

Fallacy of teaching–research nexus

According to Ajit Kumar Rai and Naveen Kumar Sharma, there are three goals of higher education, namely, teaching, research and extension¹. It is assumed that quality teaching paves the way for fruitful and meaningful research and innovation, apart from producing quality human resource and skilled workforce. It is therefore, obligatory that our higher education institutes (HEI), namely, colleges and universities, lay more stress on improving quality of teaching which is crucial for promoting research in Indian universities.

The authors have critically examined the hypothesis that an excellent teacher will prove to be an excellent researcher and vice versa. According to Gibbs², ‘the notion that teaching excellence flows directly from research excellence is absurd: they are in direct conflict, compete for academic attention and only one of them is rewarded’. The myth that excellence in research will bring excellence in teaching has been exploded by other studies as well^{3,4}. As a matter of fact, teaching and research should play complementary roles in HEI.

I agree with the authors’ claim that quality of teaching in HEIs has deteriorated during the last two decades due to over-emphasis on research output by

teachers for their promotions. This has resulted in poor quality of research publications by teachers in online journals which accept papers of any quality on payment basis. According to the authors: ‘Rather than promoting research, it has generated publication pressure on good teachers. Such forced research is not going to benefit us, as evident from India’s dismal standing in global science publication’^{5,6}.

The authors recount problems of conducting quality research in HEIs. They also advocate bifurcation of the two functions, which is not advisable in the present circumstances when India wants to emerge globally as a destination for investment in R&D to promote its industry. However, I support their argument: ‘There is no harm in promoting good teachers purely on the basis of their teaching excellence’. It is unfortunate that we have not developed any mechanism to assess the teaching performance of teachers in HEIs till date. I tried it despite severe opposition from our faculty in Guru Nanak Dev University by designing a pro-forma where students evaluate the performance of teachers on various counts. The University Grants Commission has made recommendations from time to time in this regard but

hardly any HEI has implemented it so far. This technique has been effectively used in most of the North American and some European universities for evaluation of teachers.

I agree that there is a dire need to improve teaching in our HEIs but the authors have failed to suggest any concrete method for assessing the quality of teachers or their teaching performance. How can we make teachers innovative, creative and inquisitive is a moot point?

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Priced submissions in medical journals and publication hegemony

I read with interest the article ‘India’s scientific publication in predatory journals: need for regulating quality of Indian science and education’ by Seethapathy *et al.*¹.

Publishing in a good science journal has never been easy. It is, however, becoming strenuous now with more journals joining the list of publications requesting authors for publication charges. Although this may seem important from the perspective of a publishing agency and also essential to manage the running expenses of a journal, it has an impact on the esteem and spirit of an emerging author by depriving him/her of an opportunity to publish in a good journal for want of money. At the same time this also allows the poor-quality articles to be published for a price in such journals.

Thus by imposing a monetary embargo we create an unnatural filter to the submissions, which is not based on the merit.

There are various models of publishing a medical journal. This can be an open access (OA) model, where the readers are allowed to access the full text of an article without any payment, or it can be a limited access model where some material may be open access and some may be charged. It is important to understand that publishing a journal requires a good sum of money to maintain its running expenses and also maintain its standards of publication. There are various models of earning revenue to meet these expenses. Commonly revenue is earned through the readers by giving them a paid access to the desired article; alterna-

tively, this can also be in the form of regular subscription from libraries, institutions and individuals willing to get access to a journal. In a few cases, commercial advertising in the journal pages can be a source of revenue. Finally, the authors can be charged for submission of their articles in the journal.

There are various ways of charging the authors and these are done under various names². The common methods of charging the authors include manuscript processing fee, page charges, colour charges, image charges, supplementary material charges, reprint charges and PDF access charges. Such charges are variable and range from a few to a few hundred US dollars. Some journals have started charging according to the type of article, which is again highly variable.

Many journals ask the processing fee at the beginning of the submission only and do not allow the article to be processed for peer review unless the money is paid. Many ask for it once the article is accepted for publication. There are variable fee structures on the basis of type of article, its length, colour pages, etc. There is also the provision of waiver of publication charges in some journals. For example, Hindawi Publication provides an automatic waiver of article processing charges to authors based in any of the countries classified by the World Bank as low-income economies or lower-middle-income economies as of July 2016, and which have a 2015 gross domestic product of less than US\$ 200 billion.

The charges are often levied upon authors on the grounds of making their research more visible, where the readers need not pay for access to the articles. This ensures wide readability of the published material and also assures more citations if it is made freely available. There are two important trends emerging from this practice of charging the authors. The first is that it has allowed a number of predatory journals to line up by considering this exercise as a profitable avenue^{3,4}. Secondly, and more importantly, it has restricted many genuine but self-financed researchers to publish their unique observation reports, case stories, hypotheses and view points for want of money in good journals. This raises a question against the very basic

concept of science and its spirit. We may be moving towards a publication hegemony, where power (money) and not merit decides what is going to get published.

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Municipal solid waste management in Thailand

Due to rapid urbanization, municipal solid waste (MSW) management is now one of the major environmental challenges around the world. In Thailand about 73,560 tonnes/day of MSW was produced in 2015, i.e. approximately 1.13 kg/person/day (ref. 1). The existing treatment technologies have already been struggling to manage MSW, for example, biological conversion technology, incineration technology, sanitary landfill or recycling¹. Due to several advantages associated with MSW management, thermal treatment (waste incinerator) is being used in Thailand. However, incineration plants are expensive to build, operate and maintain². The gases are cleaned and emitted in environmentally friendly way but, the flue gas contains dioxins and furans, polycyclic aromatic hydrocarbons, volatile organic compounds, acid gases, heavy metals and other harmful substances after the incineration process³. Furthermore, as MSW is dumped in untreated form, the environment becomes contaminated³. By-products from the incinerator such as bottom ash (BA), fly ash (FA) and flue gas desulphurization residue (FGDR) are utilized for road construction and similar

purposes⁴. However, there is a possibility that the contaminants will leach out and pollute the soils, surface water and groundwater⁴. Heavy metals in BA and FA are mostly concentrated in the residues during the incineration process^{4,5}. The incineration process can be used to produce electricity for nearby buildings or municipalities⁶, but requires large volumes of waste.

If the incineration plant is not properly managed, MSW does not disappear, but produces more toxic waste. This will further increase the potential health hazard. What is the way forward?

In order to protect the environment, Thailand has put in place environmental regulations and policies. The zero waste campaign for recycling and waste reduction must be considered to reduce the overall waste; this must also include composting organic waste. Furthermore, the incineration technology can be used, where appropriate, as part of a sustainable waste management and energy system. Every municipality or regional government must decide whether the advantages outweigh the disadvantages. The environmental feasibility of using the incineration technology must be

assessed to better understand the environmental and economic feasibility with regard to resource use.

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