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Course : COMP6575 – Research Topics in Computer Science

Effective Period : December 2019

What an Editor Looks for and the Editorial Review Process

Session 11

Learning Outcomes

At the end of this session, students will be able to:

- LO 3: Analyze the results from the research study
- LO 4: Write a research paper with the appropriate format

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Outline

1. What an editor looks for?
2. Criteria of a paper to be published in a scientific journal
3. Scope
4. Quality
5. Novelty
6. Significance
7. The editorial review process
8. The Goals of Peer Review
9. Characteristic of a Well-Done Review
10. What does a poor-quality review look like?
11. Responsibilities
12. Criticisms of the Peer-Review Process

What an Editor Looks For?

Criteria of a paper to be published in a scientific journal

- The content of the paper must watch the scope of the journal
- The quality of the paper (method and execution of the research, as well as the writing) must be sufficiently high
- It must present novel results (with the exception of review papers and the like), and
- The results must be significant enough to be worth reading about (and thus worth publishing)

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Scope

- The easiest way for your manuscript to be rejected is to submit it to the wrong journal
- A perfectly good manuscript will be rejected if the topic of the manuscript does not match the scope of the journal
- Thus, you should carefully research the scope of any journal you wish to submit to and make sure there is scope match

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Quality

- 2 aspects of quality relevant to journal publications:
  - The quality of work being reported
  - The quality of the reporting
- The quality of the work is essentially a judgement of the science involved, including the care taken in planning and executing experiments, as well as in analyzing the resulting data and fitting these results into the larger framework of the scientific field
- Quality of the presentation can and should be judged separately from the quality of the work itself. Why?
- Because, it is often much easier to fix a faulty presentation than to fix faulty science

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Novelty

- A manuscript must contain something new to be worthy of publication in a scientific journal
- The explicit mission of the science journal is to add to the body of knowledge in the field.
- Thus, a journal paper must add something new to that body of knowledge (new theory, new designs, new models, new methods, new data, or new analysis)
- An effective literature search and comprehensive citations are a requirement to establish what about the submitted work is novel
- A good rule of thumb is that at least 50% of the results being presented must be new

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Significance

- The final publication requirement is perhaps the most nebulous: the work must be sufficiently significant
- Significance should be judged based on the viewpoint of the readers: how many people will read the paper and put the conveyed knowledge to use.
- There were about 28.000 peer-reviewed journals in 202, and they now publish about 2 million articles a year (with these numbers growing by about 3.0-3.5% each year)
- Publishing a paper that has little or no impact on our scientific community does not serve the interests of science, and yet many of these “peer-reviewed” journals will pretty much publish anything (for a fee), gratifying the ego and the “publish or perish” needs of the researcher

The Editorial Review Process

Peer Review

- Peer review is a critical part of the publishing process at most science journals.
- Peer review is defined as “the critical assessment of manuscripts submitted to journals by experts who are usually not part of the editorial staff”
- It supports the scientific process by providing authors with constructive criticism of their work and by filtering out less valuable work, thus providing a “stamp of approval” from editors and peers for published scientific work.

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The Goals of Peer Review

- There are 2 goals
  - To help editors decide which manuscripts to publish and which to reject
  - To give authors advice on how to improve their papers (criticism)
- Additionally, the “stamp of approval” of being published in a peer-reviewed journal can aid authors in their careers, as well as having many other benefits.
- A good review teaches the author about writing and about science, resulting not only in one better paper but in making every subsequent paper the author writes better.
- It also makes the job of the editor significantly easier
- A poor quality review does none of this

Characteristic of a Well-Done Review

- The first paragraph should contain these 3 points:
  - Provide a brief (1-2 sentences) synopsis of the paper
  - Explain what is novel in this paper (1-2 sentences), both what the authors claim and your assessment
  - Explain why the work is significant or not (1-2 sentences)
- If the reviewer finds it difficult to put any or all of these points into one or two sentences, chances are the manuscript has not done a good job conveying its key messages

Characteristic of a Well-Done Review

- The 2nd Paragraph should give an overview of the quality of the research being reported
- If there are any significant flaws in the logical progression from method to data to analysis to conclusions, bring them up here and what could be done to fix the flaws.
- The 3rd and final section of the review should be a list of specific points that the author should address
- These points can be small or large, from graphics formatting to paper organization.

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What does a poor-quality review look like?

- A list of generic complaints or conclusions without specific references to the details of the manuscript is not very helpful
- For example, saying that the work is not novel without providing any example prior publications that cover the same topic
- The worst kind of review is one that simply states the reviewer's accept/reject opinion
- Reviewers are absolutely essential to the success of a peer-reviewed scientific journal

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Responsibilities

- All parties in the peer-review process (authors, editors, and reviewers) must work in an environment of mutual trust and cooperation.

Authors

- Ensure that the work is original
- Select list of authors appropriately
- Choose the most appropriate journal and submit the best manuscript possible
- Spend the time to understand the submission requirements
- Identify all funding sources and make the editors aware of any potential conflicts of interest

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Responsibilities

Editors

- Provide a transparent process for editorial review
- Deal fairly and respectfully with all parties in the publishing process
- Ensure that all details of a submission are kept confidential
- Choose reviewers who are likely to provide fair, unbiased, high-quality, and timely reviews

Peer Reviewers

- Disclose any conflicts of interest that might bias your opinions of the manuscript
- Return the review quickly. If you are unable to return a quality review in a timely manner for any reason, let the editors know as soon as possible.
- Provide a constructive, professional review – it should never get personal
- Hold information gained from your review confidential

Criticisms of the Peer-Review Process

- The peer-review process has its critics, some of them quite vocal. Here are some of the major criticisms often leveled against the peer-review process:
  - It stifles innovation by rejecting non-conforming or controversial views and distorts the record by rejecting null results
  - It is unreliable, frequently failing to find major flaws in the work, including fraud and plagiarism
  - It is neither consistent nor objective, and it is often biased in several ways
  - It is expensive and delays publication
  - There is little evidence that it is effective, let alone the best method available
  - Most rejected articles are eventually published in another peer-reviewed journal.

References

- Chris A. Mack. (2018). How to Write a Good Scientific Paper. Society of Photo-Optical Instrumentation Engineers (SPIE). ISBN: 978-1-5106-1913-5

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In Class Assignment

- Ask your lecturer to review your paper, what can be improved from it?

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Thank you