Presentation of Research Work

How to make an efficient presentation...?

Contents

- Thesis Writing
- How to make a GOOD presentation

How to Write a Thesis

Tutorial of Two Parts

The Good News

- You only have to write ONE thesis
  - Except you French and Germans who have to do a habilitation (highest academic qualification a person can achieve)
- At the end, you can add “Dr” to your name
  - Good for upgrades on planes

The Bad News

- Writing a thesis is hard, painful work
  - You've already done the fun part (the research)
- It's unlike any other document
  - Thesis writing is not a marketable skill

What is a thesis?

- An argument
- An exposition of an original piece of research
- Probably the largest (most self-indulgent) piece of work you'll ever do
- Something that could be published:
  - E.g. at least one paper in a scholarly journal
  - but you will probably never publish the whole thesis

Ok, when do I start?

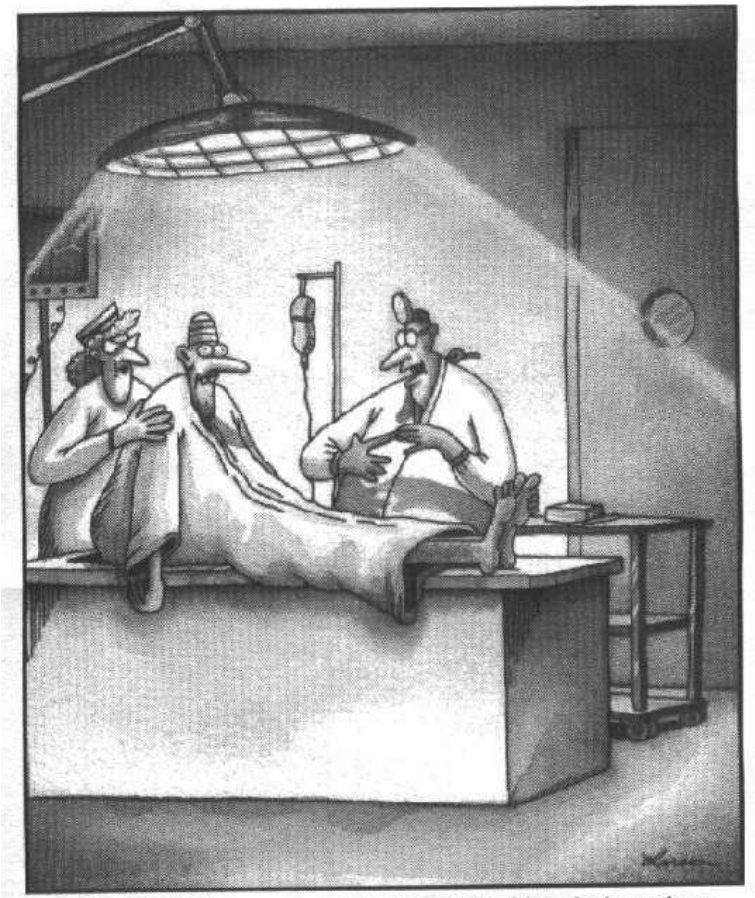
- So I'm motivated
- When do I actually start *writing*?
  - 6 months before the end of my grant?
  - No, the day you start your research work.
  - Write it all down!
    - Don't worry, it's never too late to start

How do I get started?

- Do this today:
  - Decide your title
  - Write your title page
  - Start a binder
  - Look at some theses in your area
  - Plan your argument…
- You can change things later
  - But you can’t change it unless you have something to change!

I do really mean it today!
Before you go to bed tonight.
Tomorrow is too late….!

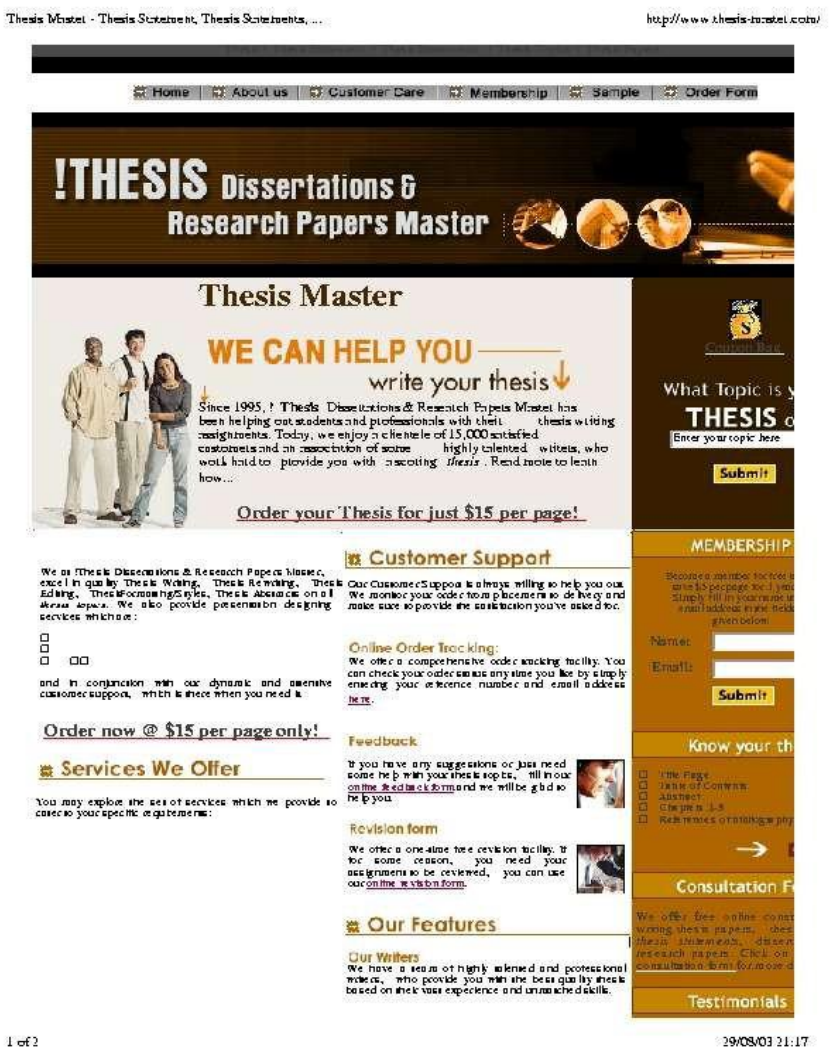
What a thesis isn't?



- A brain dump of everything you've done
  - You get to leave out the dead- ends
  - But you have to fill in any obvious gaps!
- A thesis is a *logical* reconstruction
  - With a *single* coherent

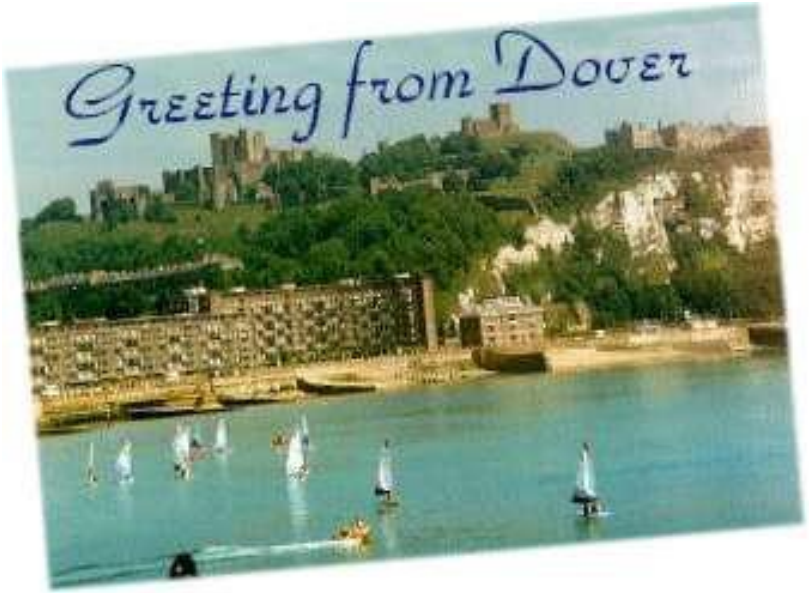
What a thesis isn't?

- Available to buy
  - Even if www.thesis-master.com offer you one at %15/page
  - I wish I got those rates!



What a thesis isn't?

- What I did in the lab over the last 3 years
  - I first read the background material
  - I then implemented an procedure
  - I ran some experiments
- A thesis is a *logical* reconstruction
  - Not a historical narrative



What is a thesis?

- Demonstration of an understanding of the state of the art
  - Critical appreciation of existing work
- A novel

So, how do I start?

- Write a thesis message
  - 1 sentence
  - 1 paragraph
  - 1 page
- Everything you write should be directed at this
  - *Thesis (noun).*
    1. *A proposition maintained by argument*
    2. *A dissertation advancing original research*

Thesis message

- You’re tackling an important research problem
  - E.g. development of a method
- You’ve made an original contribution to its resolution

What next?

- So, I've got a good thesis message
- What do I do next?
  - Write the table of contents
  - Logical structure of your thesis

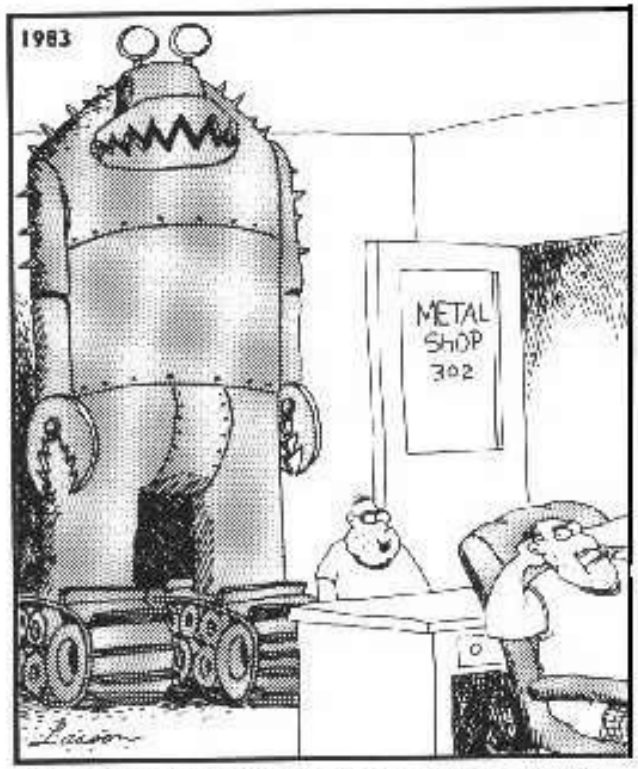
Plan Your Argument

One sentence for each	Example
Introduction (Area of Study)	
The Problem (that I tackle)	
What the literature says about this problem	
How I tackle this problem	
How I implement my solution	
The result	

Table of Contents

1. Introduction
   - Thesis message
2. Background
   - Context, definitions, notat ion
3. Theoretical developments
4. Empirical results
5. Analysis
6. Related work
7. Conclusions
   - List contributions

Table of Contents



"My project's ready for grading, Mr. Big Nose. .. Hey! I'm talkin' to you, squidbrain!"

- Background & related work overlap
  - Need to discuss related work at start to set scene
  - Need to discuss related work at end

  to demonstrate your originality
- Often one chapter per workshop or conference papers
  - But not cut and paste!

What next?

- So, I've got a good thesis message
- And a table of contents
- What do I do next?
  - Make a timetable
    - Targets to meet
    - Light at the end of the

Timetable

- *“Your thesis is your baby”*
  - Give it 9 months
    - Write it up
    - Fill in gaps, experiments …
- *“You have to know when to let it go”*
  - Put a fence around what you’ve done

Writing each chapter

- Don’t start with the Introduction or Conclusion
- Start where you feel happiest
  - Typically a middle chapter
  - Write outwards
  - Finally Conclusions and end with the Introduction
- Write everything with your thesis message in mind

Don’t omit any of these

- Title (and title page) – conveys a message
- Abstract – for the librarian
- Contents Listing – shows the right things are there
- Acknowledgements – get your supervisor on your side!
- Introduction – says “I am going to look at the following things”.
- Review of Previous Work – show you know the subject
- Philosophy of Approach – show you can pick out important ideas succinctly

Contd..

- Plan of Attack – show you approached the problem in a systematic way
- Description of the work – details, so that others can follow what you did
- Critical analysis of the results – show you know its limitations
- Future Work – show you know what's missing
- Conclusions – repetition of the intro, but with reference to the detail.
- References – Cover the field; examiners will look for the key references.

Rule of Three

- Within each chapter, repeat yourself 3 times
  - Intro. *We will show ..*
  - Body. *Show them ..*
  - Conclusion. *We have shown ..*
- Within thesis, repeat your contributions 3 times
  - Intro chapter
  - Main chapters
  - Conclusion chapter
- But don’t bore reader
  - E.g. in introduction be brief, in conclusions be broader

Bibliography

- Keep a database of complete references
- Use a consistent citation style
- Use a tool
- Attention to detail is important
- Get the spellings right
- Keep complete references
- page numbers, volume numbers, editors names, locations and dates

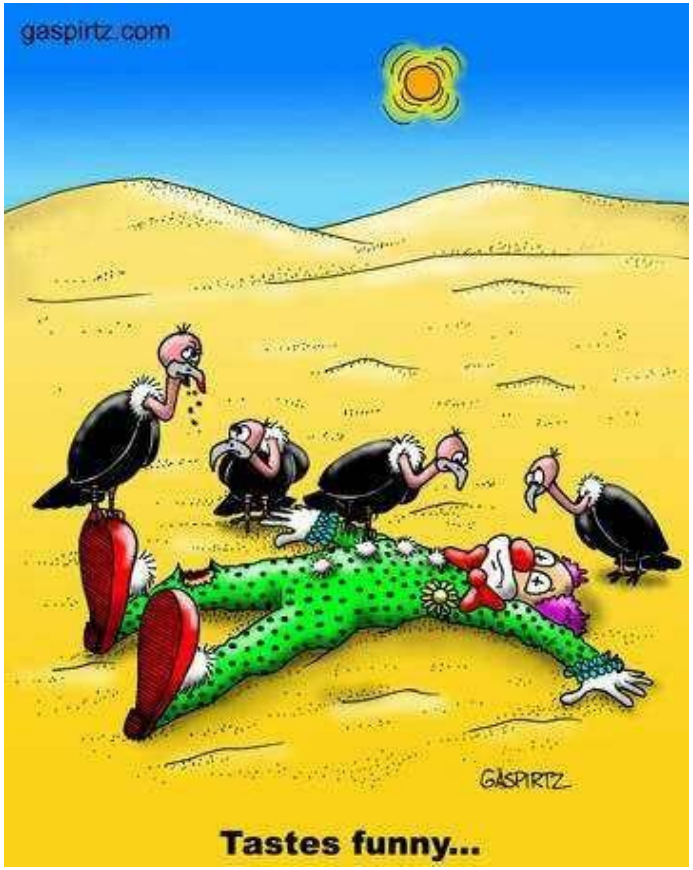
  for conference proceedings, etc.
- Find out what the local rules are for citation style
- Assume the reader is familiar with the main references
- But that doesn’t mean you should skip them!

Reviewing

- Get other people to read your drafts
- Peers will give friendly comments (and may have the most time!)
- Supervisor will steer you
- Other academics will spot things your supervisor has missed.
- Above all:
- ...get the bugs out before the examiners see it.

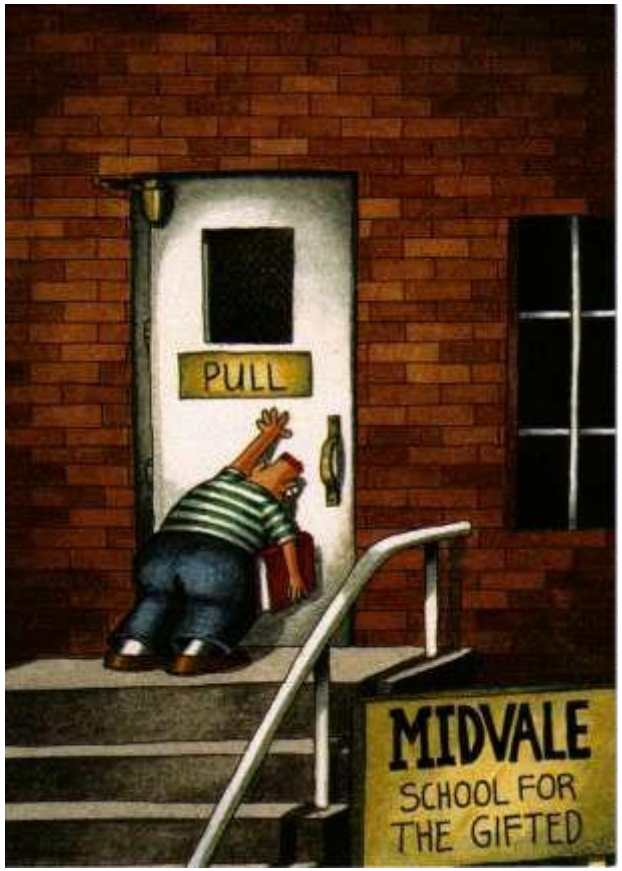
Common mistakes

- Complex sentences full of long words
  - A thesis should be a simple, convincing argument!



Common problems

- It’s never possible to cover all issues
  - So you will never finish?
  - It’s sometimes enough to identify the issues
  - Examiners greatly appreciate you identifying limitations



Common problems

- Writing too much
  - There are rules about maximum length
  - But rarely rules about the minimum
- Nash's PhD thesis
  - 27 pages long
  - Won him a Nobel prize

What to expect from your advisor?

- Your not in this on your own
- Your supervisor is on your side
  - **Your success is their success**

What to expect from your advisor?

- Intellectual support
  - What standard a thesis should reach
  - Indication of when to stop
- Emotional support
  - Encouragement
  - Constructive atmosphere

What not to expect from your advisor?

- Smiles
  - If draft chapters contain simple spelling mistakes and typos
- Mind–reading skills
  - Motivation dipping
  - Absence = illness

What are examiners looking for?

- Review of literature
  - Is the literature relevant?
  - Is the review critical or just descriptive?
  - Is it comprehensive?
  - Does it link to the methodology in the thesis?
  - Does it summarize the essential aspects?

- Methodology
  - Is there a clear hypothesis?
  - Are precautions taken against bias?
  - Are the limitations identified?
  - Is the data collected appropriately?
  - Is the methodology justified?

What are examiners looking for?

- Presentation of results
  - Have the hypotheses in fact been tested?
  - Are the results shown to support the hypothesis?
  - Is the data properly analyzed?
  - Are the results presented clearly?
  - Are patterns identified and summarized?
- Discussion and Conclusions
  - Are the limits of the research identified?
  - Are the main points to emerge identified?
  - Are links made to the literature?
  - Is there theoretical development?
  - Are the speculations well grounded?

It’s all over

- You’ve finished writing & defending your thesis
- What do you do next?
  - Turn it into a book
  - Publish some journal articles around it
  - Make copies for your parents, …
  - Make a copy for yourself
    - Or end up like me!

It’s all over

- You’ve finished writing & defending your thesis
- What do you do next?
  - Just think, you’ll never have to do it again!
  - Unless you’re French or German

Summary

- Start writing today (never tomorrow)
- Make up a title page for inspiration
- Write down your argument succinctly
- Turn the argument into a chapter plan
- Maintain a binder of stuff to put into these chapters
- Don’t be afraid to change the plan

The Examiner's View

- Uh oh, not another thesis to read...
- Your examiners are busy people
- Examining theses is a chore, but:
  - "It might help me keep up to date with an area of research"
  - "I might learn something"
  - "I might gain a new colleague"
- Note: the reading will be done in trains, planes, and departmental

  meetings!

Examiner's First Question

- What's this one about?
  - Examiners have little time available, so they want to extract

    the most juice in the shortest time.

Typical scanning order of a new thesis

abstract bibliographie conclusion Contents

- This may be enough to decide whether it's worth a PhD.
- Then:

  1) What questions now spring to mind?

  2) Were the questions answered?

Corrections

“Now there must be some corrections…”

- Some examiners don’t feel they’ve done the job unless they find some corrections to do.
- Typical corrections
- Typographical / grammatical errors
- Poor presentation
- Missing statements / references
- Superfluous / redundant statements)

Corrections

- Missing pieces of work
- Whole sections missing … for example:
  - research questions
  - critical review of literature
  - research methodology
  - presentation of results
  - validation of results
  - discussion and conclusions

Thesis Defence

- **“Let’s see, what can I ask the candidate?”**
  - **The examiners may have decided before the exam whether to pass you.**
- **Defence, oral, viva, exam, …**
  - **viva = “viva voce” = “lively discussion”**

Thesis Defence

- **The exam is to check it's your work…**
  - **Talk fluently about the work;**
    - **show you've thought about it (which you have!).**
  - **This is easy**
    - **after all you've spent four+ years talking about it!**
- **…and a chance to clarify things that aren't clear in the thesis.**
  - **These are areas where corrections are likely.**

Making PowerPoint Slides

Avoiding the Pitfalls of Bad Slides

Make a good

Presentation

Presentation of Research

work

Check the logistics of your presentation

- Identify the key message of your presentation
- Understand the expectations and what will be the key review points

Tips to be Covered

- Outlines
- Slide Structure
- Fonts
- Color
- Background
- Graphs
- Spelling and Grammar
- Conclusions
- Questions

Outline

- Make your 1st or 2nd slide an outline of your presentation
  - Ex: previous slide
- Follow the order of your outline for the rest of the presentation
- Only place main points on the outline slide
  - Ex: Use the titles of each slide as main points

Develop the structure of your presentation

- Understand the key components of an oral presentation
- Know the usual structure of a good presentation

Slide Structure – Good

- Use 1–2 slides per minute of your presentation
- Write in point form, not complete sentences
- Include 4–5 points per slide
- Avoid wordiness: use key words and phrases only

Slide Structure - Bad

- This page contains too many words for a presentation slide. It is not written in point form, making it difficult both for your audience to read and for you to present each point. Although there are exactly the same number of points on this slide as the previous slide, it looks much more complicated. In short, your audience will spend too much time trying to read this paragraph instead of listening to you.

Slide Structure – Good

- Show one point at a time:
  - Will help audience concentrate on what you are saying
  - Will prevent audience from reading ahead
  - Will help you keep your presentation focused

Slide Structure - Bad

- Do not use distracting animation
- Do not go overboard with the animation
- Be consistent with the animation

that you use

Fonts - Good

- Use at least an 18-point font
- Use different size fonts for main points and secondary points
  - this font is 24-point, the main point font is 28-point, and the title font is 36-point
- Use a standard font like Times New Roman or Arial

Fonts - Bad

- If you use a small font, your audience won’t be able to read what you have written
- CAPITALIZE ONLY WHEN NECESSARY. IT IS DIFFICULT TO READ
- Don’t use a complicated font

Color - Good

- Use a color of font that contrasts sharply with the background
  - Ex: blue font on white background
- Use color to reinforce the logic of your structure
  - Ex: light blue title and dark blue text
- Use color to emphasize a point
  - But only use this occasionally

Colour - Bad

- Using a font color that does not contrast with the background

  color is hard to read

- Using color for decoration is **distracting** and **annoying**.

- Using a different color for each point is unnecessary

  - Using a different color for secondary

    points is also unnecessary

Background - Good

- Use backgrounds such as this one that are attractive

  but simple

- Use backgrounds which are light

- Use the same background consistently

  throughout your presentation

Background – Bad

- Avoid backgrounds that are distracting or difficult

  to read from

- Always be consistent with the

  background that you use

Putting together the support material

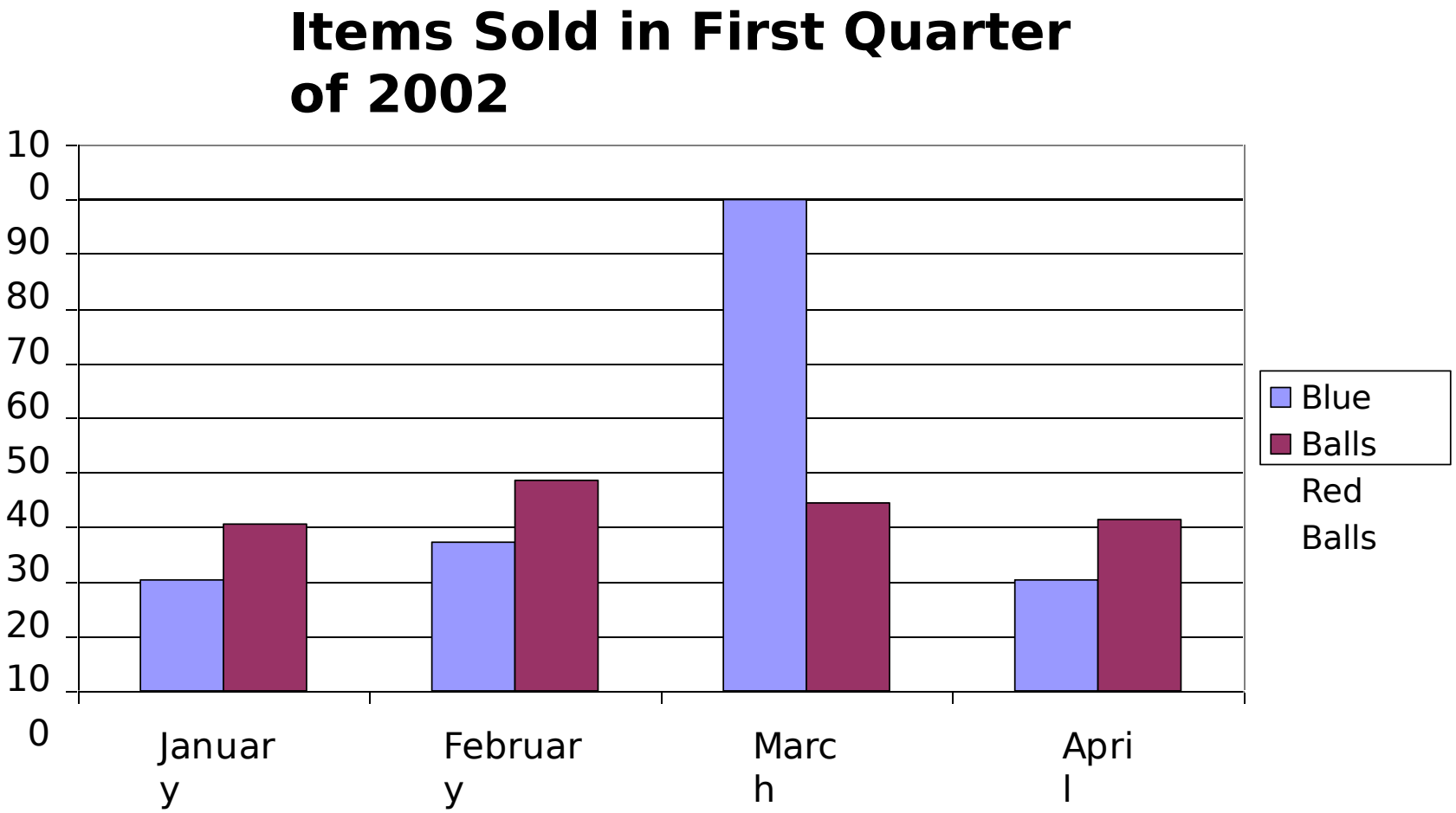
- Identify all the material you need to carry as supporting material

Graphs - Good

- Use graphs rather than just charts and words
  - Data in graphs is easier to

    comprehend & retain than is raw data
  - Trends are easier to visualize in graph form
- Always title your graphs

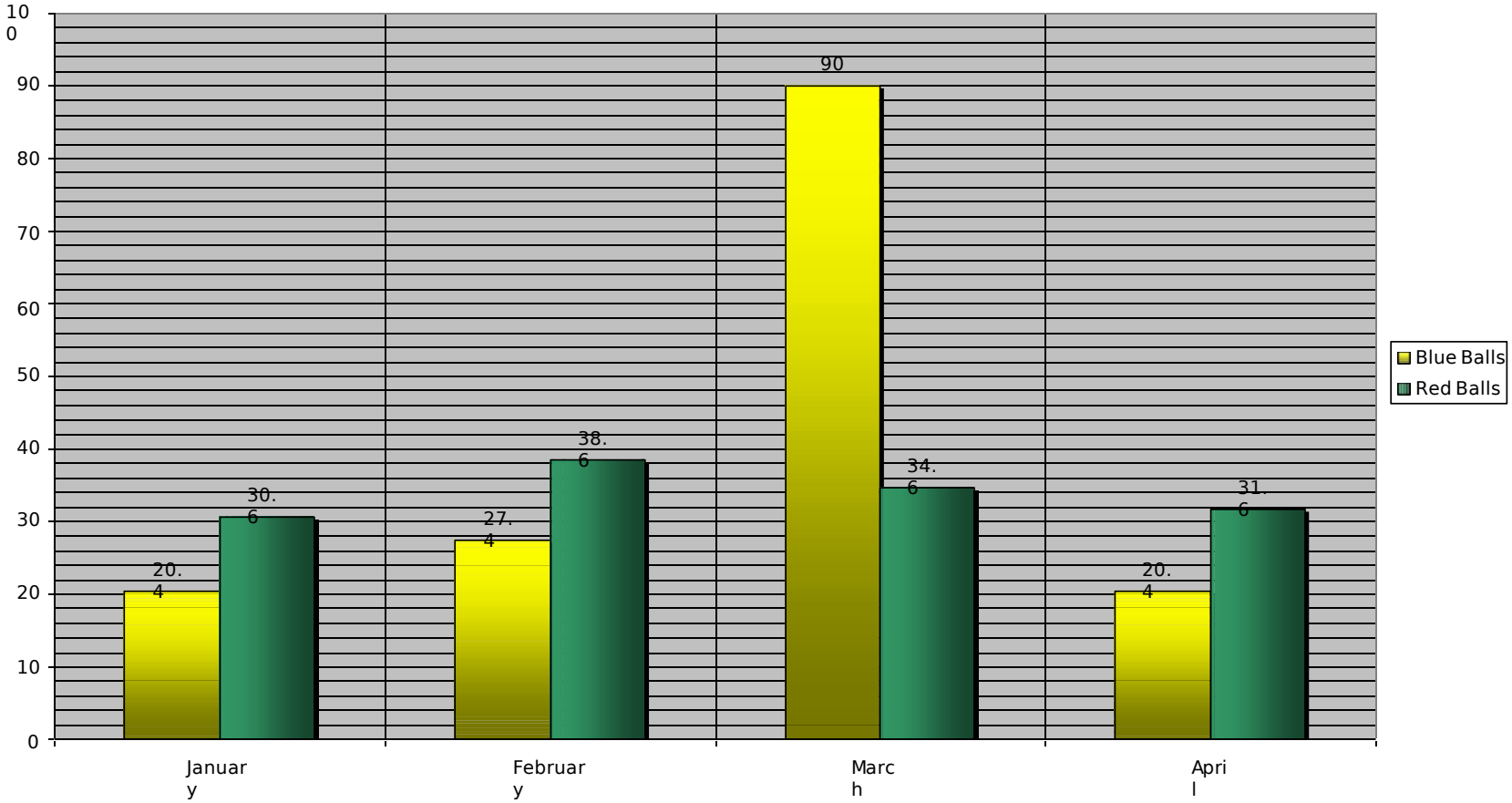
Graphs - Good


Items Sold in First Quarter of 2002
100
90
80
70
60
50
40
30
20
10
0
January
February
March
April
Blue Balls
Red Balls

Graphs - Bad

	January	February	March	April
Blue Balls	20.4	27.4	90	20.4
Red Balls	30.6	38.6	34.6	31.6

Graphs - Bad


100
90
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20.4
30.6
27.4
38.6
90
34.6
20.4
31.6
January
February
March
April
Blue Balls
Red Balls

Graphs - Bad

- Minor gridlines are unnecessary
- Font is too small
- Colors are illogical
- Title is missing
- Shading is distracting

Spelling and Grammar

- Proof your slides for:
  - speling mistakes
  - the use of of repeated words
  - grammatical errors you might have make
- If English is not your first language, please have someone else check your presentation!

Conclusion

- Use an effective and strong closing
  - Your audience is likely to remember your last words
- Use a conclusion slide to:
  - Summarize the main points of your presentation
  - Suggest future avenues of research

Get feedback on oral presentation

- Get your presentation reviewed: prepare a set of questions such as “Am I audible?”, “Am I too fast?”, “Am I reading too much from the slides?” etc, to get feedback
- Use the feedback to improve your technique

Prepare for delivery of your Oral presentation

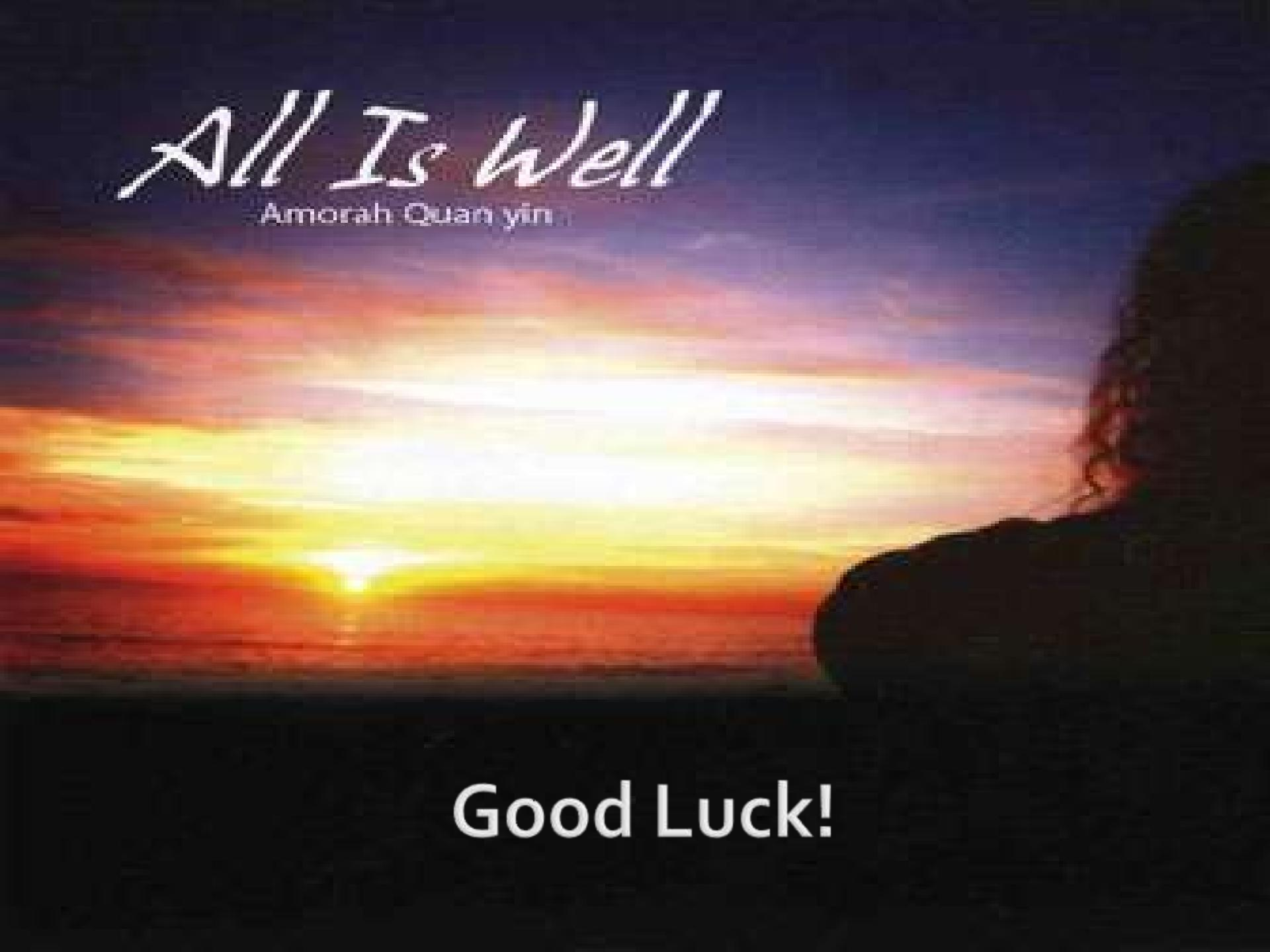
- Rehearse and time your presentation
- Prepare to answer questions from the audience: Fundamental concepts should be spoken from memory as reviewer will be looking for evidence of your thorough understanding.
- Read more than the content you are presenting; keep sources ready on hand for reference.

Questions??

- End your presentation with a simple question

slide to:

- Invite your audience to ask questions
- Provide a visual aid during question period
- Avoid ending a presentation abruptly



Good Luck!