Research paper assignment

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Different kinds of papers

Peer reviewed
- Research article/paper
- Review article
- Opinion / Letter /Communication

Not peer reviewed
- Popular scientific articles
- Newspapers
- Home pages, blogs
Scientific papers

• Research articles/paper
  - original research, not published before

• Reviews
  - summary of recent findings,
  - coverage of previous work and future directions

• Opinion / Letter / Short communication
  - present new ideas and new contributions to the field of research

Scientific papers

• Peer-reviewed
  quality controlled after submission, before publication

• The journal editor send the manuscript to two or more reviewers, independent experts within the field of research

• The reviewers provide comments, and grade the manuscript
  acceptable for publication, minor-major revision, not acceptable
What do the reviewers check?

• Is the information new, important and original?
  - Results not published before?

• Is relevant background information provided?
  - Correct use of references, relevant studies cited?
  - Clearly stated aim?

• Are the methods relevant?
  - Is it possible to repeat the study?
  - Appropriate hypothesis and statistical tests?

• Is the interpretation of results sound?
  - Relevant information provided in tables and figures?
  - Tables and figures easy to understand?

• Appropriate discussion and conclusions?
  - Related to the aim of the study?

A scientific hypothesis

Can be tested and falsified (Karl Popper)

Should be tested using appropriate scientific methods and statistical analysis

Accept or reject the hypothesis based on experimental results
Both authors and reviewers should check the Guide for Authors available at the journal homepage.

General outline of a research article within the field of natural science:

- Title
- Authors
- Abstract
- Keywords
- Introduction
- Aim and Hypothesis
- Material & Methods
- Results
  Including Figures and Tables
- Discussion
- Conclusion
- Acknowledgement
- References
Different kinds of scientific journals

• **Traditional journals** (costs money, readers pay)
• **Open access** (freely available, authors pay)

• **Journal Impact factor**
  • the number of times an average paper in a particular journal is cited during the preceding years
Journal Citation Reports (JCR)

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Citations of single papers
• can be found on e.g. ISI Web of Knowledge/Web of Science
Research paper assignment

- Task 1: general questions about scientific papers
  hand in answers by September 18

- Task 2: reviewers’ report and oral presentation
  work two and two,
  review two research papers
  hand in the written report by October 20
  oral presentation, October 27

Grading: not passed, passed, passed with distinction
The papers are available on
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Don’t forget to sign the list!