Technical writing
What, why and how?

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Professional Communication

Plan for the day

- The writing process
- Technical writing
- Readability
- Sources

Conditions for good writing

- Knowledge about your subject
- Knowledge about the writing process
- Knowledge about texts

Freewriting

Write freely, without thinking about spelling and structure:

- What is your relationship with writing in academia?
- How is it for you to write?

THE WRITING PROCESS

Different types of writing

Writing to think
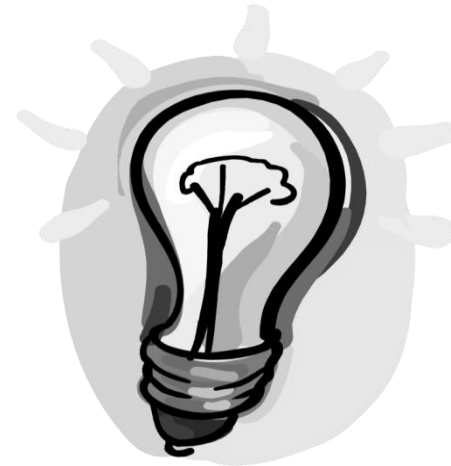
- Writing for yourself

Writing to present

- Writing for your reader

Writing to think

- Develop thoughts
  - Creative thinking
- Text meant for yourself
- Personal language
  - Spelling is unimportant
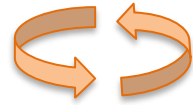- Unsystematic and messy

Writing to present

- Text meant to be read by others

- Thinking about the reader

- Critical thinking

- Precise and formal language

Recursive process

Writing to think

- Follows the writers thinking process
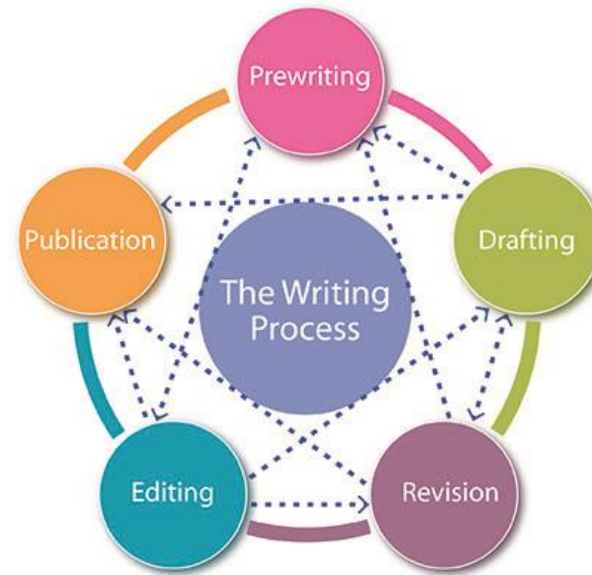- The goal is to get ideas and to produce text

recursive process
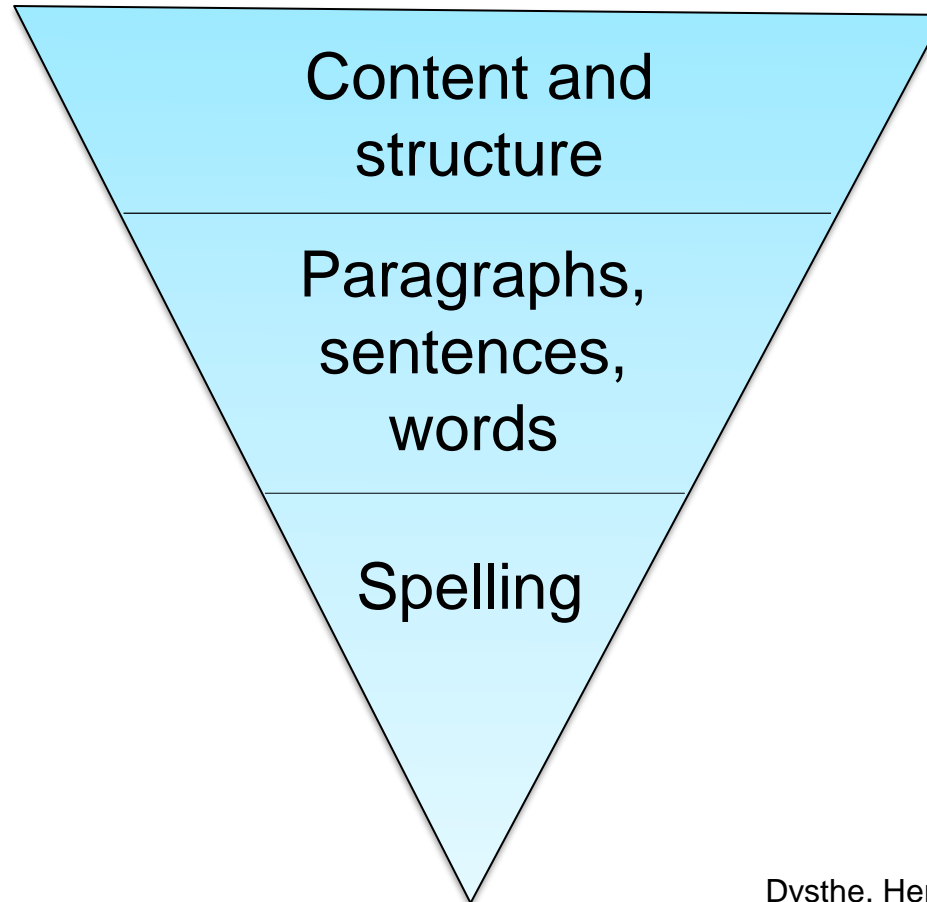
Writing to present

- Thinking about the reader
- The goal is to get a good text

Different phases in the writing process

- Pre-writing
- Draft
- Feedback
- Revising and editing
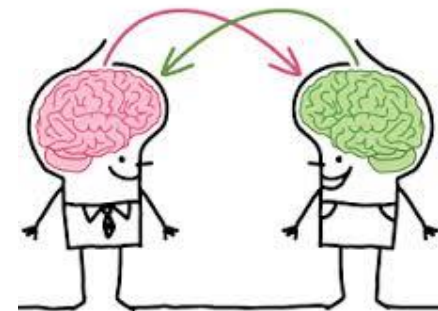- Eventual new feedback
- Publishing

The writing triangle

Content and structure

Paragraphs, sentences, words

Spelling

Dysthe, Hertzberg and Hoel (2010:39)

TECHNICAL WRITING
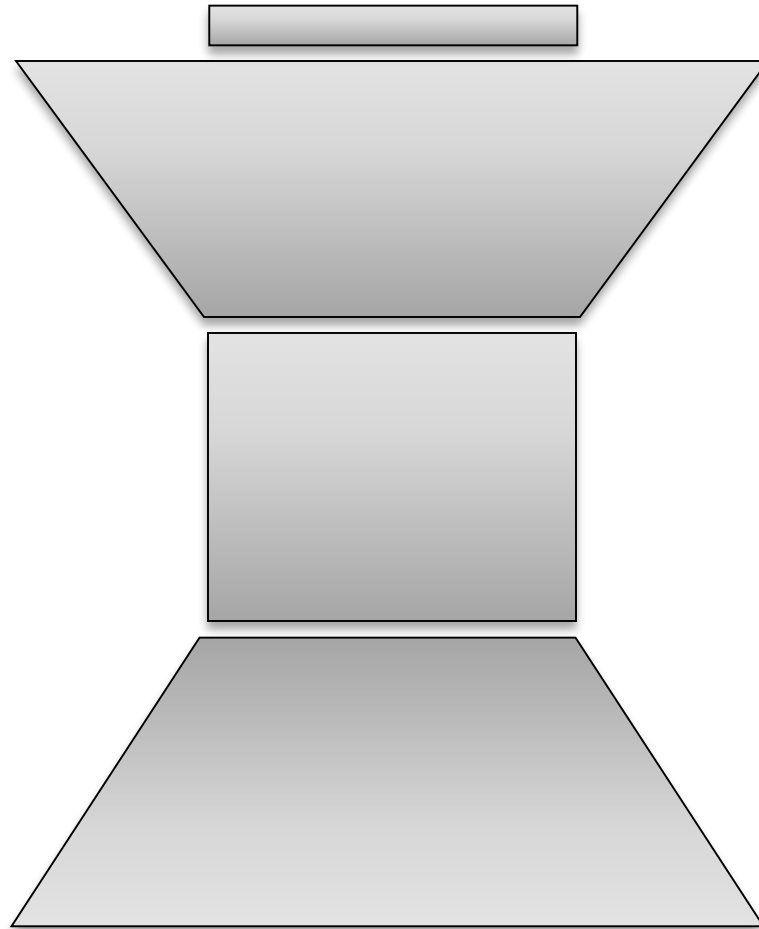
Why do we need technical writing?

- Document our work and report our findings
- Communicate with other scholars, user groups and the public
- Take part in the dialogue in the discipline

Structuring academic texts

(A) I M R a D

(**A**bstract)

Introduction

Material and methods
Results
and

Discussion

(Swales, 1990)

(A)IMRaD – Abstract

Short summary of the article

Highlights the most important aspects

Summarizes objective, method, results and conclusion

Often contains a collection of key words to categorize the article

The career of a suspect's statement: Talk, text, context

Martha Komter
Netherlands Institute for the Study of Crime and Law Enforcement (NSCR), The Netherlands

Abstract

The aim of this article is to show how a suspect's statement travels through two stages of the criminal law process: the police interrogation and the trial, exhibited by two modes of production: talk and writing. I first discuss how the suspect's statement is elicited and written down by the police in the police report; next I consider how the police report is made to form part of a legally adequate case-file; and finally I investigate the ways in which the judge quotes and refers to the police report in his questioning of the suspect during the trial. This step-by-step inspection of the trajectory of the suspect's statement shows processes of de- and recontextualization. The suspect's statement is written down so as to enable it to be taken out of one context (the police interrogation) and inserted into another (the trial). This means that old meanings are removed from the suspect's statement and new meanings are added. In the courtroom, however, the judge treats the suspect's written statement as his own individual production, irrespective of the interactional environment in which it was elicited. The suspect's statement is taken out of one context, inserted into another context and treated as independent of context.

Keywords

Context, courtroom interaction, decontextualization, entextualization, interaction, police interrogation, police report, recontextualization, reported speech, sequential organization of talk

Aim: help you determine whether or not you want to read it

(A)**I**MRaD – Introduction

- Starts with a wide scope, then narrows it down
- Introduces the background of the study
  - What previous research exists?
  - What do we already know?
- Introduces what you are going to study
  - Why is the study relevant?
  - Why is this an interesting topic to study?
- Presents the objective of the study
  - Problem statement, research question or hypothesis
- Provides a short reading guide for the article
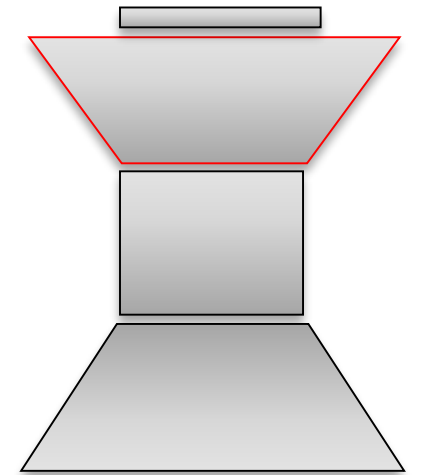
(A)**IM**RaD – Methods and material

- Material
  - Who/what is studied
  - Selection criteria

- Method
  - Procedure
  - Figures*
 - Planned analysis
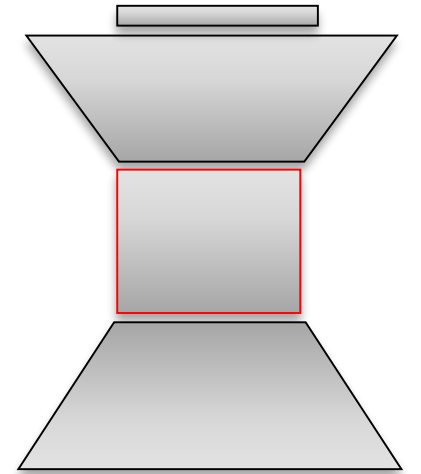
Methods and material – figures

- ## Figures may be
  - models
  - diagrams
  - pictures
  - illustrations

- ## Figures should
  - help the reader understand
  - be self-explanatory
  - complement the text

Contents and structure

paragraphs
sentences
words

spelling
. ? " "
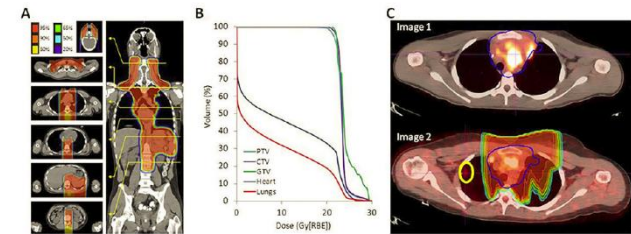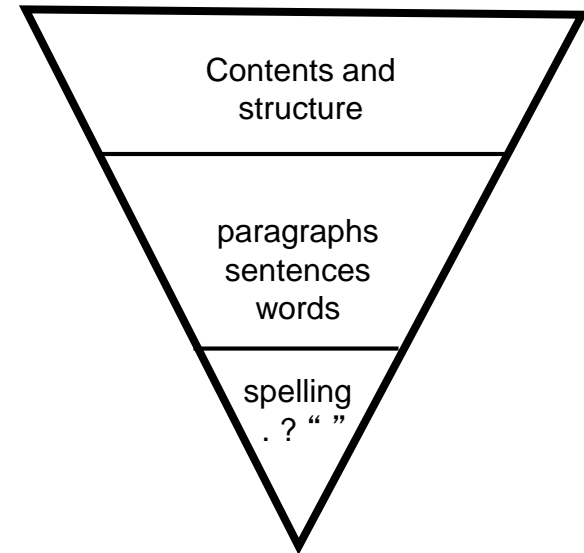
From Wray, J., Flampouri, S., Slayton, W., Joyce, M., Sandler, E., Morris, C. G., ... & Hoppe, B. S. (2016). Proton Therapy for Pediatric Hodgkin Lymphoma.*Pediatric blood & cancer*.

(A)IM**R**aD - Results

- Present the results of the study
  - What did you find out by using the methods you described?
- "Objective" observations of findings
  - A comprehensive and analytic view of the results
  - Point out the relevant results
- Present the results in an systematic manner
  - Tables and graphs?
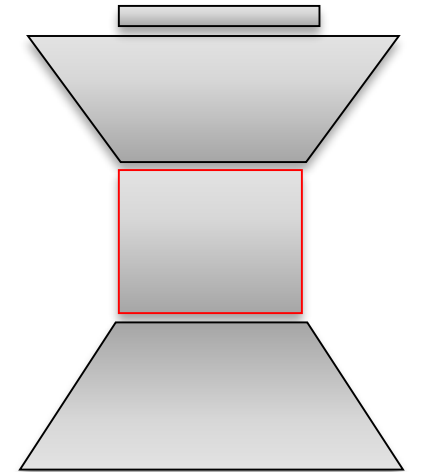
(A)IMRa**D** - Discussion

- Time to widen the scope again
- Explain the results
  - Do the findings answer the research question(s)
  - What do the findings mean?
- Compare the results with other findings
- What is the relevance for "the world"?
- How valid and reliable is the study?
  - What could/should have been done differently?
- Recommendations for future research
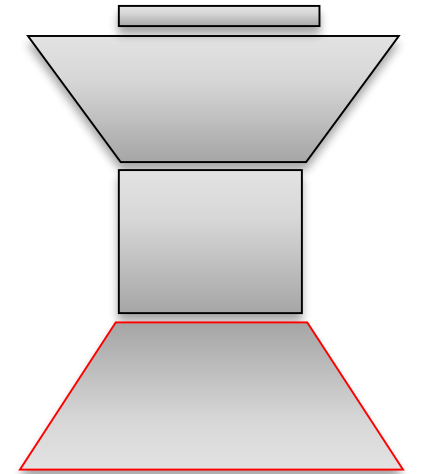
Conclusion or summing up?

- Could be a part of the discussion or a separate section

It can may take different forms:

- Conclusion
  - Should answer your research question(s)

- Summary
  - Should repeat the most important issues raised in your text, stated in a different way

Exercise – Woodchuck

Read the article "The Ability of Woodchucks to Chuck Cellulose Fibers", and discuss in pairs:

- Does the article follow the IMRaD model?
- What makes you identify the different sections?

woodchuck, groundhog, marmot
(*Marmota monax*)

10 cm
4 inches

© 2005 Encyclopædia Britannica, Inc.

P. A. Paskevich and T. B. Shea (July–August 1995). "The Ability of Woodchucks to Chuck Cellulose Fibers". *Annals of Improbable Research*. 1 (4): 4–9.

IMRaD - overview

- Introduction
  - What am I going to do?
- Method and material
  - How am I going to do it?
- Results
  - What did I find out by doing what I said I would do, the way I said I would do it?
- Discussion
  - What do my findings mean?
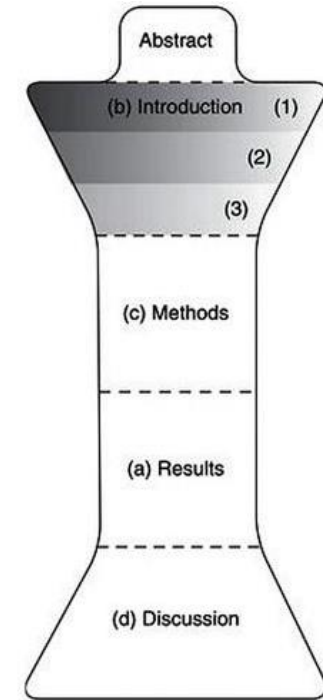
IMRaD and reports

Look at the table of contents and answer:

- How is the assembly in the reports related to the IMRaD model?
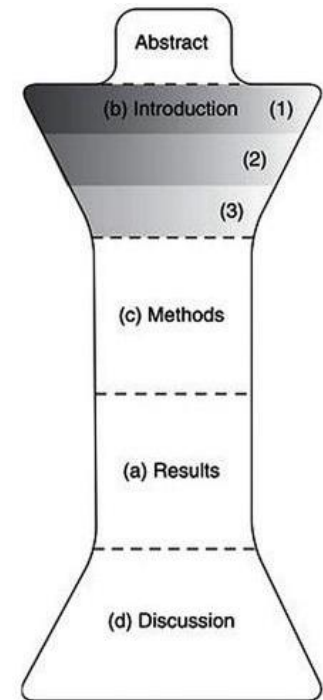
Table of contents (1)

Table of contents (2)

83.6 %
READABLE

READABIBLITY

What makes a text readable?

- Logical information structure
- Logical transitions between paragraphs and sections
- The information is relevant
- Clear language
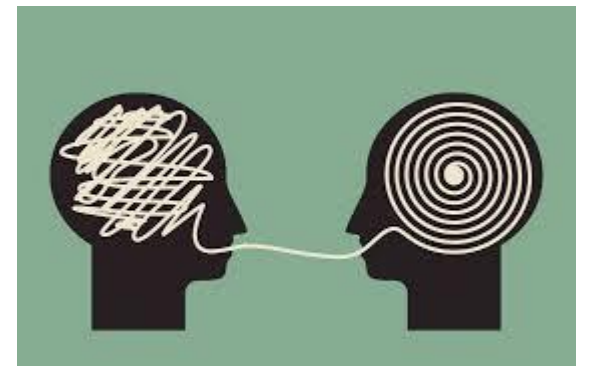
Subheadings

- Helps make the text easier to navigate
- If you have many subheadings – number them
  - Avoid having too many levels, two or three should do
- Thematic or structural subheadings?
  - Thematic: Reflect the content
  - Structural: Reflect the structure

Table of Contents

Thematic subheadings

«Antagonists in the 19th century novels»

«Always connected»

«Live TV is not dead»

The positives

- More interesting to read
- Gives the impression of a skilled writer
- Gives a sneak peak of what is to come

The negatives

- Can make navigation slightly more difficult
- Can be more difficult to successfully use

Subheadings that reflect the thematic content of the chapter

Structural subheadings

«Introduction»

«Methodology»

«Existing research on diglossia in Belgium»

The positives

- Requires minimal effort and creativity

- Easy to navigate in the text (to an extent, at least)

The negatives

- Can give the impression of a less skilled or experienced writer (in some cases)

- Can be more boring than thematic subheadings

Subheadings that reflect the structure of the text

Some definitions

Coherence

- Is about creating makin the text logical and meaningfull
- Techniques to bind the text together
- Structural level

Cohesion

- Explicit markers and techniques to bind the text together
- Lexical and grammatical level

Levels of coherence

Global

- Does the text as a whole make sense?
- Is there a recurring theme?

Local

- Paragraph and sentence level
- Do the following sentences support the topic sentence?

Global coherence

- Recurring theme:
    - Purpose – Content – Conclusion
- Structure and subheadings
- Connection between paragraphs
- Style and voice

Local coherence

- Logical transitions between sentences
- Logically built sentences
- Paragraphs function as text units

Local coherence: topic sentences

- Topic sentence: A summary of the paragraph
- The first sentence of a paragraph = The topic sentence
- The rest of the paragraph:
  - examples to illustrate, describing a process, defining a term, describing cause and effect, decribing in detail

Example: Topic sentences

Automation and the introduction of new technologies do not necessarily mean human workers are replaced. On the contrary, new technologies may create new jobs. Technology and human labor often complement each other, and even though some manual labor might be taken over by machines, the need for analytical skills, flexibility and tacit knowledge that only humans can have still remains. Therefore, it is more correct to say that automation and new technology shifts the labor division, not replacing humans, but reassigning them to other tasks.

Automation and the introduction of new technologies do not necessarily mean human workers are replaced. Many people fear that machines will take their jobs, and are therefore reluctant to accept and implement new technologies in their workplace. The fear of machines replacing humans and causing problems, can be said to relate closely to the term *technological determinism* (TD). TD sees technology as autonomous and separate from society, but at the same time as something that has a great impact on society.

Example: Topic sentences (2)

"Most people's lives are structured in large part around organizations. As student, you are part of a university, and usually part of one or more student groups. Outside of school, you may hold a job in an organization or be a member of a civic or religious group or a political party. You may play on a recreational sports team or be part of a book or cooking club. Each of these organizations influences how you structure your time, with whom you interact, how you spend your money, and how you formulate your personal values." (Hoffman & Ford, 2010:1-2)

"In a given context, members of a culture can predict, to an extent, what kinds of meanings will be made. That is, we can 'unpack' texts by analysing their functional relation with a context (...) Intertextuality provides another dimension to this process of making sense of what is going on; we do this by reference both to the immediate context of situation and to the wider context of culture, through intertextuality." (Schirato & Yell, 2000:53)

Local coherence: Functions of conjunctions/transitions

- **Show addition:** and, also, moreover, in addition…
- **Give examples or elaborate:** to illustrate, for instance, specifically, to clarify…
- **Compare:** similarly, likewise, also…
- **Contrast:** on the other hand, nevertheless, still, however, but, yet, although, on the contrary…
- **Summarize or conclude:** in short, in other words, in conclusion, to sum up, therefore, overall…
- **Show time/chronology, place or direction:** after, before, later, then, meanwhile, immediately, above, opposite, below…
- **Indicate a logical relationship:** therefore, consequently, as a result, thus, because, for this reason, since…

Words used to link sentences/phrases/paragraphs to other sentences/phrases/paragraphs

Conjunctions, transitions and referencing – example

"[…] To put it in other words: one chooses the language which makes communication easier and more efficient in a given situation (Holmes, 2013:25). If it is the case in a given speech community that English has replaced the native language in all domains but the domestic one, the language used for the domestic domain is also more likely to eventually yield to English because it is simply easier to use English.

According to the previous, it seems quite likely that English being the preferred language for the academic domain, could and eventually will cause other languages to become extinct. However […]"

SELECTING AND USING SOURCES

Why we use sources?

- To place our research in a scientific context
- By using sources, you
  - recognise other authors' work
  - show that you have read literature on the topic
  - place you work in a larger context
- This way the reader can
  - identify the sources that you have used
  - se what is your words and what is the idea of another author

You should refer when you

- Use quotes
  - Word by word rendering of something somebody else has written
- Are paraphrasing
  - Is when you rephrasing the original text
- Are referring
  - When you present studies, researches or a researcher's

Evaluating sources

We want sources that ROARS!

- Is it **R**eliable?
- Is it **O**bjective?
- Is it **A**ccurate?
- Is it **R**ecent/relevant?
- Is it **S**mart?

Scources that ROARS

Reliable

- Who is the author?
  - What do we know about them?
- What type of text is this?
- Is it published?
- Who published it?

Sources that R**O**ARS

Objective

- What is the research methodology?

- Is the information unbiased?

  – Are sources used?

- Is the goal of the text to persuade you or sell something?

Sources that RO**A**RS

Accurate

- Is the information correct?
- Is the article peer-reviewed?
- Is the methodology suited for the type of research being conducted?

Sources that ROARS

Recent/relevant

- When was this published?

- Has research been published since that undermines, or disproves findings presented in this source?

Sources that ROARS

Smart

- Does this source offer you something in-depth that you haven't seen before?

- Does it build on your other sources?

Usefull websites

- Viko: https://www.ntnu.edu/viko
- Writing resources: https://www.ntnu.edu/sekom/writing-resources
- English matters: https://www.ntnu.edu/english-matters
- Søk og skriv: www.sokogskriv.no/en

More useful online resources here:
https://www.ntnu.edu/sekom/useful-online-resources