Multimedia Retrieval
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Lecture 10: Scientific reports

Egon L. van den Broek
Why?

• too little!
• too late!?
• but .. .still
Global structure (1)

• Title, Abstract, keywords
• Introduction
• Methods
• Results
• Discussion
• References
(a) The whole structure is governed by the Results box; everything in the article must relate to and be connected with the data and analysis presented in the Results section.

(b) (1) The Introduction begins with a broad focus. The starting point you select for your Introduction should be one that attracts the lively interest of the audience you are aiming to address: the international readers of your target journal.

(2) Between these two points, background information and previous work are woven together to logically connect the relevant problem with the approach taken in the work to be presented to address the problem.

(3) The Introduction ends with a focus exactly parallel to that of the Results; often this is a statement of the aim or purpose of the work presented in the paper, or its principal findings or activity.

(c) The Methods section, or its equivalent, establishes credibility for the Results by showing how they were obtained.

(d) The Discussion begins with the same breadth of focus as the Results – but it ends at the same breadth as the starting point of the Introduction. By the end, the paper is addressing the broader issues that you raised at the start, to show how your work is important in the ‘bigger picture.’
Title: 4 strategies

1. Provide as much relevant information as possible, but be concise
2. Use keywords prominently
3. Choose strategically: noun phrase, statement, or question?
4. Avoid ambiguity in noun phrases

Rule of thumb: max. 10-12 (iff needed: 15) words
Abstract

• Check how many words are allowed
• Size in relation to main body size
• Science abstract versus management summary
• Grab attention!
• Keywords: Integrate in abstract and add separately when allowed
Introduction (1): statements’ 5 stages

1. about the field of research to provide the reader with a setting or context for the problem to be investigated and to claim its centrality or importance.

2. specifically about the aspects of the problem already studied by other researchers, laying a foundation of information already known.

3. that indicate the need for more investigation, creating a gap or research niche for the present study to fill.

4. giving the purpose/ objectives of the writer’s study or outlining its main activity or findings.

5. Optional ones that give a positive value or justification for carrying out the study.
Introduction (2): head, body & tail

• Start smooth;
  e.g., with a quote, joke, statistic or anecdote

• Background: Included or as a separate section

• End with an overview of the rest of the article
Methods

• participants/subjects
• materials and apparatus
• Setting (can be combined with participants/subjects or procedure)
• design (can be integrated with procedure)
• procedure
Results (1): Reaching agreement

1. which data should be included;
2. what are the important points that form the story of the paper; and
3. what is/are the take-home message or messages.
Results (2): Focussing

1. What do my results say?
   – two sentences maximum, main points only, no background!
2. What do these results mean in their context?
   – i.e. what conclusions can be drawn from these results?
3. Who needs to know about these results? / Who’s the audience?
4. Why do they need to know?
   – Result’s contribution to the field?
   – What will others be missing if they don’t read your paper?
## Results (3): Tables vs. Figures

<table>
<thead>
<tr>
<th>Most useful</th>
<th>Table</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>When working with number</td>
<td>number</td>
<td>shape</td>
</tr>
<tr>
<td>When concentrating on individual data values</td>
<td>individual data values</td>
<td>overall patterns</td>
</tr>
<tr>
<td>When accurate or precise actual values are</td>
<td>most important</td>
<td>less important</td>
</tr>
</tbody>
</table>
Discussion

• Brief presentation /summary of the main findings
• Interpretation of the results
• Assessment of study strengths and weaknesses
• Comparison of findings with previous studies
• Consideration of clinical and scientific implications
• If relevant, suggestions for future research
• Conclusions
• Punchline
References: evaluation criteria

- up-to-date
- good sources
- representative overview of the field
- critical references included
- well formatted
Referee’s criteria (1)

1. Is the contribution new?
2. Is the contribution significant?
3. Is it suitable for publication in the Journal?
4. Is the organization acceptable?
5. Do the methods and the treatment of results conform to acceptable scientific standards?
Referee’s criteria (2)

6. Are all conclusions firmly based in the data presented?
7. Is the length of the paper satisfactory?
8. Are all illustrations required?
9. Are all the figures and tables necessary?
10. Are figure legends and table titles adequate?
11. Do the title and Abstract clearly indicate the content of the paper?
12. Are the references up to date, complete, and the journal titles correctly abbreviated?
13. Is the paper excellent, good, or poor?