minute? Short, concise statements of a few words on the slide, with the speaker providing a more detailed explanation, are sufficient to convey the message. Slides should be tested in the presentation room, or in a room of similar size and shape, to be sure that all information is clearly readable.

As mentioned earlier, the format and rules for presenting figures, tables, equations, etc., are identical to those in *Written Reports.*

Colors in visuals can be a useful tool. Colors should be used effectively, but not excessively. It is important to remember that colors that look good on a computer screen do not always

project as well or even look like the same color when projected. Consistent use of colors is important – if, say, red is used for the fixed cost of the heat exchangers and blue for the fixed cost of distillation columns in a Design Report, then the same colors should be used for operating costs for the same equipment.

Presentation Mechanics

Eye contact must be maintained with the audience. If it is necessary to look at the screen, a quick glance is best, followed by turning back to face the audience. It is important to stand in a location that does not block the view of a portion of the audience.

The following nervous habits should be avoided: chewing gum, playing with the laser pointer or something in your pocket, rocking from side to side, or giggling. The oral presentation should be approached with confidence and a firm belief in the work being presented.

Text slides or table slides should never be read word for word, line by line. Slides should be brief. The job of a speaker is to amplify the content of the visuals.

Voice

It is important to speak clearly, with a voice that projects well, to enunciate carefully, and to avoid audible pauses. Speaking softly usually indicates to the audience that the speaker is unsure of the work being presented; probing questions will generally follow.

Timing

It is important to know the time allotted for the presentation and the time allotted for questions. The content of the talk should be adjusted to be a minute of two shorter than the allotted time. If the actual time is much greater, the speaker would at best be considered unprofessional, and at worst would not be allowed to finish, resulting in not being able to communicate the conclusions, the most important part of the presentation. If the actual time is much shorter than the time allotted, then this raises questions of competency in the minds of the audience members, and often results in additional and more-probing questions and discussions.

Other Items

The rules for a presentation should be known *a priori*. For example, will questions be saved for the end of the presentation or will the audience ask questions throughout the presentation?

The speaker is in control, not the audience. If possible, the room can be rearranged into a more desirable pattern. It is best to stand in a position so the hand with the laser pointer is closer to the screen to avoid turning toward the screen when pointing.

It is best not to make last-minute changes in the presentation.

Notes

Should notes be used? The goal of all speakers should be to make presentations without notes, other than detailed numbers. Reading entirely from a script suggests that the speaker does not really know what is going on. For a novice, notes may be comforting; however, with practice, being weaned of notes should be a goal.

Audience Analysis ("Know the Audience")

Just as with a written report, it is important to consider the different backgrounds and needs of the audience. Will they get the right message and make the right decisions? The presentation may need to be adjusted to ensure that this happens.

Question and Answer

If the answer is not known, that should be admitted. Most people only ask a question because they do not know the answer, either. It is important to be responsive, not evasive. Experienced speakers prepare for the Q & A by imagining the questions that will be asked.

Post Mortem

After the presentation, being in a less-tense room with colleagues is a good opportunity to get feedback. Being told that the presentation was perfect is not helpful; it is important to get feedback on what could be improved. This is the best time to find out what was done right and what could be improved. Waiting more than about an hour may make the feedback less helpful.