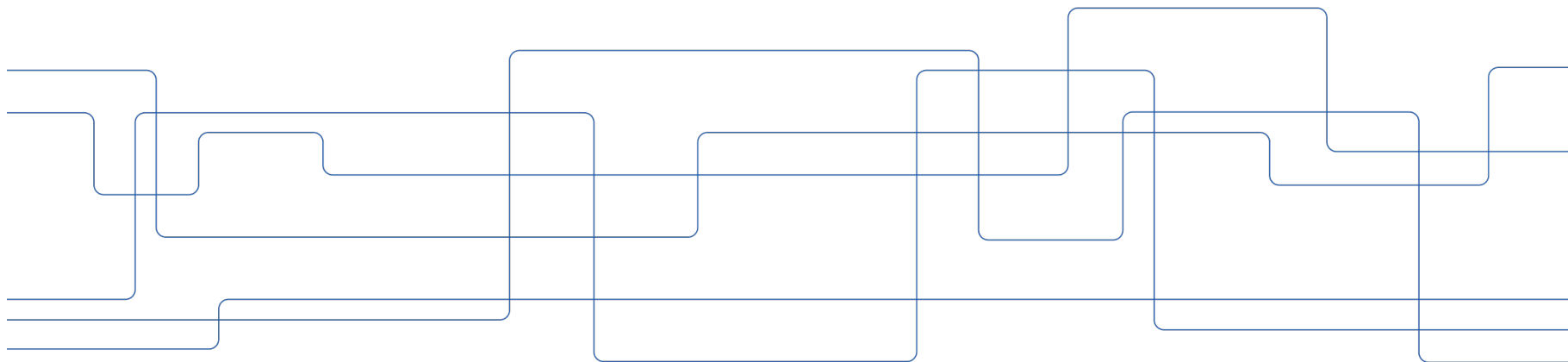


Writing your project report for DA150X

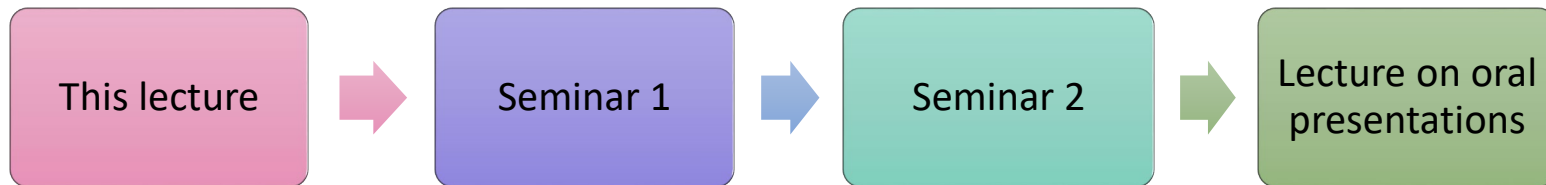
Susanna Lyne, KTH Language and Communication

21 March 2022





Welcome!



Seminars: Jamie Rinder, Jane Bottomley, Susanna Lyne
Lecture on presentations: Linda Söderlindh



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Centre for Academic Writing and Rhetoric

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Please note that all consultations are currently done online via Zoom.



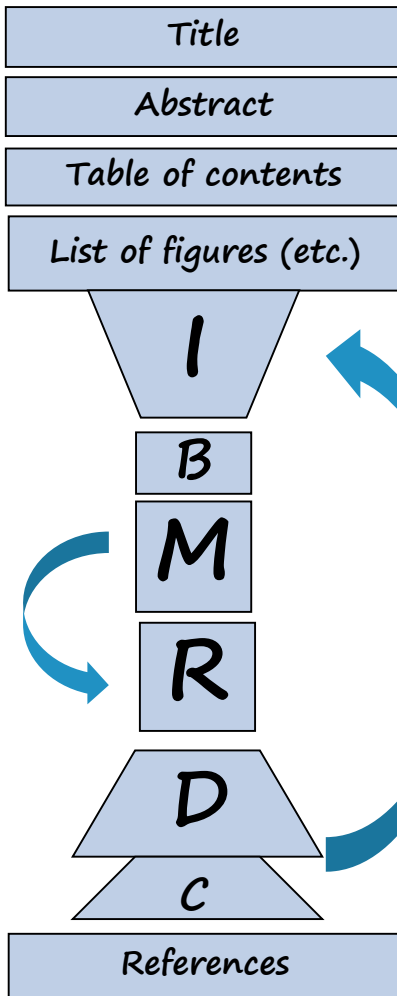
In today's lecture

The structure of a degree project report

- What should go under each heading?
- What is the purpose of each section?

The language of a project report

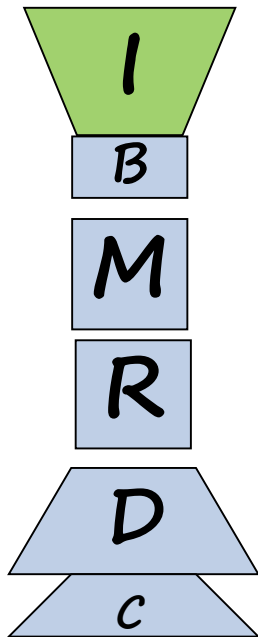
- What is academic style?
- What are some common errors we should be aware of?



The structure of a report

- Introduction (Inledning)
- Background (Bakgrund)
- Method (Metod)
- Results (Resultat)
- Discussion (Diskussion)
- Conclusion (Slutsats)

The Introduction



- Note that this word is *Inledning* in Swedish

- En **introduktion** till ämnet
- Rapportens/textens **inledning**



- The *Introduction* sets the scene
- Places your study in context – in the world, in the research field
- Tells readers what your aim is, what you will do
- Motivates why your project is relevant, important, interesting...
- Get all your prospective readers "on board"
 - STOP and THINK: Who are your readers? Where will you have to start? What terminology will you have to explain? What is evident to everyone?

A funnel-shaped Introduction

- From DA1600, you'll recall the “funnel” shape of an Introduction (“Tratten”).
- Start with a general statement/fact/statistic, then narrow the topic down.
- Ends with a clearly specified aim and research question.



An example of a reader-friendly Introduction



With the rise of social media as everyday communication tools, these platforms have also gained a role as important sources of information.

An example of such a platform is Twitter, a social media and microblog service, on which users post messages, also referred to as 'tweets', composed of no more than 140 characters. Initially, Twitter served as a platform on which users shared information and expressed their opinions, but has now developed into a service where global news can

be followed in real time. Due to the convenience, Twitter is now embraced not only by the general public, but also by influencers, governments, corporations and media channels, who use it to reach out and communicate with their followers.

Starts in something the general reader can relate to

Moves to a specific platform

Narrows down to the *users* of Twitter, and purposes

(continues on the next slide)

An example of a reader-friendly Introduction

Twitter and other social media platforms are a strong asset to the media landscape since they can instantly distribute information in the case of attacks, crises and other newsworthy events. However, as regards Twitter, the quality and trustworthiness of that information becomes an essential concern.

From "general information" to "instant information under important circumstances"

A **problem** with Twitter (trustworthiness)



[...]

In sum, misinformation on social media has become an evident problem across society today. The purpose of this paper, therefore, is to research the effect of academic education on young adults' judgement regarding news-related information on social media, in particular Twitter. The study aims to investigate the following:

Stating a problem...

...which has prompted you to do this research.

Note how the *problem* is identified before the aim and research questions are presented.



Your *problem* and *research question* is the core of the Introduction

- No research without problems!
- Use words like *however* to signal the problem in the text
- Use e.g. *therefore* to signal the **link** between the problem and your research question
- The research question must be **easy to detect**

Breakout rooms, 5 mins: Describe your problem and research question to another student

In order to gain a deeper understanding of...

För att få en djupare förståelse av...

This study explores...

Denna studie utforskar...



The purpose of the present study is, therefore, to...

Syftet med föreliggande studie är därför att...



The Introduction should not be too long

- ***Common problem:*** The author gives too much background and too detailed reviews of previous research before getting to the research question / the aim of the study.
- Readers want to get to the aim quickly – but they also need some background.
- Look at the Introductions/Backgrounds in the reports in the Hall of Fame

Subsections in the *Introduction*

Remember that the *problem* must be identified before the *aim*

- **Problem definition / problem statement**
- **Aim (purpose) and research questions**
 - The research question(s) should end a longer passage with the problem and aim. **Do not write the research question in a separate subsection.**
- **Scope / Delimitations**
 - What you chose to include, and to exclude, from your research
- **Approach**
 - A brief description of the method and/or theories used (this will be expanded on in the Method section)
- **Thesis outline**
 - A few sentences about the structure of the remaining sections.



Scope

1.2 Scope

Films, not
other types of
media

Due to the wide availability of data, this study looks at films and their corresponding reviews. The reviews vary in complexity where some of them are professionally put together and some are written in a more simple fashion. In order to get more accurate results, reviews with too simple of a structure, e.g. with few characters or a simple quote, are not included in the database. Another reason to use databases that in-

What was left out

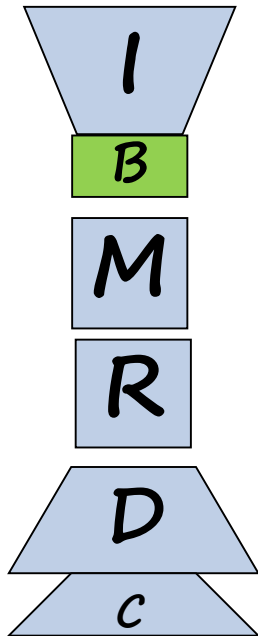
Note that a *delimitation*
is not the same as a
limitation



Tenses in Introduction sections

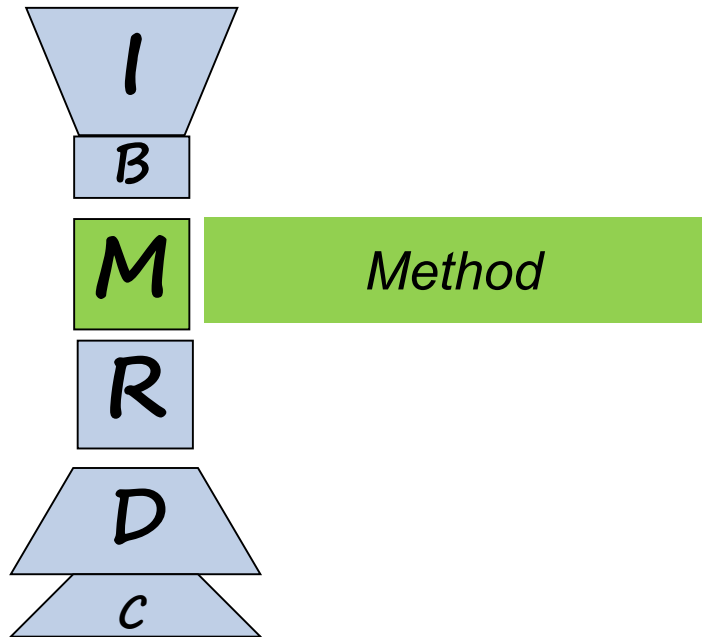
- Write in the *present simple* tense, not in the future tense (both in Swedish and English)
 - *This study explores... (föreliggande studie undersöker...)*
 - *This study is exploring...*
 - *The aim of the present thesis is to...*
 - *This study will explore...*
- Use the *perfect tense* (*has/have*) to describe recent developments which are still ongoing
 - *As social media has developed, so has artificial intelligence (AI).*
 - *Sociala medier har utvecklats...*
- Use the *past tense* to describe completed events in the past
 - ***In the 1990s**, neural networks were considered inferior to other machine learning algorithms.*
 - *Under 1990-talet ansågs...*
 - ***Early networks** consisted of a number of workstations. / De första nätverken bestod av ...*

The Background



- Note: The Introduction will also include some background, but an **overview**.
- Theory
- Definitions
- Previous research
- Purpose:
 - Expand on the relevant details
 - Give readers the necessary background to understand the rest of the paper
 - Show what you've read, what you know
 - Previous literature: how does your study stand out?

- Study the Background sections in the *Hall of Fame* reports.
- There are several possible ways to organise the Background.
- **You are the expert** – you decide what you want your readers to know, depending on
 - How specific your topic is – what background knowledge does your readers have?
 - What you have brought up in the Introduction – add only *relevant* information to the Background.



- Well motivated ("in order to")
- Clearly described
- Often written in the *passive* ("were selected")
- Sometimes divided into two subsections: Material(s) and Method(s)

An example of a Method section

The scraper was written in Python, using the Selenium framework in conjunction with the libraries BeautifulSoup and MySQLdb. Selenium allowed for automation of browser behaviour, which was used to request and retrieve the result from Twitter's advanced search function. The search endpoint returned a JSON response, which contained the markup of the tweets to be loaded, as well as an attribute that specified whether more tweets were available for the feed to load.

Passive (*was written*)

Past tense (you describe your *process*, what you did, step by step)

Can we write *we*?

A green speech bubble with a white outline and a drop shadow, containing the word 'Yes!' in white text.

Yes!

- It shows you are taking responsibility for your choices and what you've done
- "We propose", "We have shown" and "We believe" show confidence. Good for Introductions, Discussions and Conclusions

A blue speech bubble with a white outline and a drop shadow, containing the text 'Well, it depends...' in white text.

Well, it depends...

- Too frequent use gives the text an informal touch – especially if many sentences start with the word *we*.
- What is in focus? *The application was installed* instead of *we installed the application*.

For an excellent video on the topic, go to: www.youtube.com/watch?v=sGjDPHnYDrM



Be concise and objective: **Do not** tell readers about the process

- ✗ when you talked to your supervisor
- ✗ how you realised what you would have to learn before starting
- ✗ how you read up on the topic using library resources
- ✗ what you didn't understand at first, and then how you eventually understood it

**RARELY
RELEVANT!**



Be concise: don't tell the reader what you didn't do

✗ **Our first plan** was to run 30 tests, **but this turned out to take** more time than expected. We then decided that 10 tests would still yield the results we needed.

✓ In all, 10 tests were run. This number yielded sufficiently strong results, while still allowing us to keep within the time allocated.



Be clear about what *you* have done, and what is a reference to a *general/traditional* method.

Example:

“For this purpose, machine learning algorithms **are used to perform** classification.”

- *Are always used?*
- *Have traditionally been used?*
- *Is used in the specific method of this paper?*

Clearer:

For this purpose, we use machine learning to...

In this study, machine learning algorithms are used...

In most cases, machine learning algorithms are used to...



Results and Discussion sections

Results

Showing and describing
what you found

Reminding readers of aim
and method

Discussion

Taking a wider perspective

Problematizing, criticising,
speculating

Separate sections!

Writing is an iterative process

- All sections are connected
- Changes to one section might prompt you to make changes to others (terminology? focus?)
- Therefore, go back to your Problem Statement now and then to make sure that you are "on track"





Ask questions to develop your idea and your arguments

Introduction:

- *Why is this interesting?*
- *To whom is this relevant?*
- *What is the problem?*
- *Who says there's a problem?*
- *What may happen if the problem is not solved?*

Method:

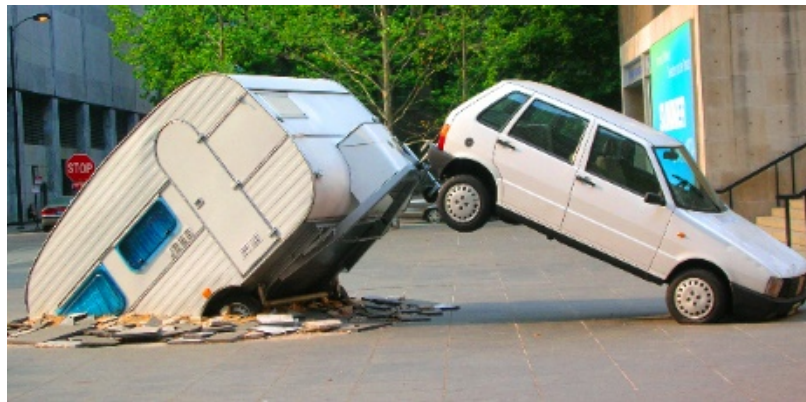
- *Why did we choose this method?*
- *Could we have chosen other methods?*
- *Has anyone else used this method?*

Results:

- *Could a reader interpret my graph in a different way?*
- *What information do the readers need to follow my story?*
- *What do I want to highlight?*

Discussion:

- *How do I know my statement is correct?*
- *Could there be other possible explanations? Why? Why not?*



If you get stuck

- Read someone else's text and review it critically
- Work on a different section
- Write captions, work on your figures and tables
- Ask someone else to read
- Work on the title



Some dos and don'ts

- Do keep a document open in which you can jot down ideas
- **Do not** save all the writing to the last minute
- Do save lots of time for proofreading and editing
- Do write a little each day and reward yourselves





Your popular science summary



Purpose

- to practice thinking about your topic in a wider context
- to practice writing with a non-expert reader in mind
 - an important skill when, for instance, applying for jobs or funding
- to prepare for any unexpected “elevator pitches”!

... because you want to share your findings with people outside your field

Place the study in a wider context

In densely populated buildings, a well-performing elevator system is vital for moving people between floors in a reasonable time. Passengers expect the elevator to serve them immediately and take them to their destination floor as fast as possible, at any time of the day. Occasionally, however, the waiting times become too long which leads to frustration and dissatisfaction. To the general public, this problem may seem a simple one to solve, but it is in fact very complex.

Placing the study in context: what about this?

Q-learning is an off-policy algorithm which learns an optimal policy independent of the one being followed. The algorithm works by observing the environment before selecting an action. The action a is chosen based on the current state s and the maximum action-value is calculated and the new action-value is then updated using r and the maximum possible reward for the new state [6]. Let t be the current time, s_t the state, a_t the action, r_t the reward, $\alpha \in [0, 1]$ the learning rate, $\gamma \in [0, 1]$ the discount factor and \max_a the reward for taking the optimal action in the next state.

Too technical!