

# Systems Engineering Course Research Methods; Language and Style of Academic Writing

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## Abstract

The final product of the Master project is an academic paper. This presentation focuses on the style and language of academic papers.

### Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

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# Plain English Language Recommendations (non-academic)

- \* Keep your sentences short
- \* Prefer active verbs
- \* Use 'you' and 'we'
- \* Choose words appropriate for the reader
- \* Don't be afraid to give instructions
- \* Avoid nominalisations
- \* Use positive language
- \* Use lists where appropriate

from Plain English Campaign

<http://www.plainenglish.co.uk/files/howto.pdf>

# Style Aspects of Academic Papers

Avoid "I".

Avoid amplifications (e.g. *very high*).

Do not use humor.

Do not ventilate opinions.

Anchor every statement by fact or reference.

Explain every abbreviation or concept once at first occurrence; e.g., *Kongsberg Maritime (KM)* is ...

Avoid commercial language and selling or pushing.

Use Word to check spelling, grammar, and style with language English US.

Avoid passive voice, e.g. *A3 reports have been made* (passive) should be replaced by *The designers made A3 reports* (active). See <http://writingcenter.unc.edu/handouts/passive-voice/>

Frequently made mistakes by Norwegian students:

marked i.s.o. market

which i.s.o. that

use of *the* and *a* or *an*

plural and single mismatch between subject and verb

The use of ",", ";", and ":":

• commas:

in lists: *one, two, and three*

parenthetical expression: *the method under study, requirements engineering, is...*

• semicolon: use it when the two sentences are complete and closely related

• colon: use it when a list follows the sentence, e.g. *we have three choices: red, green, or blue.*

# Visualization Guidelines

Texts should be readable: use sufficient font size.

Text and background should have sufficient contrast.

Shapes, such as boxes, should have the same size.

Use the layout (left-right, up-down, close-remote) to support the message of the diagram.

Design the layout such that there are few crossing lines.

Use colors, but limited.

Design the diagram such that it still works when printed in black and white.

Limit the amount of information in one diagram.

Two or three types of information can be combined in one diagram.

Annotate generic diagrams with specific examples; use font size and type to visually differentiate generic from specific.

Use 2D/3D drawings or photos limited.

Ensure that the message of the visualization is clear.

Add legend to explain shapes, colors, line types, axes, etc.