



RESEARCHING INTEGRITY IN RESEARCH; OUR BIT OF CHANGE (PART 1)

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"Many people say that it is the intellect which makes a great scientist. They are wrong; it is character." Albert Einstein

Research as evidence based knowledge dates back to the origin of human civilization; in fact it was a life saving skill in the Stone Age when man learnt from evidence and used the knowledge for survival in woods. Before research became a science to be taught in universities, it had long served mankind in caves to predict weather, to learn animals of prey, to devise ways to protect against beasts and to recognize poisonous plants. Cave men were responsible in research, for the price of irresponsibility was very high as it was a matter of survival. With the start of modern era, research became a subject to learn and teach, we learnt to research, we did research, we taught research and forgot all about responsibility. Sense of responsibility got fragmented while research became our liability, a pure academic liability. With the commercialization of knowledge and education, research became commercialized in corporate sectors. Public administration sensed the risk of lost academic interest in research hence it was conditioned with promotions. Promotional incentives added motivation for doing research but the responsibility reached the point of nonexistent.

Why the responsibility is needed so direly in research and what is meant by it? Responsibility is prerequisite for research because it adds scientific quality to the findings; the scientific quality that we call reliability, validity, and objectivity. Responsibility is instrumental to integrity of research. The scientific research has its norms called ethos, violating norms makes the process of science pathological; researchers have to comply individually and collectively to the ethos otherwise scientific conclusions mislead¹.

A consortium statement on research integrity has recommended following nine best practices for instilling scientific integrity in the implementation of the overarching principles of scientific method;

- (1) Require universal training in robust scientific methods, in the use of appropriate experimental design and statistics, and in responsible research practices for scientists at all levels, with the training content regularly updated and presented by qualified scientists.
- (2) Strengthen scientific integrity oversight and processes throughout the research continuum with a focus on training in ethics and conduct.
- (3) Encourage reproducibility of research through transparency.
- (4) Strive to establish open science as the standard operating procedure throughout the scientific enterprise.
- (5) Develop and implement educational tools to teach communication skills that uphold scientific integrity.
- (6) Strive to identify ways to further strengthen the peer review process.

- (7) Encourage scientific journals to publish unanticipated findings that meet standards of quality and scientific integrity.
- (8) Seek harmonization and implementation among journals of rapid, consistent, and transparent processes for correction and/or retraction of published papers.
- (9) Design rigorous and comprehensive evaluation criteria that recognize and reward the highest standards of integrity in scientific method²

Six out of nine recommendations (1-5 & 9) are to be addressed by the training institutions. It is therefore incumbent on all scientists and scientific institutions to create and nurture a research environment that promotes high ethical standards, contributes to ongoing professional development, and preserves public confidence in the scientific enterprise³.

Previously ethical standards in research have been always relayed upon the institutions^{4,7}, but the business does not appear in the list of priorities of the supervisors and mentors who are training the young lot here in Pakistan. The dissertation that a trainee has to write is thought to be the liability of fellowship granting institution and the project is seldom monitored closely and steadily on each step by the supervisor. The philosophy and objective is over looked. The final goal is not the preparation of dissertation or the research manuscript but training the candidate in philosophy, integrity, responsibility, and procedure of research and report writing; mentoring the related ethics and guidance on the principles of scientific writing, referencing, and formatting.

As the principle introduction to the research and scientific writing remains incomplete, the young professionals believe their way of researching is the best. This core believe is held years long as a fallacy and young researchers keep on repeating same rounds of research, they held in training years. In a decade to come, these young professionals will be looked at as means of guidance for still newer lot to come. Today we need to preserve the integrity of research and assume responsibility to promote responsibility and integrity.

A reconciliation vow is warranted by the academic community to revive the integrity in research. Our bit of change is to highlight the need, convene the case of integrity and point at the common practices voiding integrity we have witnessed as editors in the half of the past decade. The epitome of the effort is to promote the measures that reflect responsibility and ensure the integrity. Later part of the script will deal with lapses we experience every day in data we see and listing of the basic assumptions, data must have to fulfil in order to rely upon (to be continued).

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