ExplORe Series
Peer Review

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What do we mean by Peer Review?

Peer review is the evaluation of research by other researchers in a scholarly field

- It assesses ‘the validity, significance and originality of the work’ and gives feedback to the author. https://senseaboutscience.org/activities/peer-review-the-nuts-and-bolts-2/
- It is used by journal editors and publishers such as Aberdeen University Press and by research councils and funding bodies when they consider grant proposals
- Peer review is taken into account by policymakers, reporters and the public when weighing up the value of research findings

Why Peer Review as a researcher?

- It gives researchers insight into the latest developments in their research area
- It contributes to the research community
- Peer review develops critical thinking as well as writing and data presentation skills
- It provides a diversity of views and shares knowledge
- In many cases it supports Open Research

Cartoon courtesy of Dr Pedro Veliça

SINGLE-BLIND REVIEW

- In single-blind peer review, only the reviewers are anonymous. Reviewers know the authors' names and affiliations, but authors don't know those of the reviewers.

- More commonly used for Book proposals as the track record of the researcher(s) is relevant to the viability of the project.

DOUBLE-BLIND REVIEW

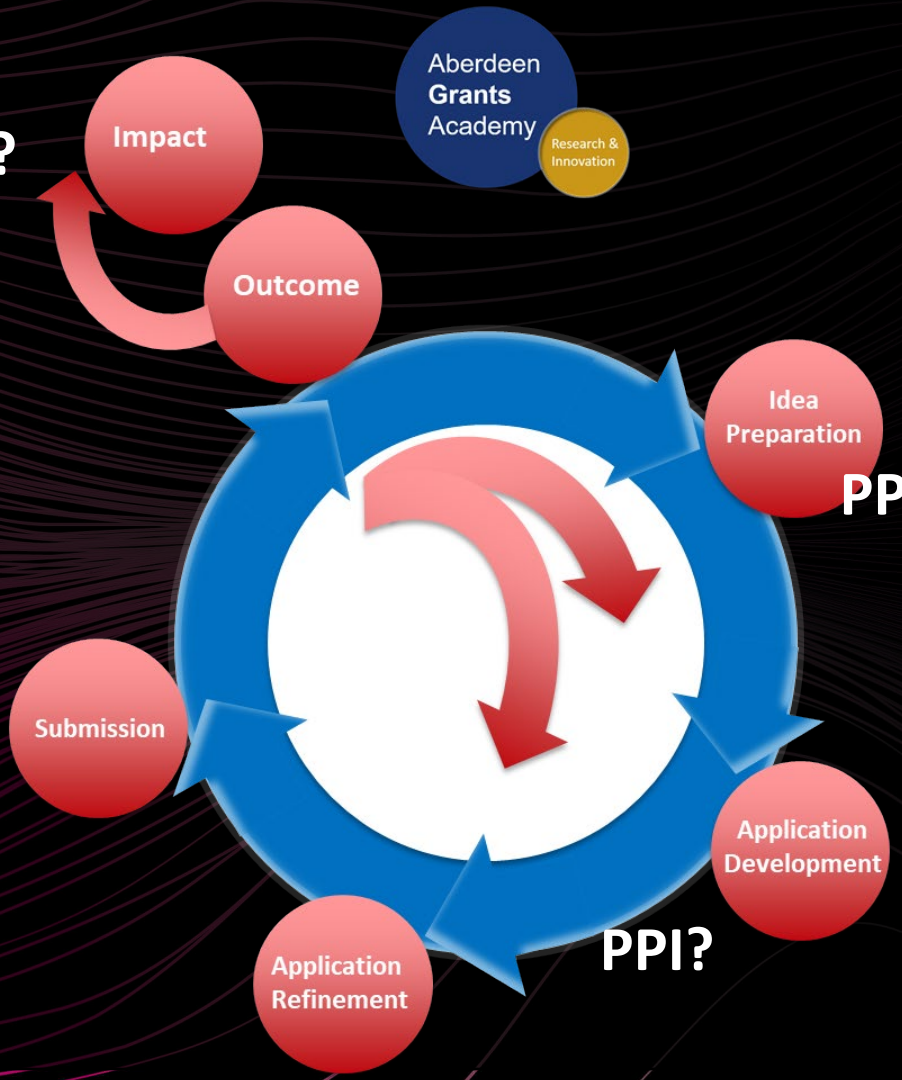
- In double-blind peer review, both the authors and reviewers keep their anonymity. Only the editor knows the identity of all parties involved.
- This is currently the standard model used by journals when considering submitted articles.
- Make sure you anonymise your submission!

OPEN PEER REVIEW

Open Peer Review is a general term used to describe any peer review model in which aspects of the peer review process are made publicly available, either before or after publication.

- Where authors know the identity of their reviewers and vice versa.
- The reviewers' names and/or reports are included alongside the published paper
- Open Peer Review is increasingly popular with Open Access publications.

Research grant life cycle



PPI?

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Prof Mirela Delibegovic, PhD, FRSE. Institute of Medical Sciences

What reviewers are asked to comment on

1) Is there a clear statement of the research aim(s)/research question(s)/research objective(s)?
2) What are the strengths/weaknesses of the proposal?
3) Is the proposed research “state-of-the-art” in its field and has all relevant literature been reviewed?
4) Is the method likely to yield valid, reliable, trustworthy data to answer question 1.?
5) If the answer to the second question is ’yes’, then what is the impact of financing this study on patient care, professional practice, society etc.?
6) Is there sufficient confidence that the research team will deliver this study on time with expected quality outputs and on budget?
7) Does the study provide **value for money**?

STEM grants – PPI reviewers (lay reviewers/panel score you with equal weighting to scientific reviewers in many charity funders)

- Patient and Public Involvement (PPI) is when researchers and people affected by conditions work **TOGETHER** in partnership to plan, design, manage, evaluate and communicate about research.

Courtesy of iStock Images. Image credit: Rudzhan Nagiev

Responding to Reviewers

- Response to reviewers as important as your grant submission!
- Take your time to read it, **digest it**, get rid off anger/frustration (the reviewer is stupid/does not understand anything/completely missed the point….)
- Find commonalities in concerns raised eg “it was difficult to assess feasibility of the study due to complete lack of power analyses”; “statistical power seems to missing”; “proposal is too ambitious for the time requested and is more equivalent to a programme grant”; “applicant proposed to investigate XXX but there is no evidence that they have the appropriate expertise to perform YYY”….
- Draft a response to each of the most important questions – where possible, add in additional preliminary data (if you have them or from your collaborators/peers), get on board new collaborators (name, institution), group similar/same concerns (as they will be most important for the panel) and respond calmly, cite relevant papers that support the suggestion or expertise.
- Then, send to your mentor, peer reviewers and R&I to get comments on how to improve, alter language, comment on whether you addressed the concern.
- Send back to funder thanking the reviewers for their constructive comments ☺…

What the panel is asked to review

- Panel members are to provide more detailed comments if:
- disagreeing with referees
- referees have divergent views
- referees have provided mid-ranking scores (“the kiss of death” score – just fundable)

- Applicant’s response to reviewers concerns – have they been addressed. Remember when writing your response to reviewers, they will not see it again – what you are trying to achieve is to take away any doubt from your panel member that you can do this work! So make sure you properly address each point and in particular the ones that are highlighted by more than 1 reviewer!

- Panel member to Consider 3 Ps – Person, Place, Project – reiterate why this is so timely, important and why you are the one to do it (and your collaborative network/mentors!)

Publishing in STEM and responding to reviewers

- Different types of publications: review articles (on your expertise topic) vs original research.
- Again **digest** reviewers comments!
- Plan additional experiments that can be easily addressed, draft response to where literature can be cited to support data (or get data from collaborators)
- Spend time on your rebuttal and in particular your data/graphs! >80% of the time poorly made figures/different fonts/colours etc will lead to 24 hr desk rejection (or shorter time!)
- Write a good Rebuttal Letter – outlining what you are submitting and point by point responses to each one of the reviewers queries – nothing more frustrating than not addressing the point of the reviewer just because you disagree/cannot support it/do not have the capacity to do additional experiments. Acknowledge it and add in the text shortcomings of the manuscript.
- Before submitting rebuttal, make sure you incorporate everyone's feedback (from colleagues as well to make sure your language is appropriate and you have addressed main concerns), improve manuscript – you only get 1 chance to get past the Editor and the Reviewers! Often, they may ask you additional questions. Keep cool!

Peer Review Process for Publications

Professor Michael Brown. Research Institute for Irish and Scottish Studies (Arts/Humanities)

What is being asked of a Reviewer?

Should the journal/press publish the study?

Yes without revisions

Yes but with revisions

Reject but for these reasons

Real Question:

Should a reader spend their time reading this piece of work?

How does the Reviewer decide?

- Introduction: Is the work original? (Does it address a gap in the literature?)
- Literature review: Is the research base comprehensive? (What is missing?)
- Methodology: Is the research method credible? (Does it do its job and is it used properly?)
- Conclusion: Is the argument convincing? (Does it read well?)
- Apparatus: Is the presentation professional? (Referencing and typographical errors)
- Overall: Is the argument of interest to readers? (Does it fit with this journal/press?)

How do you write a Peer Review?

Don’t be reviewer number two!

- Tell the writer the result in the first sentence
- Summarise what you understand the study is trying to achieve
- Say what was good about the article and what it did achieve
- Justify your decision for making the recommendation you did (this helps the editor)
- Offer constructive criticism in the middle part of the review to help the study reach its goals
- Be detailed and specific in your suggestions: identify articles that need to be included, for example
- If you are rejecting the study, say why but do not be personal: It’s the article not the author being reviewed
- Identify a path forward for the study: another venue that might take the work, for example
- End on a positive note

How Do You Read a Peer Review?

Set aside the Anxiety (Pause)

Accept the decision taken

Identify the central criticism(s)

Recognise the Commonalities across the reviews

Take Constructive Criticism

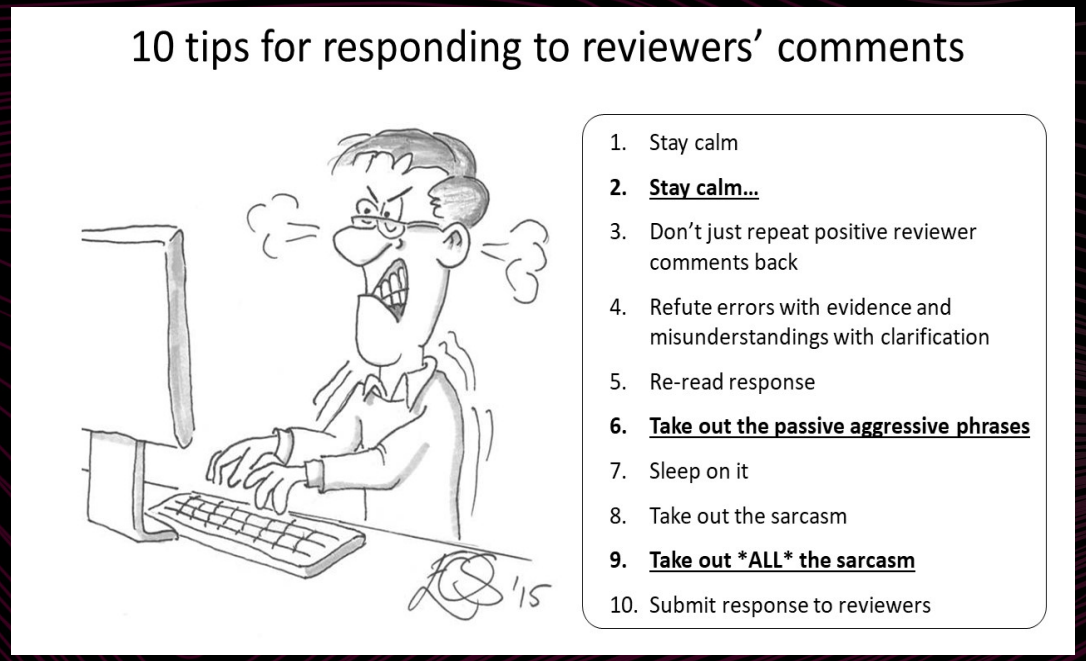
- Revise and resubmit
- Revise and redirect
- Reject and reflect

How to Spot a Poor Peer Review

It does one (or more!) of these things:

1) It tells you what the reviewer knows about the subject
2) It tells you how the reviewer would have written the piece
3) It tells you how your work reflects on the reviewer’s work

How do you Respond to a Peer Review?



Cartoon courtesy Dr Eoin O'Sullivan

- Accept the reviewers' decisions and thank them for their work
- Articulate what you see as the central criticisms of any/each aspect of the work
- Recognise the commonalities and acknowledge that these are the key areas for revision
- Take up the constructive criticism and say what you will do to refine the submission
- State how you will respond to the remaining criticisms in order of importance
- Set a deadline for the revisions or accept that offered by the editor

Further reading

- Explainer: what is peer review? (theconversation.com)
- The Twelfth Labour of Scientists: The Peer Review process | Research Communities by Springer Nature
- Peer Review: the nuts and bolts - Sense about Science
- How to do your first peer review | Dr Laura Varnam (wordpress.com) [Arts/Humanities focussed]
- Making Reviewers Visible: Openness, Accountability, and Credit | Clinical Pharmacy and Pharmacology | JAMA | JAMA Network
- Reading Peer Review: PLOS ONE and Institutional Change in Academia [Overview of evolving state of peer review]

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