

Research Article Self-Check Questions

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This checklist:

- Is intended for critical reading and review of your peers' articles or as an author checklist for writing your own articles before submitting to your supervisor/mentor, interested colleagues, and/or a journal for review.
- Summarizes general guidelines that may not fully reflect individual rules in your discipline or chosen journal.
- If you have questions, schedule a consultation with us: https://www.techlib.cz/en/83810

Based on:

Provenzale, J. M., & Stanley, R. J. (2005). A Systematic Guide to Reviewing a Manuscript. *American Journal of Roentgenology*, *185*(4), 848–854. https://doi.org/10.2214/AJR.05.0782

Bloschl, G. (2011). *How to write (and publish) a scientific paper in hydrology*. Europien Geosciences Union General Assembly 2011, Vienna.

https://younghydrologicsociety.files.wordpress.com/2019/11/bloschl_iugg_2019_iahs_sc.pdf

OR, D. (n.d.). Writing a scientific paper. https://ethz.ch/content/dam/ethz/special-interest/usys/ibp/soil-terrestrial-env-physics-dam/education/sientific comm/2015/1-Writing scientific paper ethz 2015.pdf

General

- → Is the manuscript written in clear, understandable, and appropriately professional manner for the target journal? Is the manuscript well-organized and conform to the author guidelines of the target journal?
- → Is it apparent why your study was conducted and what its contribution to the discipline are?



→ Are all hypotheses/research questions(s) listed and (hypotheses) tested adequately/ (research questions) answered, addressed?

Author List

- → Do you have the ORCID for all authors, including yourself? Read more: https://www.techlib.cz/en/84782
- → Do you know each person (if multiple authors) who contributed, according to CRediT? Read more: https://credit.niso.org/

Abstract

- → Does the abstract provide a complete summary of the article? After reading it, would I understand the aims, methods, and results of your study based on the abstract?
- → Does the information from abstract match with the content of the article?

Introduction & Literature Review

- → Is the problem your study addressed clearly defined? (hypothesis/research question/aim)
- → Is it clear why the study was conducted? Does it explain why it is important to address the issue?
- → Has the problem been placed in the context of the state-of-the-art/theory in your discipline? Have you conducted a thorough and focused analysis of the existing literature? Is it clear whether a similar study has been conducted in the past? If not, why? If so, what is the contribution of your study?
- → Are information sources related to the problem properly cited, including DOIs (if applicable) and according to the author style guidelines? (This is the case for the whole manuscript.)

Methods

- → Do you describe why the research method(s) used were chosen and what their limitations are?
- → Are chosen methods adequate regarding your aims? That is, can they provide data/results that test your hypothesis/answer your research questions?
- → Are all methods, materials, or tools used in the research process described, including preparation, analysis, and data visualization? (e.g., criteria for data collection/selection of data, measurement processes, analytical/statistical methods and tools [if applicable])
- → Was the study approved by an ethics commission/institutional review board? Did you mention this, including when the study was approved and by whom? (For those working with humans, animals, or sensitive issues)
- → Are methods chosen described clearly and accurately enough to replicate/validate your study?

Results

- → Are results described clearly and comprehensibly?
- → Is data visualization used adequately? (e.g., clear, legible charts, tables, diagrams that meet requirements of author style guide)

→ Does data in tables and charts match with information presented in the text? Are all calculations correct?

Discussion & Conclusion

- → Do the discussion/conclusion sections explicitly describe the extent to which the proposed hypotheses were confirmed or rejected/research questions(s) answered?
- → Is discussion/conclusion sufficiently supported by results/findings? Is appropriate terminology from your discipline used to express the degree of certainty in all claims you make?
- → If some results/findings deviate from expectations, do you explain why?
- → Do you describe the extent to which your results are consistent with/divergent from similar studies?
- → Are the limitations of the study clearly stated?
- → (Conclusion) Are the study's contributions to your discipline and/or implications and recommendations for practice clearly described? From reading the conclusion, could readers understand what you did and its importance for your discipline?

Graphical Aids (charts, graphs, and pictures)

- → Did you read the target journal guidelines to make sure these items follow all instructions?
- → Are graphical aids used appropriately to show important results and findings?
- → Are all graphical aids described and make sense in relation to relevant text?
- → Are all graphical aids numbered and titled according to the relevant author style guide?
- → Are data presented clearly and are they easy to navigate?
- → Are all elements labeled? Can you distinguish lines and symbols even in black-and-white?

Tables

- → Does every column have a legend?
- → Is it necessary to list all columns? Might some information be moved to an appendix?
- → Do listed measures have reasonable accuracy?

References Used

- → Are citations and reference list formatted according to target journal guidelines (author and style guidelines)? Are citations used consistent and in format required by your target journal? Do you include DOIs, when applicable?
- → Does reference list include all citations listed in the text?
- → In the text itself, is it clear which parts of the text are original and which are paraphrased? NOTE: Most journals pre-check texts for plagiarism as part of the submission process.

Acknowledgements

→ Do you list and funding agency which supported your work in the manner outlines in the journal author style? (e.g., Czech Science Foundation, European Union).

- → Do you give credit to colleagues who assisted me with the manuscript (e.g., colleagues/editors who reviewed the manuscript, librarians who helped in the searching process)
- → Do you state that you've used ChatGPT/similar tool (if applicable) and listed any possible conflict of interest (if applicable)

Revision Before Submitting

- → Try to develop the habit of (re-)reading your work carefully, multiple times before you submit to mentor/peers/journal
- → Check grammar, typos, correct use of terms in relation to journal author style
- → Check consistency throughout the manuscript, including data, and double-check any calculations
- → Double-check you've done everything correctly according to journal guidelines/author style
- → Prepare your cover letter to editor (if required)
- → Mentally prepare yourself for revisions and/or rejection; you can decrease likelihood of rejection by following journal guidelines and having your manuscript read by multiple expert reviewers in advance

Practical Tips

- → Use citation managers (e.g., Zotero, Mendeley). Read more: https://www.techlib.cz/en/83321
- → Use grammar check/writing tools (e.g., Grammarly, Writefull); list use of generative AI in Acknowledgements/as required by journal. Read more: https://www.techlib.cz/en/84766
- → Build a network of peers/colleagues who will critically read your work prior to submission to a journal ("pre-peer review")
- → Sharpen your skills by attending writing webinars and workshops at your institution or online; NTK: https://www.techlib.cz/en/83809
- → Ask us in an individual consultation: https://www.techlib.cz/en/83810
- → More about academic writing and publishing: https://www.techlib.cz/en/83646

Updated: October 7, 2024