

56

**"CONSTRUCTIVE
FEEDBACK ALLOWS
YOU TO IMPROVE
YOURSELF AS A
WRITER, STUDENT,
AND FUTURE
SCIENTIST."**

—ANISHA KOSHY

PEER REVIEW IN THE SCIENCES



**FALL 2020 ADVICE
COLUMNS**

FROM GLAS IN WIPP 7001 (27124)

ANISHA KOSHY

HEALTH POLICY & MANAGEMENT

The act of peer review holds value in both your individual writing, and in scientific literature. In scientific literature, peer review aids in ensuring that the work is based on sound science. Peer review in science facilitates the dissemination of new topics to the scientific community. In your own writing, peer review will help ensure that your topics are being communicated clearly to your readers. It will help shed light on the strengths and weaknesses in your writing. Constructive feedback allows you to improve yourself as a writer, student, and future scientist.

ASHLEY RAY

PHARMACEUTICAL & BIOMEDICAL SCIENCES

Good peer review examines the very fabric of a paper—the structure, reasoning, data, and analysis. The paper must be structurally sound before reviewing intricacies such as wording. When peer reviewing, I strive to offer constructive feedback through suggestions instead of commands. I also point out positive aspects of a paper along with parts that could be improved. In addition, I consciously remember the work I am reviewing will be written in a style perhaps much different than mine. My job as a peer reviewer is to examine the paper as a stand-alone piece of work and attempt to understand the perspective of the writer.

CARISSA GILLILAND

ENTOMOLOGY

Peer review is a thing that people are rarely excited to engage in. It has taken me a long time to truly appreciate the benefits of a good peer review. An initial roadblock with peer review is removing yourself from your writing and not taking critique personally. It can be scary to have others read things that you have written. Advice that I received once regarding peer review was that the worst thing someone can do when reviewing a paper is give no edits, only a simple “looks good.” I never thought of review in that way before. That being said, certain comments are definitely more beneficial than others.

GABBIE SANDSTEDT

GENETICS

Peer reviewers are critical to the scientific process—they inform writers on whether they have effectively communicated their research findings. To inform the writers as a peer reviewer, I first summarize the main findings of their research in a few sentences. This allows writers to compare what they intended to communicate vs. the knowledge I actually gained. Next, I emphasize the sections of the paper that are clearly explained and commend their efforts. Following the positive feedback, I narrow in on parts of the paper that could be explained more clearly. With this strategy, I hope to help writers translate their strengths in the paper to the more unsuccessful and/or confusing parts.

JENNIFER ROBERTS

BIOMEDICAL SCIENCES

Peer review is a critical component of science, and must be taken with both pride and integrity. Peer review is most useful when it informs us of accuracy of content relating to the field, the importance of the question being answered, and the ability to build upon what has already been done or proposed. A great reviewer is both sensitive and critical: identifying only the most important flaws and praising the most significant discoveries. A great author provides detailed data that backs up their claims and is willing to admit shortcomings. Peer review is a process that is essential to building the base that upholds the greatness of science.

JOSÉ PAVEZ

MATH & SCIENCE EDUCATION

I think it is crucial to have the human psychology component in mind when providing peer review feedback. From my own experience as someone who has gone through this process when I have submitted my papers to journals, I can say that when most of the feedback is negative, I feel like I need to justify why I made those decisions without making significant changes, instead of trying to address the suggestions I am receiving. Maybe we interpret this as if the reviewer hates our paper when we see only negative feedback. When we receive a mix of critical and positive feedback, I think we interpret this as if the reviewers are genuinely trying to improve our research. Thus, my advice would be to balance positive and critical feedback if we genuinely want to improve the quality of scientific papers.

MATT TATZ

WARNELL, WILDLIFE SCIENCE

The beauty of research is that every project tells a story. These stories all build upon one another in an effort to create a novel of ever-evolving comprehension. This colossal endeavor is the direct result of peer-review. An un-reviewed research project represents a few pieces of paper tethered together with some background knowledge and an experiment. A peer-reviewed article contains pages that are bolstered together with the support and critical assessment of established scholars. Practicing the art of peer review in your undergraduate courses connects you, and your peers, to the larger narrative.

SPENCER ALLISON

PROFESSIONAL SCHOOL COUNSELING

Being immersed in both the sciences and social sciences allows me to see the essential nature of peer review across multiple disciplines. Peer review is a pragmatic approach to review, as the reviewer, the fellow student, provides sensible and realistic feedback consistent with how they themselves would want to receive constructive and useful feedback for their own work. Students often scrutinize their peers' work with empathy. Peer review provides students with fresh perspectives to ensure necessary details and ideas are considered and accounted for in the final submission. Peer review is necessary in scientific writing and can be applied with student confidence in the process and a wish to help their fellow peer.

PHILIP BENTZ

PLANT BIOLOGY

Receiving peer review feedback can spark strong emotions, both positive and negative. If too many critiques are provided, the author may be left feeling hopeless about their writing skills. It is understandable for authors to take criticism personally, but peer review best serves authors when viewed solely as a teaching experience. On the other hand, when too much positive feedback is received, authors may think their work is perfect and could not be improved. My philosophy of peer review is to give fair, yet mixed feedback; meaning, both praise and criticism should be provided.

ANONYMOUS

PLANT BIOLOGY

My goal as a peer reviewer is to give useful, concise, and supportive feedback. As a graduate student, I find that participating in peer review groups is a valuable way to give and receive feedback in an informal way. Deconstructing papers and discussing both the validity of the research as well as the way it was communicated is a learning experience that helps me in my own writing, as well. As a Graduate Lab Assistant (GLA), I encourage my students to engage in the peer review process to strengthen their own critical thinking and writing skills. My philosophy on peer reviewing is that criticism is important when it's constructive (but it should never be mean or arrogant), and that words of encouragement are also important because they can be validating and motivating to the author.

"Peer review is a process that is essential to building the base that upholds the greatness of science."

—Jennifer Roberts

