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EDITORIAL

Balancing teaching, research and institutional rankings

Ranking individuals and teams in sport is a fad that has caught on in a big way – the media, and indeed, the public, enjoy the idea of identifying a particular team or individual as the ‘best’ in a given field. In academia, similar ranking of universities and institutions has become a new measure of how centres of learning are perceived. While such rankings are useful in themselves, in that they do give an opportunity for institutions to introspect and identify areas where they excel or lag behind in comparison to their peer groups, they acquire more importance as these rankings are increasingly used as a benchmark for the amount of funding that an institution or university receives, particularly from the state. In addition, rankings may also play a crucial role in shaping the decisions of college aspirants while choosing particular institutions and fields of specialization. This makes it imperative for all institutions to give due importance to these rankings, and devise strategies that would help them improve their ranking, since their sustenance (read ‘funding’) and popularity are dependent on this number.

There are a number of institutional ranking systems, foremost among which would probably be the Shanghai (Academic Ranking of World Universities, WRWU), Quacquarelli Symonds (QS) and Times Higher Education (THE). In India, a National Institutional Ranking Framework (NIRF) was devised by the Ministry of Human Resource Development (MHRD) in 2015, keeping in mind the need for Indian institutions to cater to specific social obligations. Areas that Indian institutions can concentrate upon for improving international rankings are related primarily to teaching and research, which are in any case the two core components of higher education. This Editorial aims to highlight a connection between path-breaking research, the *quality* of teaching and its influence on international rankings, which our current academic recruitment policies appear to be ignoring in their quest for playing the ‘number’ game.

Ranganath (*Curr. Sci.*, 2017, **113**(10), 1811–1812) emphasized that higher education institutions are expected to be centres of innovation and creativity, as well as of knowledge production. Nowadays, most institutions of higher education realize that their reputation, and in many cases, their survival, depend on demonstrating research productivity. Estimation of research productivity

is almost entirely based on the number of publications, impact factor of the journals in which these publications occur, and finally, how well cited these publications are. These measures of research productivity are supposed to estimate the following – the number of publications is an indicator of how much research work is being done; impact factor of the journal is a proxy used to estimate quality and finally, the number of citations may be interpreted to represent how many people have found the work useful, and therefore, how important the subject matter is. Any academic would know the pitfalls of taking these numbers too seriously. A large number of publications in a journal of repute, if judged solely in terms of number, does not guarantee that the worker concerned is necessarily extraordinary. Productive, certainly, but not necessarily intellectually innovative or creative. The number of citations, likewise, is a function of how many people are working on a particular problem, and may even be the manifestation of a bias reflecting how groups function selectively towards furthering their own schools of thought. Indeed, these numbers did carry meaning in the days when they were *not* formal criteria, but ever since these have been institutionalized as ranking parameters, there has been an inevitable trend towards *consciously* targeting specific journals, and working on *specific* problems, and ultimately, perhaps, using specific methodologies and reaching conclusions that may *ensure* higher citations. None of this is in any sense illegal or immoral, but it does indicate how fragile assessments of a productive, high-quality researcher might be, if purely judged on these terms. Faculty in these institutions or universities, in particular the younger lot, have been bred in environments that train them more specifically to publish than to innovate and engender new ideas. This, then, would be their idea of research, and given a cut-throat academic environment of ‘publish or perish’, the former is logically the route that sanity advocates. This would inevitably breed ‘productive researchers’, who would win awards and fellowships, but are unlikely to be receptive to the challenge of navigating uncharted research territory that might be truly path-breaking. Such individuals, when placed in positions where they would decide the future of academia, are only more likely to perpetuate this trend. After all, this is what made them ‘successful’, ultimately!

The effect of an overemphasis on the above ‘numbers’ has particularly jeopardized the other critical component of higher education – teaching. To be able to indulge in path-breaking research, one needs the ability to identify and solve fundamental problems. And one can only do that if the *quality* of undergraduate and postgraduate teaching can induce the confidence to attack such problems. This is difficult, since our entire teaching system through schools does not breed or encourage creativity (see Raghavan, *Curr. Sci.*, 2018, **114**(5), 941–942), and therefore, it is probably unfair to expect our students to suddenly become creative in institutes of higher education. However, it is certainly possible to recruit teaching faculty whose basics are clear, and who can provide direction to outstanding students capable of truly innovative research. At present, faculty are largely appointed on the basis of ‘numbers’, which as discussed, do not ensure conceptual clarity of the individual, the ability to intellectually stimulate young minds or communicate effectively, all necessary ingredients for teaching excellence. Indeed, young faculty are aware that nonperformance in teaching has little bearing on their careers, if they are able to accept transient embarrassment in the classroom. On the other hand, teaching well demands a level of self-reading and dedication that involves time, precious time that could be more worthily spent in writing another paper for a high impact journal. There is therefore little incentive for a young faculty to develop on this front. Part of the problem stems from our inability to gauge teaching. The QS ranking system admits that ‘Teaching quality is typically cited by students as the metric of highest importance to them when comparing institutions using a ranking. It is notoriously difficult to measure...’. It goes on to suggest that the teacher : student ratio is the best proxy for teaching quality, a point not without merit but obviously flawed. The interesting point is that although good teaching is so difficult to quantify, every department (including student and faculty) knows who the good teachers are. This is based on time-tested feedback from students – and frankly, there can be no other measure. A properly designed feedback mechanism would help in this estimate, and due importance can be given to teachers with consistently high ratings through incentives, such as lower ‘number’ thresholds for them on the research parameters when evaluating for promotions.

Given the current ‘number’ scenario, how then do we improve the international ranking of our institutions, without compromising on the core ingredients of research and teaching? An answer is hidden in the two premier ranking mechanisms (QS and THE). This is something referred to as ‘academic reputation’ by the QS (40% of the weightage), and separately as ‘teaching reputation’ (15%) and ‘Research reputation’ (18%) in the THE ranking systems. Both are obtained from international peer-group surveys. This is where the difference may come in. A single, truly path-breaking work can make a greater

impact on reputation and perception by peer groups than 50 mundane publications – and reputation often stems from the identity of such work with the individual and his affiliated institution. We associate Einstein with relativity and photoelectricity, Raman with his effect and Hawking with black holes. They did other work as well – but their contributions in these domains are what built their reputations, not their number of publications or citations. We need to provide the academics of today, of such potential quality, with the academic security of indulging in research without the fear of losing out on career advancement, or in extreme cases, their very jobs. Path-breaking research involves time, heart-break and disappointment, and carries no guarantee of success. However, unless some research of this sort is encouraged, breakthroughs will never be possible. We will always be followers, never the leaders. Whatever may be our ranking, no Indian institution will be ever be perceived to be at par with Cambridge, Harvard or Princeton, to name just a few.

What might the solution be? This is a difficult one, as it involves the ability, confidence and wisdom of our faculty selectors to be able to look beyond ‘numbers’. For reasons not entirely academic, and we must admit, our own transgressions over time, academic decisions that do not conform to the ‘number’ game have become legally open to challenge, and can easily become fodder for a news-hungry media that is ‘looking’ for evidence of academic corruption. We need to convince ourselves that there is space for admitting people who we recognize as good in the fundamentals, and who we believe would be able to think ‘differently’. Impediments like ‘numbers’, age of the individual and other bureaucratic factors must not be allowed to stand in the way of such perceived excellence. But this is easier said than done – it needs visionary academic leadership, with stature that can influence legal, media and public perception.

Ramanujan’s story is one that all Indians love to hear – that genius can be bred anywhere, and in any environment. Geniuses are born, not created, and therefore, much of the time, they exist *not because of*, but *in spite of* the system. What the system can do, however, is to encourage academics in the mould of G. H. Hardy – who may or may not be geniuses in themselves – but have the ability, confidence and power to recognize and mentor Ramanujans. Until then, Indian institutions and universities will continue to play the number game – unsuccessfully – and will remain mired in mediocrity, giving politicians and a gullible public more excuses to reduce funding and increase interference in academic functioning and decision-making.

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