

3-1-2021

## Good Research Practices: Train Them Young!

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### Recommended Citation

H, Shyamala (2021) "Good Research Practices: Train Them Young!," *Manipal Journal of Pharmaceutical Sciences*: Vol. 7 : Iss. 1 , Article 1.

Available at: <https://impressions.manipal.edu/mjps/vol7/iss1/1>

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## Good Research Practices: Train Them Young!

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Very recently, incidents of extreme misconduct were brought to light when two elite journals had to retract the articles they published regarding the treatment of the coronavirus during the pandemic. Such cases, although shocking, are not new in clinics, academia, or in research. What can universities do about it? There is a dire need to foster research integrity, curb research misconduct and look for ways to reward good practices.

“Many people say that it is the intellect that makes a great scientist. They are wrong: it is character.”—said Albert Einstein. It is evident in history that the most important philosophy behind the establishment and culture of universities is “learning” and “creation of new knowledge” in a broad sense; an abode for promotion of honesty and integrity, while any form of questionable practices should be completely disallowed.

With the globalization of universities and benchmarking, there is a “need” to transform into a research university with a pursuit to be a part of the developing trend. Closely associated are the changes in evaluation systems, lack of obvious directions, uncertainties and puzzles, not only for the universities but for individuals as well.

For a university researcher who aspires to be a part of the global research community, the peer-pressure and competition is nothing less than that in a corporate setting. Although it seems like comparing apples to oranges, comparing H indices of researchers and comparing the impact factors of journals have emerged like never before. Research careers that

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were once taken up because of the excitement in science, to challenge/prove or disprove, or to achieve a higher degree; has now changed. While some take it up as a means of employment or livelihood, some take it up simply because there are no other options.

The pressure to perform, the pressure to publish, and the pressure to create an impact has driven researchers to accomplish these intentions by hook or by crook. Hence, researchers should be mentored on responsible conduct of research. Also prevalent are questionable research practices (QRPs) and the three deadly sins of research misconduct, namely, plagiarism, falsification and fabrication, which must be avoided.

One of the cases of fraud and misconduct that shocked the research community includes the “Diederick Staple Case” of data fabrication, which ultimately triggered some of the best universities in the Netherlands to formulate codes of conduct for research integrity. Important lessons learned from case studies such as the “Cloning King-Hwang” and the “Scientific scandal at the Harvard Medical School” should always be passed on, not just to the young researchers, but to the mentors or supervisors as well to create awareness and cultivate a good research culture.

Several initiatives have been taken by universities and consortia across the globe to promote ethics and research integrity and minimize QRPs. The San Francisco Declaration on Research Assessment (DORA 2020), Hong Kong Principles for assessing researchers formulated at the 6th World Conference on Research Integrity (WCRIF 2020) and The Leiden Manifesto: Ten principles, are some of the very recent leads which provide directions for rethinking research assessments.

**How to cite this article:** Hande S. Good Research Practices: Train Them Young!. *MJPS* 2021; 7(1): 1-2.

Broadly speaking, for practical and robust evaluation of scholarly outputs, DORA recommends eliminating high reliability on journal-based metrics, inclusive research, team science, valuing of locally impactful research ideas, training and faculty development programs for responsible conduct of research and awareness of questionable research practices. The Leiden Manifesto suggests ways to combat the misuse of bibliometrics and encourages groups of researchers rather than individuals. Interestingly, the Hong Kong Principles include rewarding good conduct and behaviours of researchers.

As individuals and institutions, let us become the change agents, let us pause, re-examine ourselves,

and strive to do justice to the profession and to those who have confidently entrusted us with these responsibilities. With a lot of effort and dedication, the creation of new knowledge should be possible in universities, with the right approach, in the right direction!

### Additional Readings

1. <http://www.oecd.org/science/inno/40188303.pdf>
2. Bouter, L. What Research Institutions Can Do to Foster Research Integrity. *Sci Eng Ethics* 26, 2363–2369 (2020). <https://doi.org/10.1007/s11948-020-00178-5>