

10 Tips for PhD Research

Dr. Dario Toncich



Tip Number 7 – Peer Review

Developing a hypothesis and testing it with various experiments or instruments is only one component of professional research. The other, critical evaluation component is peer review. For a research student, the ultimate peer review will come from an assessment of a thesis and, often, a defense of the work. However, this is an all-or-nothing approach, and it is therefore important for a student to submit his/her research for independent peer review prior to submitting a thesis.

The traditional approach to peer review has been publication in a recognized journal in the relevant field of research. This provides a research student with an opportunity to select the most critical elements of their central research theme and test them through publication. If underlying flaws in methodology or experimentation are uncovered by journal referees then there is still opportunity for a research student to address these prior to completion of their research and submission of a final thesis.

The problem with peer review through journals is that the process is slow and can take many weeks. In the context of a PhD program which may only be of 156 weeks in duration, the turnaround may unduly delay the ongoing research and any corrections that need to be made.

A useful alternative is to make use of various online preprint services available for various research fields. These enable researchers to expose their short-term findings to other interested scholars in the field and subject them to scrutiny. Underlying flaws can be exposed more quickly and students can then have a better chance of succeeding with formal publication in journals.

It also needs to be understood that peer review is not a process without flaws. Peer reviewers can be biased, unreceptive to new ideas or feel threatened by emerging research that undermines their own. Research students need to take peer review with a grain of salt. Feedback needs to be assessed in terms of whether it is fair or whether criticism has arisen for reasons other than the actual work itself. Even unfair peer review criticism can be particularly helpful because it enables research students to learn what they will be up against in their thesis assessment and defense.