ChE classroom

# ASSESSING STUDENT PRESENTATIONS

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**P** resentations are used extensively for communication and persuasion in almost all professions. In particular, engineers must be able to present well since often their technical expertise alone will not get the job done—their ideas must be "sold" through verbal persuasion in order to be implemented. "If engineers cannot inform others of what they have done, they might as well not have done it."<sup>[1]</sup> In the Department of Chemical Engineering at Loughborough we recognize this fact and as a result have increased the use of presentations in our undergraduate courses. We also believe that presentations can be efficient learning experiences because presenters *must* understand the material they are presenting.

In the past, the method of assessing a presentation was left to each individual staff member, and it usually consisted of assigning a mark based on the assessor's *impression* of the presentation. We felt that better guidelines were needed since

- The proportion of total marks for presentations in our courses is expanding.
- The grader's impression of the presentation can be subjective and we wanted to eliminate any potential for bias.
- We wanted to be able to show our students the basis of the assessment and to identify their strengths and weaknesses for them so they could both improve and consolidate their skills.

Students have in the past criticized presentation assessments as being subjective and of variable quality, and as a



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possible solution to the problem they have suggested that additional staff members also moderate and grade the presentation. But observing and assessing presentations is timeconsuming, and with the recent worsening of staff-student ratios it is simply not possible to assign additional staff to assess and moderate all student presentations. Therefore, in order to eliminate inconsistencies, without increasing staff involvement, a more formal method of assessment has been devised and is being presented in this paper.

Assessment is only one facet of effective teaching, however. Instruction and feedback are also important, so some suggestions relating to these components are also included in this paper. But since a basis for assessment must be in place before methods for instruction and feedback can be established, this paper will concentrate on objective assessment as a first step toward improving the teaching of presentations. Hanzevack and McKean<sup>[1]</sup> deal in greater depth with preparing students for their presentations.

# A CHECK-LIST APPROACH

One essential and inescapable difficulty with assessing a presentation is that it must be done in "real time" and the assessment process itself interferes with observing the presentation. It *is* possible to use video to record and replay the presentation, thereby separating data-gathering and assessment (and it is also a powerful tool for showing students their mistakes), but that method conflicts with the scarcity of time already mentioned. Also, videotaping requires expensive and complicated equipment and extra personnel to operate it.

Real-time assessment must be simple and should not distract from the observation. This can be achieved by using a printed form with pre-defined headings relating to the different aspects of a presentation. Marks and comments (for later student feed-back) are recorded under the different headings during the course of the presentation. The form used by the author is shown in Figure 1.

The information at the top of the form (*Order*: ... of: ...) records the position in the running order and the total number of presentations. The other information blanks in the heading are self-explanatory. The remainder of the form is *Chemical Engineering Education* 

divided into three sections, which are described in the following paragraphs.

# - KEY -

The presenter must be satisfactory in each of these six categories for the presentation to be a success. The grade for each category is, therefore, a simple yes or no. For example, the presenter is either **audible** or not; the visual aids are either **readable** or not; etc.

**Personal and affiliation details** indicates the speaker's name, department, course, etc. Most students assume that their listeners know who they are and even what they are going to talk about. The speaker must state these details, however, even when talking to friends or colleagues. We are training them for real-life presentations where the audience

#### PRESENTATION ASSESSMENT \_\_\_\_ Start: \_\_\_\_: Finish \_\_: \_\_\_ Date: \_\_\_ Occasion: \_\_\_\_ \_\_\_\_ Mark: \_\_\_\_\_\_ out of: \_\_\_\_\_ Order: \_\_\_\_ of: \_\_\_\_ Name: KEY Any presentation must be satisfactory in these key areas Comments Item Y/N Audible Readable visual aids Stated personal and affiliation details Stated topic and aim Used the available time Made the point(s) INTERACTION WITH AUDIENCE Item Y/N Comments Connected them to the topic and aim Scale Enjoyment 1 2 3 2 3 Understanding 1 Respect/sensitivity - presenter/audience 1 2 3 **TECHNIQUE** Item Scale Comments 1 2 3 Content and relevance Detail and logical structure of material 1 2 3 1 2 3 Use/lack of prompts, signposting Quality and use of visual aids 2 3 1 Summary 1 2 3 2 3 Question handling 1 Delivery/posture/mannerisms/etc - comments: SCORING Give 3 marks for a "Yes" and 0 marks for a "No"; for the categories with a scale response, the point

Give 3 marks for a "Yes" and 0 marks for a "No"; for the categories with a scale response, the point on the scale is the mark; you may also give 0 marks in these categories. There are two extra marks for general impression. The total possible is 50.

Figure 1. Presentation Assessment Form

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#### will, in general, not be known to them.

It is also important to **state the topic and aim** of the presentation; that is, what they intend to achieve by making the presentation. Audiences need as much help as possible in how to listen to a presentation, so clearly stating its aim is important. Is the presentation a sales pitch, or a funny story? The speaker must clarify the aim of the presentation. It is generally helpful for the assessor to record the stated topic at

this point and then refer back to it at the end of the presentation.

One of the most effective ways for a presenter to alienate an audience is to miscalculate the length of the presentation and either run under or over the time allotted for it. In the first case the listeners may be irritated if they allotted too much time for the presentation and could have been doing other things. They may also perceive an unstated message that the topic is not as important as claimed. Most presentations are intended to "sell" something (such as a product, an idea, a design), and during the presentation the speaker usually has the undivided attention of the person(s) who will make the decision to "buy." Obviously, the speaker should use the available time (but no more) in order to make the most effective case possible.

On the other hand, when a presentation runs over the allotted time, the speaker is probably keeping the listeners from other tasks which they expected to accomplish. They are most often distracted and annoyed by this usurping of their time, and the impact of the presentation is thus diluted. In the worst case, of course, the audience will walk out before the point of the presentation has been made.

The assessor should record the time taken by the presentation in order to gauge the degree of under- or overrun. Students often assume that doing more than is required will result in a higher mark, and they should be made aware of the fact that this is *not* the case with presentations.

The last category, **made the point(s)**, concerns the overall effectiveness of the presentation. The assessor should ask the questions: What was the main point? Would I buy it? Am I convinced? Referring to the topic and aim that were noted at the beginning of the presentation is helpful in determining if the presenter accomplished those aims.

#### - INTERACTION WITH AUDIENCE -

"**Connected them to the topic and aim**" means explaining the relevance of the topic to the audience. For example, "enzymes are important because . . . ." The next two categories, **enjoyment** and **understanding** are self-explanatory.

In the last category in this section the grader looks for a mutual **respect** and **sensitivity** between the presenter and the audience. For example, was the audience bored or talking among themselves while the speaker continued, blissfully unaware? Some other things to look for and include in this category are if the style of the presentation was suited to the type and size of the room it was given in, and did the presenter correctly judge the audience's previous knowledge of the subject, altering his or her presentation accordingly? For example, a sensitive speaker would not explain something that had already been explained by a colleague in a session of presentations; it would be sufficient to say, "as soand-so has already mentioned."

#### - TECHNIQUE -

The categories in this section are for grading the mechanics of the presentation. **Content and relevance** is an assessment of whether too little, sufficient, or too much material was presented and whether or not it was pertinent to the topic and aim of the presentation. The arrangement of the material and the quality of the argument's development is scored under **detail and logical structure**.

Most speakers need **prompts** to remind them of the important points they want to present. Bad presenters read the entire presentation, putting their audience to sleep, but a good speaker appears to know the subject well and delivers the material in an interesting and engaging manner, using such elements as visual aids as prompts.

**Signposting** indicates whether or not the speaker has explained the structure and charted the current position of the presentation as well as where it is going. Examples of signposting are, "I shall begin by talking about...," "Then I will...," and "We have now reached the last section of ...." Signposting is quite helpful for the audience members.

The **quality and use of visual aids** category is for gra-ding the quality and appearance, as well as facility of use, of the visual aids. It is different from the readable visual aids category in the first section which is a simple test of readability.

The other headings in this section are self-explanatory, and the last section is for recording general impressions and any comments that do not fit into any of the above categories, such as excessive "uhms."

### **OTHER FACTORS**

I have found that for short presentations the above headings are sufficient for grading purposes. Occasionally, however, the headings could and should be expanded. For example, if the speaker is presenting the results of experimental work, a category could be added to indicate if a diagram was used to explain the experimental rig, or whether data was correctly presented on graphs.

## SCORING

Bearing in mind that presentation assessments are made in "real time," the scoring must be done at the time of the presentation or the information must be noted on the checklist so that the scoring can be done at a later date. It would be ludicrous to be too precise. My method is to give 3 points for a "yes" and 0 points for a "no" in the Y/N column, and a 3 for "good," a 2 for "average," and a 1 for "bad" in the scale category. This gives a maximum of 48 points. To make it a nice round 50 points I often add an extra 2 "discretionary" points.

Some readers may feel that a scale with only three points is too coarse, but I feel that in the majority of cases it is difficult to be any more accurate. It is still possible, for example, to give 0 points in a category if the presenter was appalling and 4 points for a performance that was exceptionally good (although this last score should be used sparingly because it changes the total marks).

As the students progress through their courses and become more proficient, they should satisfy the key requirements; therefore, the weighting given to these categories should be progressively reduced. The mark for a "yes" could be cut to 2, and then to 1, and perhaps a negative mark could be given for a "no" if they have had sufficient training and practice to know better. After all, experienced presenters *should* be audible and *should* produce readable visual aids. The number of points on the scale could also be increased to five (0,1,2,3,4). It is not possible to score to a finer precision than five points.

In scoring the use-of-time category, marks should be subtracted for serious overruns as well as underruns (unless the presenter has given a good explanation for not using all of the available time). Overrunning the alloted time can never be justified.

I normally give the first presenter in the session a few extra marks since it is the most difficult slot for both the presenter and the assessor.