

Editorial

Research, Communication and Impact

The word “research” in its simplest form implies researching or investigating something that exists but we are not aware of or we do not understand the same. Research activity is self-satisfying since it is expected to be primarily driven by curiosity. Development of complex languages and consequent emergence of social organization have facilitated sharing of new knowledge gained by a researcher with fellow beings and the coming generations. There is a need as well as desire to share the new knowledge gained by the researcher with others. The need to share exists because it facilitates the collective progress of society by letting others build upon the new understanding. As our state of understanding the nature and civilization advances following the application of the newer concepts, phenomena and processes, the quantum of new information and the need to share also increase exponentially. The desire to share is not only altruistic but, more commonly, is to impress others. Sharing of the research outcome, whether altruistic or otherwise, thus impacts not only the progress of human society in general but also the “social status” of the researcher among peers.

As the organized science research developed and progressed during the past few centuries, organized systems of communication also came into being. The different science societies and academies and their publications became the main avenues for dissemination of new knowledge, discoveries and inventions. With increasing spread and internationalization of scientific research, publication of commercial research journals also started and over the past several decades, these journals have become the primary carriers that deliver new research findings to peers. The human desire to establish one’s

superiority over the peers led to discovery of measures that can quantify the “impact” of a research paper and thus of the researcher on others in the given field. Over the decades, considerable research has gone on to develop “reliable” methods to quantify the impact of research carried out by individuals; similarly, measures have also been developed to quantify the impact of research carried out at an institution as a whole. However, notwithstanding the intensive research and debate, the “impact factor” and the other related parameters continue to haunt researchers as well as the assessors. The current situation is that even if not like to believe in the usefulness or reliability of such matrices, we are forced to live with these parameters.

The “impact factor” and other similar quantitative measures, have impacted different journals in diametrically opposing ways. Many of the journals published and marketed by commercial/corporate publishers have benefitted immensely because of their high “impact factor”. On the other hand, most of those published by traditional scientific societies/academies and from less developed countries have suffered to the extent that several of them are on the verge of extinction. Such grossly imbalanced impact of the “impact factor” has aroused serious discussions resulting in a consensus that while “impact factor” and the like quantitative parameters for assessing individuals and institutions may provide some indication of the quality, these cannot replace a direct assessment of the quality by peers who understand the contributions (see San Francisco Declaration on Research Assessment at <http://am.ascb.org/dora/>, and articles by A Joshi and L S Shashidhara in this issue).

Most journals published from within India have suffered in the race for “impact factor”: because their impact factor is low, they fail to attract good quality research contributions for publications in their pages and thereby their impact factor continues to be low (Lakhotia 2003). Among the multiple factors responsible for this sorry state, a major cause is the official policies that directly or indirectly buttress the common perception that the quality of research reported in papers published in journals from outside India (“international journals”) is better than that of the papers published in “national” journals (Lakhotia, 2013) and, therefore, publication of one’s findings in an “Indian” journal is believed to imply poor quality by default. Indian scientists and consequently the quality of journals published in India have thus been trapped in the vicious circle of poor impact factor and, therefore, poor journals which together result in overall poor ranking in science (Lakhotia 2003).

The *Proceedings of the Indian National Science Academy* had its origin in the traditional belief that the new discoveries/inventions/ideas discussed by fellows of the Academy at its meetings are to be published as Proceedings. In recent years, like the most other journals under this category, pages of the *Proceedings of the Indian National Science Academy* have also been opened to contributions by all scientists, irrespective of their being Fellows of the Academy. Like the most other science journals from India, this journal too finds itself seriously suffering from the impact factor syndrome so much so that even many fellows of the Academy do not feel encouraged to contribute to this journal!

How does one come out of this unfortunate situation? Coming out is not easy but we believe, is not unachievable. The limitations faced by this journal, like the many others in India and elsewhere are multiple, simply because there are multiple stakeholders. The first and foremost stakeholders are the authors, followed by the Editor/s and the editorial office and finally the peers (including committees/individuals who have to pronounce the relative *inter-se* significance of several researchers). As discussed elsewhere (Lakhotia 2013), the quality of a journal

is primarily determined by the quality of manuscripts submitted by authors to the journal. However, since the submission of manuscripts is greatly influenced by the quality of editorial handling and, more importantly, by the perception of peers about relative ranking of the journal (essentially measured by the numerical value of its “impact factor”), the vicious circle sets in.

The peers may assess the contributions of a scientist either by quality of the published research or by the quality of journal in which the research is published. The first approach, although direct and more reliable, demands greater understanding and patience on part of the assessor/s, while the 2nd approach appears “objective” and quantitative and which demands least effort on part of the assessor/s. Both are valid modes of assessments in their own way, but, as discussed by A Joshi and L S Shashidhara in their thought-provoking articles in this issue, lots of issues and ambiguities crop up when the impact factor and other such metrics become the sole deciding factor. Thus one of the important steps needed to break the vicious circle is to say no to impact factor and assess the quality of individual’s research contributions directly by the published paper rather than indirectly by where it is published. This would then not inhibit potential authors from submitting their manuscripts to journals which are more likely to be read by their target audience irrespective of the “impact factor”.

An equally important factor that attracts or inhibits submissions is the Editorial handling of the submitted manuscripts. This includes the submission process, quality and speed of peer-reviewing, efficiency with which the post-peer-review process and actual publication occur, and the accessibility of the published paper online as well as in relevant databases/indexing services. We are trying to improve on all these counts and hope that in a few months’ time, many of these desirables would be falling in place.

In addition to reviews and original research articles, each issue of the *Proceedings of the Indian*

National Science Academy would also include Editorial (including Guest Editorial) and Sections Featuring Viewpoints, Opinions, Meeting Reports, Book-Reviews etc. Besides the regular quarterly issues, Special issues would also be brought out on specific themes.

References

- Joshi A (2014) Science and the Sufi Spirit *Proc Indian Natn Sci Acad* **80** 5-13
- Lakhotia S C (2003) The vicious circle of poor science, poor journals and poor recognition *Curr Sci* **85** 20-22

Fellows of the Academy and other readers are most welcome to not only contribute original research and review articles but also to give feed-back and suggest ways and steps that would help improve the visibility of this journal and more importantly, the desirability to look at each new issue as it comes out. We need your support.

- Lakhotia S C (2013) 'National' versus 'International' Journals *Curr Sci* **105** 287-288

- Shashidhara L S (2014) Who should decide what is the impact of one's published work? *Proc Indian Natn Sci Acad* **80** 15.

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