English Solutions for Research Writing:

Checklist for Journal and Conference Papers Based on an Experimental Research Design

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This is a checklist and guide to common format and punctuation errors for engineering and other scientific articles based on an experimental research design. It is from a self-study guide written to help graduate students and researchers at Hanyang University in Seoul, Korea, write for publication in English in engineering and applied sciences. Parts may be helpful to other non-native speaking scientists writing in English as well as other novice researchers. Any part may be freely distributed in electronic or print form for non-commercial, educational purposes either for self-study or classroom use **as long as information indicating attribution is included as follows**:

The full-text of the entire guide to engineering and applied sciences writing can be found here: **http://ctl.hanyang.ac.kr:8001/writing/engineeringresearchwritingebook.pdf** (2.8 MB)

For more information on appropriate use see

This edition is currently being revised. We welcome suggestions or corrections: adamturner7@gmail.com

Section I Checklist

Follow these checklists to review your paper when writing full journal articles that have an experimental structure.

In some fields that have structured abstracts such as medicine, not all points below on abstract writing may apply.

Abstract writing checklist

1. I have found and followed the “guidelines for authors” from the journal website.	❑
2. The abstract is the correct number of words.	❑
3. I have written my abstract as a complete text. The reader can understand the key results of my research without reading the whole paper.	❑
4. The main keywords or index words are contained in the title and abstract.	❑
5. I have used as many index words as possible (usually 5) to make it as easy as possible to search my article online. I have consulted the official keywords in my field if appropriate. I have included both general (for non-specialists) and specific (for specialists) key words for interdisciplinary journal papers.	❑
6. I have fully spelled any abbreviations that should be spelled in my field. I have reintroduced those abbreviations in the introduction since the abstract should be written as a separate document.	❑
7. I do not include references from other individual papers directly in the abstract. I only describe my own research, well-known theories or methods, or problems of the field in general.	❑
8. I have included a sentence describing the research methodology used in the paper.	❑
9. I did not copy and paste any of the sentences from the paper directly into the abstract—especially the first two sentences of the introduction.	❑
10. There are no weak verbs such as “discuss,” or “examine,” or unclear terms such as “various methods.” I have described precisely how I did my research and what I found.	❑
11. (Recommended but not required.) The sentences of my abstract follow the same general structure as the rest of my paper: introduction, methods, results, and discussion.	❑
12. I have specifically stated the exact results, implications, and/or importance of the findings. I have quantified (used numbers or %) if possible.	❑
13. In the first few sentences of the abstract, I have shown how my paper addresses a research problem, a limitation of previous methods, or an issue or “gap” in the research in my field (not required but a characteristic of well-written abstracts in any field).	❑

Introduction section checklist

1. I classify the key methods or theories and clearly define the key terms and concepts in my paper using formal definitions where appropriate.	❑
2. I not only list previous research, but I also analyze, synthesize and evaluate the literature in my field related to my research problem.	❑
3. I clearly explain the research problem or the lack of research in the area I am working on.	❑
4. I mention the weaknesses or limitations of previous research or methods related to my research problem.	❑
5. I have made the importance of my paper clear by showing how it is different from previous research and why my research is needed in the field.	❑
6. I reintroduce all abbreviations such as scanning electron microscopy (SEM), in the introduction, even if I have introduced them in the abstract.	❑
7. I have chosen the journal I want to send my paper to after I have completed the first draft. I understand that if I send my paper to a general or multidisciplinary journal rather than a specialist journal, I may need to give more background information and definition of key concepts in the introduction.	❑
8. I have read the author guidelines from the journal and have looked at a sample of the journal I am sending my paper to in order to make sure that the correct reference system is being used.	❑
9. I use a variety of verbs to introduce previous research such as “suggested,” “proposed,” “developed,” etc.	❑
10. I have not copied and pasted the exact same sentence in the first line of my abstract and the first line of my introduction, as it is considered poor style.	❑
11. I have not copied and pasted any sentence from another article, even if I have given a reference. Instead I have rewritten the sentence in my own words as well as giving the reference.	❑
12. I introduce references in a variety of ways appropriate to my field using author names as the subject when discussing the work of an individual author as well as references at the end of the sentence.	❑
13. I have remembered to identify the corresponding author, to include any acknowledgements for those who have helped me, and to provide the exact grant number for any funding that I have received to do the research.	❑

Methods section checklist

1. I have explained my criteria for choosing any special materials/equipment or unusual methods that differ from commonly accepted procedures.	❑
2. I use transition signals to show the sequence of steps in my methods section.	❑
3. I have used active sentence structures to emphasize the choices I have made for my methods if necessary.	❑
4. I have provided enough information so that another researcher could replicate (do) the same experiment with the same results (this is not as easy to do these days, but it is still a worthwhile goal in science).	❑
5. I have explained the assumptions made in my model or method if they might be questioned.	❑
6. I not only describe my procedure, but I explain the reasons for choosing my methods where necessary by using sentences beginning with “To +Verb” or “In order to +Verb.”	❑
7. I have checked my paper again for any problems with passive sentence structure.	❑
8. I have checked any complex statistical methods again that I have used with this guide from *Nature*. http://www.nature.com/nature/authors/gta/Statistical_checklist.doc	❑

Results section checklist

1. I do not merely describe all of the results in a list, but interpret the important results for the reader. I use words like “significant,” “unexpectedly,” “surprisingly,” or “interestingly” to bring the reader’s attention to the most important results.	❑
2. If appropriate, I have pointed out any problems or inconsistencies with the data (not the same as limitations of the paper).	❑
3. If my paper does not have a separate discussion section, but a combined results and discussion section, I have also included references that compare my findings with the results in previous research papers.	❑
4. I have used the past tense to talk about the completed individual results of my paper, but I have used the present tense to talk about descriptions of figures or tables and generalizations based on these results.	❑
5. My tables have headings at the top, but my figures have captions at the bottom.	❑

Discussion/conclusion section checklist

1. I discuss only the most significant findings and do not simply repeat the results section with more commentary.	❑
2. I have noted any problems with the methods or data. I note the implications of these problems and how they might affect the validity of my conclusions.	❑
3. My discussion section includes references from other papers to either support or compare my research.	❑
4. I have analyzed the structure of papers in my field to understand the relationship between the results, discussion, and conclusion sections.	❑
5. I have identified and clearly explained the implications of my findings for the field if important.	❑
6. I have mentioned whether my results support or differ from previous research in the field. If they differ, I have attempted to explain why.	❑
7. I have mentioned some possible areas for further research, the importance of the findings, the limitations of the findings, or the implications and possible applications of my research (not always required but good practice).	❑

Proofreading

1. I printed out my article and viewed the figures, tables, and graphs in print (sometimes font size and color looks clear on screen but is not clear in black and white print). A font size of 8 is often seen as the minimum for readability.	❑
2. I have done the final proofreading on paper not on the screen. Final proofreading for grammar, format, and spelling is more effective on paper.	❑
3. I have found and followed the “guidelines for authors” from the journal website and check the correct format of the references for my target journal. The references are in a consistent format.	❑
4. My acknowledgements section has the grant number for my research.	❑

Section 2 Common Format and Punctuation Errors