

Helping to develop efficient communication skills in nuclear engineering courses

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EC-2000 establishes certain aptitudes or abilities that are necessary for a student when finishing the grade:

- *Applying knowledge, techniques, and modern tools to perform engineering tasks.*
- *Perform, analyze and interpret measurements, and being capable to apply experimental results to improve processes.*
- *Being capable of adopting the leader role in a work team.*

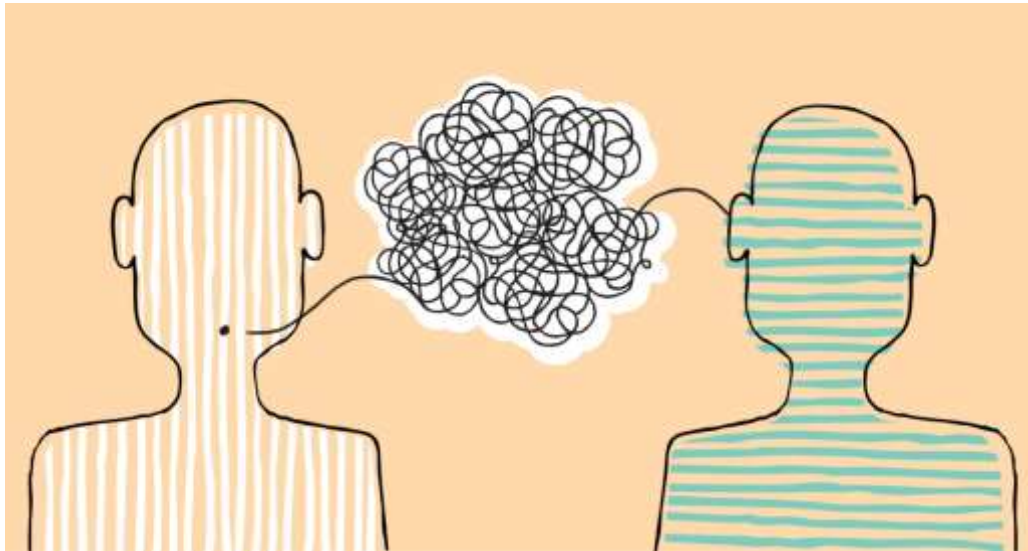
...

and





➤ *The ability to have an efficient communication, oral and written, as well as the ability of finding and using the appropriate literature.*



**Good
communication
means
good business**

If this “outcome” is needed, it should be evaluated and developed.

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Typical evaluation method:

Overall impression of the evaluator about the student presentation.



Challenge: Make the evaluation as **accurate**, **complete** and **objective** as possible.

Two guidelines for the evaluation have been developed:

- ☐ *Oral Communication*
- ☐ *Written Communication*

These guidelines contains **objective**, **defined**, and **easily observable** aptitudes.

These aptitudes also encompass what is supposed to be an efficient communication by the EC-2000 and is accredited by ABET.

Evaluation: When and How?:

-Oral Communication:

- Group Presentation in front of the class as a exam:
 - Topic: New Nuclear Power Plants.
 - Attitude: Presenting to a group of investors.
 - Audiovisuals: Required.
 - Two evaluators: Technical and communication



-Written Communication:

- Written report.
 - Topic: New Nuclear Power Plants
 - Attitude: Presenting your reactor type to a group of investors.



Developing: When and How?

Guidelines showed and explained to the students in a specific lecture, p.eg:

Maintains the visual contact with the public	It will be scored positively if the speaker has the capability of maintaining the visual contact with the whole audience, changing the focus from near to far and not keeping with the eyesight still in the projection.
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The developing of these aptitudes can be performed efficiently.

Additionally, three students from the drama club are invited to class to make a small presentation of advices about being on stage.



Oral Communication Evaluation

Aptitudes evaluated:

Maintains the visual contact with the public

Modules the voice during the presentation

Body language is adequate

The style of the presentation is coherent with the audience

The velocity of the speech is adequate

The presentation is organized

The material of the presentation is coherent with the audience

The information repetition is managed correctly

The speech does not seem to be just a recall from memory

He/she makes an attention catcher strategy

Listens politely when he/she is asked during a question

Answers the questions until those are fully answered

Answers the question with confidence

Confidence in oral communication as a communication method

Aptitudes scored from 0 to 5.

Written Communication Evaluation

Aptitudes evaluated

Standard locution formats

Paraphrases

Resuming content

Spelling mistakes

The information is structured

Writing style is coherent with the audience

Acronyms and conventions

Adequate graphics and images

Writing format

Opinions stated obey to logic

Information sources are traceable

**Confidence in written communication as a
communication method**

Aptitudes scored from 0 to 5.

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- I. Efficient Communication is a **necessary skill** in engineers for companies or institutions, and it is covered in the EC-2000.
- II. Two **guidelines** for evaluating efficient communication, oral and written have been **created**. The guidelines help to evaluate **specific** and **easy observable** skills on the students. This **guidelines are known** by the students.
- III. The evaluation takes place during a **presentation about new NPP**, and a written work about the same topic. The evaluator is **solely evaluating the student communication skill**.
- IV. The students have, in general a **very good opinion** about this initiative.

Thanks for your attention.

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