How to Structure and Write Research Papers

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Training/support in paper writing

- Supervisors/experienced colleagues
- Discipline specific writing workshops
- Peer writing groups
- Books and articles
- Research support units
How to workout what your paper is about – the **Golden Thread**

- What is/are the most important conclusions from your research?
- Which is the best audience to know about this work?
- Making contribution to one particularly theory or question = one major story line.
- Maybe original aim of research, but check and possible revise aims after completed research.
Choosing a journal

Good to do in conjunction with working out the **Golden Thread**

1. What's the journals standing?
2. Is my research relevant to the journal?
3. Are readers of the journal the right audience for this material?

Can use **Scopus** search to check this out....

TITLE-ABS-KEY ( nature AND based AND tourism )

2,444 document results
Look at the instructions for authors
Use other papers as examples of how it’s been done – deconstruct them

Use similar papers from the same journal to give you an idea of the expectations... e.g.

• How long are the different sections of the paper?
• How have others described the method used, what types of analysis of data etc, introduced the concepts etc?
• Now structure the argument for your paper.

Remember you are writing an argument and it needs to be clear, well structured and lead to the conclusions.
Mind mapping

We find mind mapping out before writing helps:
• **Golden Thread**

Before writing you should download and carefully read the Authors Instructions for the journal.

Keep in mind the length of the paper (number words). This will affect how much detail you can include.
## Different structures different journals

Sections of a paper and order they can be written

<table>
<thead>
<tr>
<th>Sections</th>
<th>Order written</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>1</td>
</tr>
<tr>
<td>Abstract</td>
<td>10</td>
</tr>
<tr>
<td>Introduction</td>
<td>7</td>
</tr>
<tr>
<td>Aims (last bit of introduction)</td>
<td>2</td>
</tr>
<tr>
<td>Methods</td>
<td>4</td>
</tr>
<tr>
<td>Results (Findings) Tables and Figures</td>
<td>5</td>
</tr>
<tr>
<td>Results (Findings) text</td>
<td>6</td>
</tr>
<tr>
<td>Discussion</td>
<td>8</td>
</tr>
<tr>
<td>Conclusions</td>
<td>3</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>9</td>
</tr>
<tr>
<td>References</td>
<td>11</td>
</tr>
</tbody>
</table>
Title, Aims & Conclusion

You will have written these early on and redrafted: Keep in mind...

1. Main results
2. Importance of results
3. So what?

Remember – the Golden Thread....
Introductions

Carefully stepped out argument from the most general to the most detailed – e.g. your aims.

Aims = key to **Golden Thread**
How do I structuring my introduction?
Turning circles into a triangle

The literature relating to your topic
Your research

The text of the introduction
Aims
Turning circles into a triangle

The literature relating to your topic

Your research

The text of the introduction
Stepped out argument Leading to the aims

Aims
Text for Methods & Results

**Methods** - often first to write

- Easiest - has obvious structure and content.
- Challenging - using as few words as possible to clearly describe what you did.

Writing instructions for doing up shoelaces!

- Some of reviewer’s problems with a paper not because there was a problem with your did, but because of how you described what you did.
Importance of context in methods

Remember readers can be anywhere in the world; in Ghana, Japan or Finland - they have to understand the context of where you did the work.

This includes things that may be different about your location (Portugal) compared to ones they are familiar with.
Results/Findings:
Highlighting/summarise important results.
Text must match any tables and figures.
Sometimes starts with a summary of the scale/detail of the findings/results before going on to write text for the results.
Structure/order should match aims - including headings.
Put the most important information first - in the first part of a section, in the first sentence in a paragraph, and in the first words in a sentence.
Table 1
Distribution of Peer-Reviewed Research Articles Examining Volunteer Management in Events by Study Location and Country of Author (Based on Author Affiliation)

<table>
<thead>
<tr>
<th>Country</th>
<th>Study Locations [Frequency (%)]</th>
<th>Authors [Frequency (%)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>13 (17.8)</td>
<td>31 (19.7)</td>
</tr>
<tr>
<td>Canada</td>
<td>11 (15.1)</td>
<td>25 (15.9)</td>
</tr>
<tr>
<td>Australia</td>
<td>11 (15.1)</td>
<td>23 (14.6)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>9 (12.3)</td>
<td>27 (17.1)</td>
</tr>
<tr>
<td>Norway</td>
<td>7 (9.6)</td>
<td>12 (7.6)</td>
</tr>
<tr>
<td>Greece</td>
<td>4 (5.5)</td>
<td>8 (5.1)</td>
</tr>
<tr>
<td>Korea</td>
<td>4 (5.5)</td>
<td>6 (3.8)</td>
</tr>
<tr>
<td>China</td>
<td>4 (5.5)</td>
<td>3 (1.9)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2 (2.7)</td>
<td>6 (3.8)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2 (2.7)</td>
<td>5 (3.2)</td>
</tr>
<tr>
<td>Iran</td>
<td>1 (1.4)</td>
<td>3 (1.9)</td>
</tr>
<tr>
<td>Germany</td>
<td>1 (1.4)</td>
<td>2 (1.3)</td>
</tr>
<tr>
<td>Egypt</td>
<td>1 (1.4)</td>
<td>2 (1.3)</td>
</tr>
<tr>
<td>South Africa</td>
<td>1 (1.4)</td>
<td>1 (0.6)</td>
</tr>
<tr>
<td>Kuwait</td>
<td>–</td>
<td>1 (0.6)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>–</td>
<td>1 (0.6)</td>
</tr>
<tr>
<td>Taiwan</td>
<td>–</td>
<td>1 (0.6)</td>
</tr>
<tr>
<td>Not specified</td>
<td>2 (2.7)</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>73*</td>
<td>157*</td>
</tr>
</tbody>
</table>

*Does not add to 100% due to rounding.

Note: Total > 71. One article by Dickson, Benson, and Terwiel (2014) and one article by Kemp (2002) examined volunteer management in events in two different countries.
Tables

• Relatively easy to layout.
• How many tables you will you need (and do you need any)?
• What sort of information goes in them?
• How many columns and rows are required?
• Use table function in word to set out tables, but not their formats.
• Do not use spaces or tabs.
• Journals hate to much white space!
Figures

Take a lot of work - so use them sparingly

Figure legends at bottom of figure.

May have to combine figures.

Label axes and make sure scales and points clear when reproduced.

Have to work in B/W as well as colour
Discussion

Discuss your results in relation to the literature

• Why they are important, and their limits.
• Often longer than introductions.
• Start directly summarising answer to aims in first paragraph
• Then paragraphs relating key results in relation to literature – e.g. contribution to knowledge
• Practical implications of research
• Research limitations and further research
Some common sections/topics for the discussion are...

Restating your aims as outcomes (and make sure they are the most important point of the research!) e.g.

“Geotagged social media photos can provide protected area managers with timely and useful data about spatial-temporal patterns of use and the popularity of different types of infrastructure as a complement to, and in concert with, other visitor monitoring approaches. The availability (Levin et al. 2015), and relative spatial accuracy (Zielstra and Hochmair 2013) of social media data, is particularly important in situations when resources and/or remote locations limit on ground visitor monitoring. Therefore, access to social media data on how visitors access, use, and value different areas and infrastructure in protected areas will be increasingly critical for those responsible for their management (Hausmann et al. 2017, Heikinheimo et al. 2017).”
Discuss your results in relation to the literature....

What are the implications of your work? How does it add to the literature? what are the practical implications of your work etc?

*The results of this and other case studies (xxxxxx) demonstrate that.....*

*In this and several other studies there was......*

*Results from this and other studies all found that....*

*This study doubles xxx the number of xxx with quantified values of xxxx, and, to our knowledge, it is one of only xxx studies examining xxxxx.*
Need to also discuss the limits of the research and where to next (future research)...

- *This case study considers xx but not the following processes.*
- *This case study only looked at xxxx and not at xxx and hence was not able to assess xxxx*
- *Estimation of xxxx was based on a number of assumptions. It was assumed that xxxxx. A second assumption was that xxxx. Third, we assumed that xxx. What is clear is that xxxx*
Abstract

The introduction sentence(s) can be a statement. The aims sentence can be combined with some of the methods with a follow on link from the introduction. e.g. *Therefore xxxx was assessed in xxx using xxx.*

The results should be clear and contain the major points e.g. highlight the relationship between data – which was larger, smaller, greater etc.. The trick is to get in as much detail in as possible including some actual values.

The discussion/conclusion sentences should reinforce the importance of what was found.
Also strategies for dealing with reviewing process

- But watch this - the third reviewer!
- http://www.youtube.com/watch?v=VRBWLPYCPY
Just before submitting:

• Reread the author guidelines to make sure you have formatted the manuscript, tables and figures correctly including the references, & that it’s not too long.

• Double check all references in text are in reference list and the reverse.

• Have the final version proof read – particular the references !!!!!!
Dear Editor xxxxxxx

**Manuscript proposed for publication in xxxxxxxxxx**

Please find attached a manuscript titled: ‘xxxxxx’, which we are submitting for consideration for publication. This original unpublished manuscript xxxxxxxxx. It highlights the fact that few researchers have xxxxx. Itxxxx.

We believe that this topic meets the objectives of your journal. A search of scholarly citation databases shows that there are no papers on this specific topic in any xxxx journals. We also wish to confirm that this manuscript is not being submitted to any other journal for publication. My co-authors have authorised me to submit this paper for publication as its corresponding author. I understand that if published, the paper will not be reproduced or republished elsewhere without the consent of the publisher.
Online submission

• Have plenty of time – as it takes a while!
• Will need to register first including providing contact details, affiliations and areas of expertise (because they often use authors as reviewers!).
• They will then send you an e-mail with your password and user name.
Then log in

• Have all the files in correct format
• Be ready with information about each author - including e-mail address, affiliations, phone numbers etc!
• Often paste title and abstract into drop box
• The paper you upload will often have to have all personal information removed (e.g. authors and their affiliations and acknowledgments).
Some extra things you often need

Covering letter - including agreeing to the conditions of the journal (e.g. all authors agree to submission of this version of the document, that the paper is not being simultaneously reviewed by any other journal, that it has not previously been published) and that it is relevant to the journal (and why). – VERY IMPORTANT!

More important the journal – more important this letter – what the edit reads before even deciding to send to review.

Suggested referees - provide details of potential referees. Think about this as it’s not a good thing to rush. You will need to find and include their contact details!
Then.....

Program will generate PDF of paper.
You have to check it and agree it’s ok.
Do check it! as often you might find you have uploaded the wrong version, e.g. not the final one or not the one with all identifying material removed etc.
Paper goes to editor/subeditors

Most journals assess paper as suitable before sending it to review.
If they do not feel it is relevant to the journal, good enough or formatted correctly, they might reject it then and there!
Otherwise it’s off to reviewers... and you will wait 3 months or more to hear back!
Reviewers recommendations

**Accept with minor changes.** Fix typos, missing details in the references and stuff like that.

**Accept with major changes.** Clarifying material, adding sections and rewriting parts of the document. It may require some changes to the analysis, and even in a few cases a recommendation for some more field work. A critical issue here is whether the paper will be sent back to the reviewer or not and how large are the commended changes?

**Reject** – but resubmit (similar to major changes)

**Reject – but not resubmit** - not the right journal?

Higher impact journal, higher rejection rate - not every experiment is worth publishing in Nature!
4 types of reviewers comments

1. **Minor editorial changes.** Start with these as they are easy to do and remind you of the content and detail of the paper. They are about typos etc through to recommendations for rewording sentences etc.

2. **Slightly more complex recommendations,** often involving adding or clarifying information in the methods and results. Again, often just do them if you agree with them.
4 types of reviewers comments

3. Recommendations for structural changes etc.
Do you agree with them?
Sometimes problem is lack of clarity in the methods – so make argument for not doing changes, but also apologise for not having been clearer in the methods and fix methods!
If you agree with suggestions and it’s not too much work (e.g. re start project) then do the changes. It may take a week or more but it’s usually worth it.
4 types of reviewers comments

4. Major changes you do not agree with and do not want to do.

Issue - does it go back to the reviewer or the editor?
If it’s reviewer, you have to convince them that they were wrong! much harder than convincing the editor, who may not fully agree with the reviewers comments anyway.
In some cases you will have to say – ok, it’s not going to get published here and send it somewhere else.
   In others you can make a clear argument why the changes are not required.
Your response to reviewers comments

Journal will specify if you can resubmit, and often by when....

You will need to submit

1. Revised paper
2. New cover letter
3. Detailed response to reviewers comments

Be polite and make it easy for the editor/reviewers
Finally....

Aim at resilience... publishing can be hard but its worth it in the end!

Good luck and happy publishing!