(Not so) Short Tutorial on Peer-Reviewed Publishing

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Overview

- What is Peer-Review?
  - Numbers
  - Why use Peer-Review?

- How does Peer-Review work?
  - Peer-Review Criteria
  - Benefits
  - Challenges
  - Commons challenges

- Planning
  - Target Group
  - Publication Types
  - Paper Types
  - Publication Strategy

- How to
  - Finding a Journal
  - Writing
  - Editing
  - Peer-Review
  - Platforms
What Is Peer-Review?

> „Peer“
  > Expert, colleague in your field of research

> „Editor“
  > Respected scientist in the field, head of journal
  > Takes key decision on paper acceptance

> „Editorial office“
  > Associate editors + assistants, respected scientists in the field

> „Editorial board“
  > Advisory panel, reflect the journal’s philosophy

> „Peer Review“
  > Assessing scripts before publication by experts in the field
  > More rigorous & most standardized in journals
  > Difference to other publications: Criticism comes before publication
Numbers for World-Wide Academia

- 25,000 journals
- 40,000 editors
- 500,000 editorial board members

Per year (approximate numbers)
- 3,000,000 paper submission (for journals only)
- 1,000,000 papers published (for journals only)
- 3,000,000 authors
- 2,500,000 editors needed
- 1,400,000 full-time employees to cope with that

Per minute
- 47 papers published!
Why use peer-review?

- Assess quality, novelty of a paper
- Evaluate appropriateness of method
- Ensure existing knowledge is correctly referenced and acknowledged
- Certify quality

„Peer-review is to science what democracy is to politics. It’s not the most efficient mechanism, but it’s the least corruptible.“ (Lachmann, 2002)
How does Peer-Review work?

1. Preselection
   - Filtering by editorial office
   - Must fulfill preselection criteria
   - Decision by editor, rejection rate is 40-50% (highest of steps)

2. Peer-Review
   - Manuscript assessed by 2-3 reviewers, selected by ed. Office
   - Must fulfill standardized criteria
   - Report + recommendation (4 levels) returned to editor
   - Decision by editor, send back to author(s) or rejection
How does Peer-Review work?

- From submission to publication there are 4 steps:
  
  3. Revision
    - Is good and common, especially major revisions
    - Reviewers + editor make suggestions
    - Author(s) should return the paper with a response letter
      - But often drop out by themselves

  4. Decision
    - Only the editor accepts or rejects the paper
    - An explanation is given
Peer-Review Criteria

- 75% of journals have a standard set of criteria, but they can vary
- Usually the review sheet includes the criteria → *Rules for how to publish!*

- Typical most important criteria
  - Within scope of the journal?
  - New/original research?
  - Relevant for the audience?
  - Sufficient scientific quality?
  - Presented well and formatted according to journal’s guidelines?
  - Awareness of existing research in the field?
  - Sound discussion of results?
  - Appropriate methods?
Benefits

➤ Communicate to the international academic world
  ➤ *Reach* and *inform* as many as possible
➤ Contribute to scientific progress
  ➤ *Share* findings
➤ Publications are *the* academic currency!
➤ Career advancement
  ➤ Increase *network* and *career* development
➤ Institutional budget and reputation
➤ Quality control
➤ Boosts confidence!
  ➤ Get acknowledgement for your work
Benefits

- Quality label
  - Papers need to meet standardized academic and editorial criteria
  - Recognized quality control through peer-review
  - High topicality and relevance by selection process
- Money (examples)
  - China: 3-4x salary increase for paper in *Science*, *Nature* or *Cell*
  - Denmark: 700-7.000 € per paper
  - Iran: 2.000 US$ (personal) + 2.000 US$ (department)
  - Australia: Funding depends on publication and citation counts
- Accessibility
  - Internationally distributed: 2-3 billion paper downloads / year
  - Saveguarded for long periods of time
Challenges

- High competition: pressure to publish, space is limited, lot of authors
  - Avoid too high expectations
  - One step after the other (Make a plan! Use a strategy!)
- English language: importance of quality increases, avoid translations
  - Needs regular practice
  - Use professional help
- Lack of time: Common excuse, but writing simply *needs* time
  - Plan time to write, in small units, regularly
- Risk of failure: Only 1 out of 3 gets published; most manuscripts need revision
  - Follow the rules as strict as possible
  - Don‘t give up, learn from mistakes!
Common mistakes

- Poor preparation
  - Goals unclear, research incomplete, topic unsuitable, audience and paper type not clear
- Wrong journal
  - 30% of rejected papers are out of scope = wrong journal
  - Has nothing to do with paper quality, no need to discuss with editor
- Research design
  - Doubts about validity of results: wrong method, method unclear
Common mistakes

- Lack of originality
  - Nothing new, published before
- International relevance
  - Not relevant for or understandable by readers in other countries/cultures/languages
- Message unclear
  - Lack of focus on concrete research questions
  - Results not discussed
Target Group

- Know who you are writing for!
  - Use different publishing strategies for different groups

- Decision-makers
  - Short summary of results, policy briefing, personal communication

- Professionals
  - Magazines and fora, technical reports, talks

- General public
  - Newspapers, radio, television, popular science writing, discussions

- Academia
Academic Publications Types

- **Monograph**
  - Coherent book by one or more scientists on original research
  - Very detailed, for people in specialized field
  - Printed in small numbers 300-1,000

- **Textbook**
  - Introduction of a certain subject for students
  - High esteem, many readers
  - Printed in larger numbers > 1,000

- **Edited volume**
  - Collection of texts in one book, several authors write independently
  - Has an editor
  - Seldom peer-reviewed, low quality-control, easy to get in
  - Printed in small numbers 200-500
Academic Publications Types

- **Proceedings**
  - Include all papers presented at an academic meeting
  - Low quality control, do not count as publication of primary research
  - Limited distribution 50-300

- **Report**
  - Target the progress and outcome of research
  - Often target towards a client or funding body
  - Low quality control, very limited distribution 5-100
  - Does not count as academic publication, easy and fast to produce
Academic Publications Types

- **Magazine**
  - Variety of articles of popular topics of interest for professional audience and general public
  - Published periodically, printed in color
  - Aims at informing and advancing profession, not scient

- **Journal**
  - Published periodically, peer-reviewed, 1.000-20.000 prints (int'l)
  - Report on specific research questions, crucial part of sci. literature
  - Contains papers of one or more authors with 3.000-8.000 words
  - Papers are read individually and specifically
  - Has highest *impact, reputation, dissemination, quality control, accessibility, size of target groups*
Paper Types

Different paper types have different roles and raise different expectations

Research paper
- Presents original research results
- Answers a research question, based on own research
- Not published before
- Most common type

Review paper
- Presents overview on the literature of a specific subject
- Answers a particular question based on the literature studied
- Does not report own research
- High esteem
Paper Types

- Method paper
  - Reports on development and testing of a new method
  - The method is in focus, not the results achieved with it
  - Less common

- Discussion paper
  - Discusses a relevant topic, using existing literature
  - Doesn’t present own research results
  - States author’s opinion
  - Less common

- Avoid mixture of paper types
  - Make it fit clearly into one category
Publication strategy

- A contract with yourself
  - for an entire project/planning period
  - that determines publishing aims

- Advantages
  - Helps to clearly define publishing ambitions
  - Gives more control and will set realistic expectations
  - Will produce more output
Publication strategy

Goal: A plan to organize writing of several papers over a period of time

Questions:

- What can be published from my project(s)?
- Target audience
- How many publications?
- What publication type to use?
- When to work on the publications?
- Set deadlines
Paper plan

Goal: A set up for *one* paper

Decisions

* What to write about? Aim?
* What paper *type*?
* With *whom* to write?

Actions

* *Finish* research
* Allocate *time* for writing
* Search and *select* a journal
Paper plan

➤ Book time for
    ➤ Identification of a fitting journal
    ➤ Write the paper sections
    ➤ Self-edit the paper
    ➤ Get feedback from colleagues
    ➤ Language check (professional help)
    ➤ Revision

➤ Calculate time for each step
    ➤ Break down into smaller units
    ➤ Set deadlines
Paper plan

Example:

- Topic: „Blue hawks in rural areas“
- Publication type: Journal paper
- Paper type: Research paper
- Audience: Academic
- Co-authors: Tom & Jerry
- Start: July 2010
- Submission: December 2010
  - Find Journal: 2 weeks
  - Write paper sections: 8 weeks
  - ...
- Total: 20 weeks
Finding a Journal

- Each Journal
  - addresses a certain academic community
  - has its own focus and philosophy ("scope", see editorial board)

- Select journal *before* starting to write
  - This determines publishing success, but needs time

- Search and identify potential journals
  - Which do you know? Check shelves, library, internet
  - Consult list of references contained in relevant papers
  - What did others do (colleagues)?
Finding a Journal

- Analyse relevance of journals
  - Use your paper's keywords to search in online databases
  - Read aims and scope of journals (available in the hardcopy)
  - Browse journal issues and read papers of it
  - How often published, Impact factor (and its relevance)
- Select and rank journals
  - Decide on 3 journals and rank them by target audience relevance
  - Impact factor: \( \frac{\text{#citations in 2 years}}{\text{#papers within 2 years}} \)
    - Was published by the ISI (now JCR)
    - Most frequently used indicator for assessing quality of journal
    - Usually corresponds with reputation
    - Key factor for universities, institutes, employment, promotion
Writing

- Don’t wait for a big block of free time (never happens)
  - Write regularly, include writing in your daily work
  - Break down in small realistic parts, include co-authors in planning
- Define objectives = research questions (better: just one question)
  - Is a must. Helps reader to understand, helps writer to start writing
  - „The objective of this paper is…“, state the questions answered
  - Be precise and explicit, use bullets and numbering
- Structure: Introduction, Methods, Results, Discussion
- Introduce problem
  - What, why, has been done already, what’s missing, aim
- Methods
  - Describe chronologically, how paper objectives were achieved
Writing

➢ Results and answers
  ➢ Representative data (not repetitive), that relate to objectives
  ➢ Don’t mix results into methods or discussion

➢ Discussion
  ➢ Inform readers about meaning of results (interpretation)
  ➢ Relate to other existing international literature
  ➢ Discuss extreme, unexpected observations
  ➢ Critically assess research design

➢ Conclusion
  ➢ Present key messages of paper
  ➢ Not a summary, but indicates what can be learned from the paper
  ➢ Only present conclusions that are based on evidence
Editing

- Leave paper for some time and read again → Fresh mind for revision

- Check coherence and logic (objectives, methods, results, discussion, …)

- Check references
  - Is last 5 years’ research included?
  - Are they international, peer-reviewed?
  - Avoid grey literature (reports, national, working papers, …)
Editing

- Revise and shorten
  - Keep only the absolutely necessary
  - Formatting
  - Language proof-read by native speaker; active voice

- Let colleagues read and ask for comments
  - Regardless how surprising: take reader‘s comments seriously
Peer-Review

➤ Follow suggestions
  ➤ Suggestions for revision are not a „wish list“, don’t argue with editor
  ➤ Stick to deadlines
  ➤ Prepare author response letter

➤ Apply courtesy
  ➤ Editors invest a lot of unpaid time and work in favour of authors
  ➤ Be polite and professional

➤ Patience
  ➤ Writing takes time, reviewing too (2-3 months)
Platforms for Finding Papers and Journals

- www.scopus.com
- www.journalseek.net Genamics
- www.doaj.org
- www.jstor.org
- www.ingentaconnect.com
- www.isiwebofknowledge.com

- www.sciencedirect.com Elsevier
- www.springerlink.com/journals Springer
- www.tandf.co.uk/journals Taylor and Francis
- www.interscience.wiley.com/journals Blackwell & Wiley
Questions?

http://www.walle-derfilm.de/
Not yet included in this presentation

➤ Chap. 10