

# Design and Professional Practice 2

## Technical Report Writing

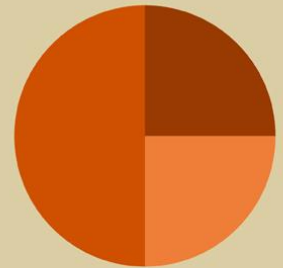
Dr Ian Radcliffe





## Aims and Objectives

The aim of this session is to provide you with a basic understanding of what is needed to a traditional technical report.





## Intended Learning Outcomes



- Understand what the purpose of a report is.
- Appreciate the importance of understanding the reader.
- Be able to structure a clear report.
- Appreciate the role of images and labelling in relaying messages efficiently.





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COGNITION

Brief article

## What does Batman think about SpongeBob? Children's understanding of the fantasy/fantasy distinction

Deena Skolnick \*, Paul Bloom

*Yale University, New Haven, CT, USA*

Received 24 May 2005; received in revised form 6 October 2005; accepted 10 October 2005

### Abstract

Young children reliably distinguish reality from fantasy; they know that their friends are real and that Batman is not. But it is an open question whether they appreciate, as adults do, that there are multiple fantasy worlds. We test this by asking children and adults about fictional characters' beliefs about other characters who exist either within the same world (e.g., Batman and Robin) or in different worlds (e.g., Batman and SpongeBob). Study 1 found that although both adults and young children distinguish between within-world and across-world types of character relationships, the children make an unexpected mistake: they often claim that Batman thinks that Robin is make believe. Study 2 used a less explicit task, exploring intuitions about the actions of characters—whom they could see, touch, and talk to—and found that children show a mature appreciation of the ontology of fictional worlds.

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**Keywords:** Cognitive development; Theory of mind; Fiction; Reality/fantasy distinction; Perspective taking

Young children appreciate the distinction between fictional creations and entities in the real world; they make the reality/fantasy distinction. For instance, five-year-olds can separate pictures of real things from pictures of pretend things (Morison & Gardner, 1978), and can also distinguish fantastical events from real ones (Samuels & Taylor, 1994) (see also DiLalla & Watson, 1988; Golomb & Galasso, 1995; Harris, Brown, Marriot, Whittall,

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# Why write a technical report?

- Express ideas, findings
- Convey authority
- Make a request
- Stimulate discussion





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# Before you write anything

Can you answer the following:

- What is the aim of the report?
  - Not the aim of the project
- Who are you writing for?
- What is the key message?
  - What are you trying to say?
  - What is the report about?
- How long is the report to be?
  - 2,000 vs 20,000 words?





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- They are the most important person
- Impossible to write for everyone at once
  - Know the professional group before you start
- Select the right language and level of detail
- Customise your content



# Standard report structure

Introduction

Methods and Materials

Results

Discussion / Conclusion

What is the problem?  
Why do we need to do the study?  
How are we going to tackle it?  
Aims / Objectives / Hypothesis

What did we do?  
How did we do it?

What did we find?

What do our findings mean?  
How do they compare with others?  
What are the limitations?  
What do we recommend for the future?

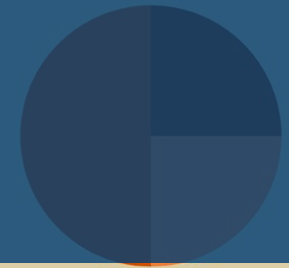




## Other points about structure



- Structure is not fixed
  - Unless you are told it is
- Factual material and measurements are kept completely separate from opinion and interpretation
- Structure helps your reader
  - Standard model is expected
  - Always signpost







## The importance of images

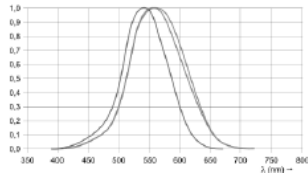
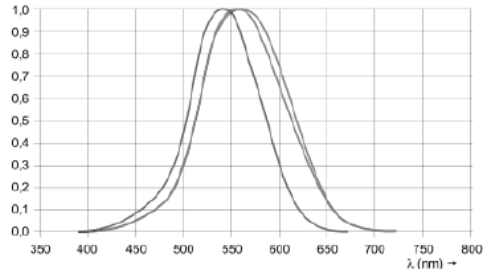
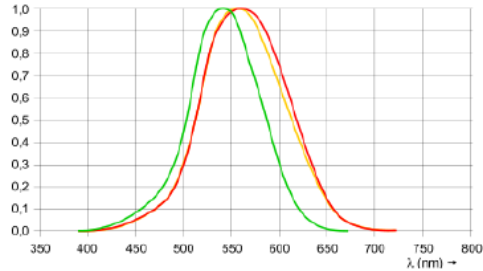


- Images are easier to process than words
  - Hence they are used for emergency signs
- They need to be properly labelled
  - Avoid confusion in the reader
- Words can be confusing and mis-interpreted
- The image and the text must connect





What's wrong with this graph?



## Figures

- All need labels
- Must stand alone
  - Captions should be descriptive enough to allow separation from the report
- Should be coloured appropriately
  - Clear in monochrome
  - No red & green
- Text must be legible
- Graphs must have axis labels, units, legends
- Must be referenced in the main text

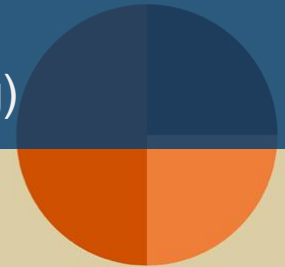




## Layout



- Layout and format are important
  - ‘The report should look as good as it is.’ (The IET, 2012)
  - Break down sections for readability
  - Use headings and sub-headings (signposting)



- Don't detract from your message!
  - Grammar and spelling should be impeccable
    - The car is now in a safe condition to be driven.
    - The car is not in a safe condition to be driven.
  - Be consistent
- Be accurate and precise
  - Your material should not be subject to interpretation
  - Avoid words such as 'basically', 'fairly', 'rather'
  - This is not a novel



- Formal language
  - Don't write the way you speak (or text!)
  - Clear, not grandiose
  - Avoid jargon
  - Avoid contractions
  - Use full sentences
- Don't confuse more with better
  - Words with more syllables are not (necessarily) better
  - A sentence with more words is not better
  - A longer report is not better





## Tense and Person



- Tenses?
  - Past tense for methods & often background
  - Present tense for facts that are and will forever be true
  - May discuss data in present tense (adds sense of immediacy)
  - Discuss your device in present tense
- First vs. third person?
  - Debatable
  - Changing
  - 'It is the opinion of the author that ....'

### First Person

I, We



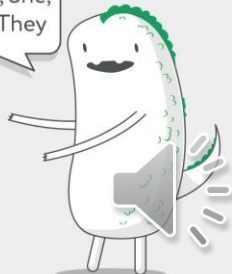
### Second Person

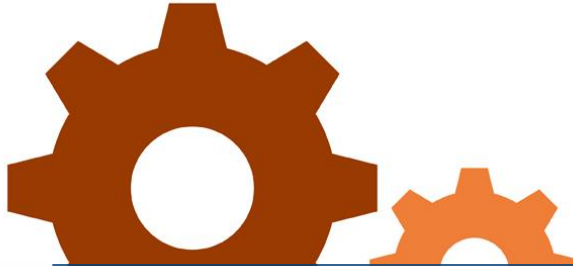
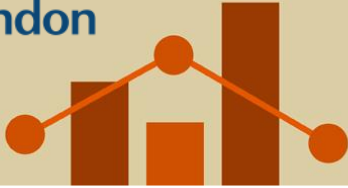
You



### Third Person

He, She,  
It, They





## Abbreviations



"I'm off to the A.G.M. the C.B.I. then the D.T.I. - after that I'm going home to B.E.D."

- Don't over-use
  - Use the common ones
- Define each one at first use and then use it consistently
- In figures and tables: (re)define in the caption
- Often a glossary/list of nomenclature is included (either after tables of figures / tables or as an appendix)

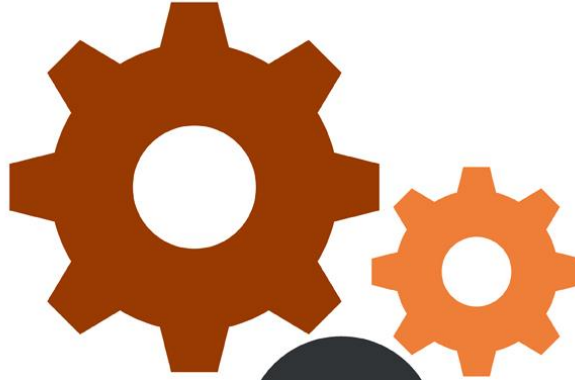


## Tips for writing a better report

- Give yourself time
- Get started – write something
- Don't have to write linearly
- Put yourself in the position of the reader
- 'Forget' what you think you know
- Read it out loud
- Write it, read it, edit it, put it away, read it again, edit it again
- Be ruthless about the final product







## Summary



- It's all about the reader, so think before you write
- Give yourself time to write and edit
- You can say more with a well labelled image than you can with several pages of text

