Science presentation

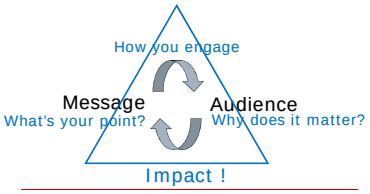
Publication *vs.* Presentation

Publication	Presentation
Audience – narrow/expert	Audience – broader
Read (passive voice)	Listen (active voice)
Sentences, paragraphs	Phrases, dot points
Time – lots (hours)	Time – little (4 sec)
Distance – arm's length	Distance – metres to vast
Detail [↔]	Broad brush [→]
Introduction	Need
Methods	Approach
Results	Supporting evidence
Tables & Figures	Conclusion
Discussion & Conclusion	Take home message

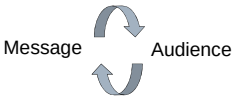
Qualities of good/bad talks

Good	Bad
Interactive	Read slides
Engaging	Incoherent
Humorous	Too fast/slow
Conversational	Didn't engage with audience
Clear	
Credible	No feeling/emotion
Strong visuals, limited text	Wrong slides – voice/ slides disconnected

Setting the stage



1. Defining the message



Message

What's your story?

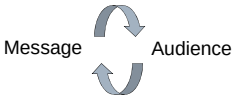
How much time do you have?

How much detail can you give?

Define the Story

Need
Approach
Supporting evidence
Evaluation
Conclusion

2. Know your audience



It's **not** about **you**, it's about **them** and the **message**

Audience

Scientific & technical peers
Donors & funding agencies
Industry stakeholders
Government managers & policy makers
Community members
Media

Organise the Story

Storyboard
=
Roadmap

Outline of a scientific paper

- Materials & Methods
  - Method 1
  - Method 2,3, ...
  - References
- Results
  - Result 1,2,3.....
  - Tables
  - Figures
- Discussion
  - Review
  - Compare
  - Synthesis
- Conclusion

Presentation
- Need
- Approach
- Supporting evidence
- Evaluation
- Conclusion

Building the Presentation

You've focused the **Story**
You know the **Audience**
You've got the **Roadmap**
You know the **Venue**
You have a **Time limit**
NOW it's time to build the **Presentation**

Presentation principles (1)

Presentations don't need slides
Simplicity & Clarity = Impact
Slides MUST complement not compete
Audience **can't** read & listen at same time
Use a Handout for detail
Most pub^{n} tables & graphs unsuitable
Graphs > tables
Never need to apologise

Introduction
["You can read this as well as me"]

The objectives of this project were to integrate knowledge and information from a variety of sources and provide a framework for understanding the possible cause for this decline in relation to three broad categories of factors: fishing, biology, and environment. Collectively, managers, fishers and scientists considered an array of possible explanations for the decline in banana prawn catch in the Weipa region, which can be described by three main hypotheses:

1. Prawn recruitment has collapsed due to over-fishing.
2. Recruitment has collapsed due to a change in the prawn's environment.
3. Adult banana prawns are still present, but fishers cannot find or catch them because:
   - The searching power of the fishing fleet has declined.
   - Adult banana prawns are staying inshore away from fishing grounds.
   - Adult banana prawns no longer form dense aggregations that allowed them to be targeted by the trawl fishery.

Six x six 'rule'

- No more than six dot points
- No more than six words/point
- No more than six dot points
- No more than six words/point
- No more than six dot points
- No more than six words/point

Introduction
[Confusion with context]

1. Prawn recruitment has collapsed due to over-fishing.
2. Recruitment has collapsed due to a change in the prawn's environment.
3. Adult banana prawns are still present, but fishers cannot find or catch them because:
   - The searching power of the fishing fleet has declined.
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Three x three is better

Banana prawn stock collapse [Confusion with context, premise]

1. Over-fishing
2. Environmental change
3. Catchability

Six x six 'rule'

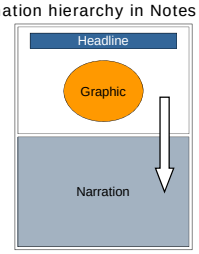
- No more than six dot points
- No more than six words/point
- No more than six dot points
- No more than six words/point
- No more than six dot points
- No more than six words/point

Three x three is even better

One point/slide is even better!

Banana prawn stock collapse: 3 hypotheses

Information hierarchy in Notes Page view



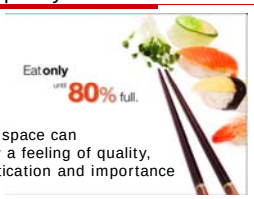
Climate change & sea level rise

Climate change & sea level rise [narrative/handout **not** the slides]

Which is better?

from presentationzen (2008)

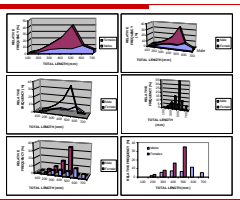
Simplicity!



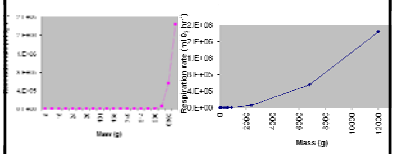
Empty space can convey a feeling of quality, sophistication and importance

from presentationzen (2008)

Which is better?

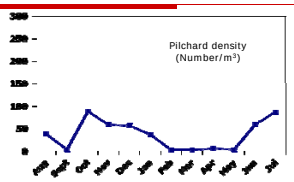


Choose scale carefully

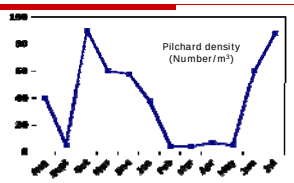


What's the point you're trying to make?

Is there seasonality?



Seasonality



Which is easier to read?

Weight (g)	1.9	1.6	2	7.6	3.6
Lipid content (ng)	2345	67647	744	56567	3892
Respiration rate ($mlO_2.hr^{-1}$)	0.005	0.02	0.004	0.13	0.008

Weight (g)	Lipid content (ng)	Respiration rate ($mlO_2.hr^{-1}$)
1.9	2345	0.005
1.6	67647	0.020
2.0	744	0.004
7.6	56567	0.130
3.6	3892	0.008

It's not the numbers – it's what the numbers mean

Is a graph better?

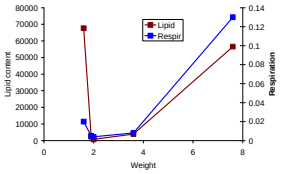


Photo or schematic?

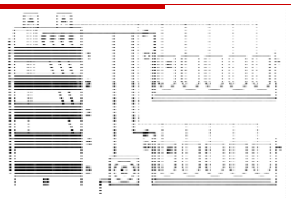
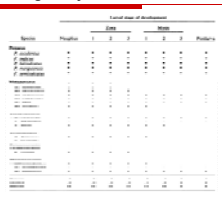
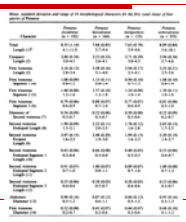


Photo or schematic?

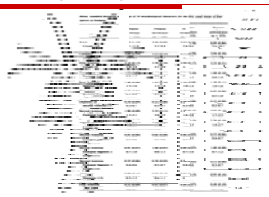
Reference collection
["I apologise you can't read this"]



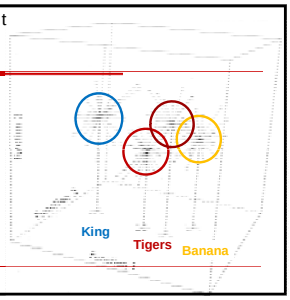
14 Morphological characters ["You don't need to see all this"]



14 Morphological characters



Discriminant function analysis



Use of colour (1)

Don't EVER write
in **RED** on a blue background

or in **BLUE** on a red background

Use of colour (2)

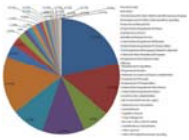
DON'T use **GREEN**
and **RED** to highlight text

or **GREEN** and **RED**
in a graph

Use of colour (3)

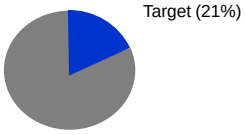
If you need lots of colours in a graph it's probably **too complicated**

4 to 6 max!

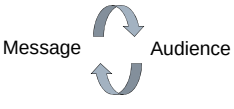


http://colorbrewer2.org/

Use of colour (4)



3. Transmitting the message



Top fears

1. Speaking in public	**41%**
2. Heights	32%
3. Insects & bugs	24%
4. Financial problems	23%
5. Deep water	22%
6. Sickness	20%
7. Death	19%
8. Flying	18%

Confidence

Organisation builds confidence

Preparation builds confidence

Practice builds confidence

Presentation principles (2)

DON'T read – notes or slides
Include only the most important points
Speak slowly
Speak clearly
Be "In the moment"
Engage, re-engage the audience

Presentation principles (2)

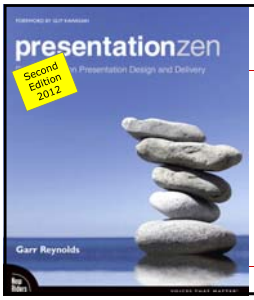
DON'T read – notes or slides
Include only the most imp
Speak slowly
Speak clearly
Be natural & show intere
Engage, re-engage the

The message is:

Words	7%
Vocal Delivery	38%
Body language	55%

Audience engagement

Make them **comfortable**
Use **first** and **second** person (I/You)
Eye contact = honesty
Smile = glad to be there
Inflection & the power of the **pause**
Body language – hands, gestures
Podium – barrier, separation, fortress
Effective content



Less is More

TED

Technology – Entertainment – Design

Rob Harmon

Elevator talk

Define the Story – 2-minute drill

The narrative, the story

- Too long?
- Too much?
- Unfocussed?
- Did they get it?
- Who's confused?

Content tighter & clearer – to you & listener

Early exposure – vulnerable & confronting

Example

Science presentation