

PHY1600S - Effective Communication for Physicists.

Assignment 2. This assignment has two parts.

A. Write a critique (a critical assessment) of the article *Spare me the lecture* by Kendall Powell in Nature magazine, and briefly compare the assertions made there to your own experience of lectures. Keep your critique to 2 pages maximum! (See next page for some suggestions.)

Follow the link from the Readings page to the Physics Education Papers; look under the heading “innovative Teaching Methods”.

[http://www.physics.utoronto.ca/~key/PHY1600/PER Papers/PER.htm](http://www.physics.utoronto.ca/~key/PHY1600/PER%20Papers/PER.htm)

B. With one (or more) of your classmates, attend a lecture in a 1st or 2nd year Physics course in the coming week, and assess the instructor's classroom behaviour. You may choose to use the *Teacher Behaviors (sic!) Inventory* (handed out in class); if you notice any behaviours that are not listed on the *Inventory*, add them. Alternatively Murray's article – see *Resources* on the course Web page – has categories you might use (see below). The site at <http://ugray.be/misc/seminarbingo.php> has also some tongue-in-cheek ideas for performing a review. Enter your assessments and comments on the sheet and come prepared to discuss your findings in class.

(**Note:** I will let my colleagues in Physics know you may visit. However, it is only polite to contact your target ahead of time to get permission to sit in on the lecture.)

I duplicate below assessments of two different instructors as *possible* models. The students who prepared these critiques used Murray's categories to organize their comments. You may prefer to use your own method.

INSTRUCTOR 1.

Affect: (+): maintained poise, confident, calm

Organization: (+): handouts clear and useful, overheads naturally used; (-): No clear statement of lecture purpose, overhead hard to see, ideas poorly organized, no clear ending

Explanation: (+): good use of examples, questions answered effectively, offer definite suggestions for application; (-): lack of answer to ESL issues and grading, majority of content self-evident, didn't go through handout, gave out handout too late in the class

Speech: (+): speech clear, expressive, (-): spoke softly

Mannerisms: (+): good eye contact and hand gestures, (-): little movement (stood still), only eye contact with few students

Interactions: (+): attentive to non-verbal cues of class, engages class through application to personal experience, (-): initially difficult to obtain answers from class, first question vague, pause after question too short

INSTRUCTOR 2.

Affect: (+) shows enthusiasm and was dynamic

Organization: (+) good use of handouts; good use of transparencies; well-organized; (-) overheads generally good but text size could be increased

Explanation: (+) good concrete examples given; good examples/ handouts; explained handouts as to their usefulness; clear objectives for the talk presented; good use of multiple sources of information

Speech: (+) fairly loud voice- was attention getting; good voice projection; (-) focused too much on speaking loudly and clearly and thus seemed to overdo a good approach; spoke a little nervously; sometimes ran sentences together as though out of breath; when reading from text-spoke too quickly

Mannerisms: (+) facial expressions and body language were attention-getting; moved while speaking;

(-) too expressive in an effort to entertain-distracted from presentation

Interaction: (+) engaging; good use of exercises to work through issues with students; asks class to participate and waits sufficient time to discuss results

Interest: (+) used humor/ anecdotes; used true-life examples

Continued overleaf →

Suggestions for the Critique of the Article in Assignment #2.

Most of you will have your own ideas for composing your critique of the article. In previous years, however, some students requested that I give some guidance, since this is your first written assignment. Here are some suggestions that I hope that even those of you who decline to follow them may find useful.

Read the article through before you begin. Then read it again, noting areas that call for comment.

Then your critique could have the following form:

1st paragraph. Briefly summarize the article. In particular concentrate on general conclusions; obviously you can mention only one or two of those that you believe are the most important.

2nd Paragraph. This is the guts of your critique. Discuss what you think about the paper. Is it well organized? Is it well argued? Are its conclusions backed by observation? Do its recommendations appear to address the issues raised? More generally, what did you like about the paper, what could have been improved, what questions remain unanswered (if any)?

3rd Paragraph. How well do the assertions about physics teaching agree with your own experience of physics classes? Quote specific cases, for and against.

4th Paragraph. Summarize your essay. Repeat, more briefly and concisely your main findings, and arguments. Finish with a strong sentence.

Obviously, paragraphs 1 and 2 will be *much* shorter than 3 and 4. Note the attempt to make a logical separation of the contents of paragraphs 3 and 4.

The overall length limit of two pages (~600 words) will force you to concentrate on the essentials!