

Table 2. Activity index of publication output for 1980–2000 for different countries*

Year	Activity index				
	India	China	Israel	South Korea	Brazil
1980	183	17	112	7	74
1981	169	31	114	11	83
1982	152	50	121	14	79
1983	148	56	122	18	75
1984	148	55	124	21	73
1985	135	60	130	27	82
1986	128	67	126	31	95
1987	120	73	130	37	92
1988	116	93	124	41	77
1989	117	95	112	50	83
1990	109	108	107	53	87
1991	108	105	102	63	97
1992	103	109	100	70	100
1993	92	105	101	122	93
1994	94	105	103	103	99
1995	83	112	97	129	108
1996	79	110	93	147	113
1997	69	121	88	161	118
1998	67	123	83	174	118
1999	63	132	73	183	124
2000	55	154	67	183	118

*AI has been rounded off to the nearest whole number.

Arunachalam¹ is also silent on the quality of research output. When impact of papers is considered in terms of citation rate (number of citations per paper) for 1980–84 and 1989–93, it has been observed that citation rate for India is higher than China for both the blocks^{9,10}. However, citation rate for both countries has declined, from 2.47 to 1.09 for India and from 1.44 to 0.97 for China for the same period. Dhawan¹¹, Garg¹², and

Arunachalam¹³ in their studies on physics, laser, and diabetes research in India and China also point out that Indian papers have better citation rate than those from China.

If India is concerned about the decline in its scientific output in *SCI* database, she needs to improve the overall quality of the domestic journals to meet the criteria for their inclusion in the *SCI* database. Besides, Indian scientists should be

encouraged to publish their quality work in domestic journals. This would certainly go a long way in gaining lost ground and enhancing the India's visibility in the scientific arena.

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The menace of acronyms

It is a well-known fact that diverse scientific disciplines have advanced at a strikingly rapid pace in recent years. Even a scientist who is highly specialized in a very narrow area of study finds it difficult to keep track of what is happening in his own field of specialization because of the rapid advances being made. Just as people have resorted to the 'Fast Food' culture in the very busy world, scientists too have also been forced to adapt themselves to a 'Fast Science' culture. Science communication has not only become on-line, but has also tended to become highly shortened. One of the

hallmarks of such a growing tendency is the phenomenal increase in the use of acronyms for just about anything and everything. A rough estimate made by this author has indicated that less than 600 acronyms only were in use in biology two decades back, but now the number has increased to more than 6000.

Too many acronyms have necessitated the creation of separate dictionaries for acronyms. It is often taken for granted that a person reading a scientific communication should know the expansions for all acronyms used, which, however, is not true. A simple test was given by

me to a group of postgraduate biology students, where I had asked them to write the expansion for DNA. Although all of them knew about DNA, surprisingly only 10% of the students correctly wrote the expansion. This leads to the question: Do acronyms tend to totally replace the original expanded version? And do students, researchers and teachers feel that expanded versions for acronyms are no longer necessary? In this connection, I shall narrate an incident that happened recently. In a public viva-voce examination of a Ph D scholar who had worked on genetic transformation and who had

used the GUS assay, the candidate was asked the expansion for GUS. Sadly, he did not know. More sadly, the guide of the candidate as well as the examiner, both of whom have guided many students in transformation studies employing GUS analysis, also did not know the expansion for GUS. I shall also narrate another incident, which happened a few years back. A botany professor got a research grant of several lakhs of rupees, out of which he bought an NMR instrument. He used to show this instrument to every visitor to his department. The fact that it remained unused before eventually becoming defunct is another story. One day the professor of economics visited the botany department and as usual he was taken to the room where the NMR instrument was lying. He immediately asked: 'What does NMR stand for?' The embarrassed professor of botany was not

able to answer him, as he did not know the expansion. The economics professor subsequently gave an alternative expansion for NMR: 'No More Research', adding sarcastically that this expansion would aptly suit both the unused instrument and the person who did not use this instrument.

Of late, acronyms are being used increasingly merely for the sake of using acronyms. In other words, the use of acronyms has become a fashion. A professor used (and is still using) acronyms for all titles of major projects that he had prepared for funding by the leading funding agencies. Some examples: RIMIGTA (River Migrations in Tamil Nadu), MOCASY (Modelling Crystalline Aquifer Systems), CORE (Coastal Resources). It looked funny to others as if the acronyms represented code words for some secret (!) projects. The use of acro-

nyms which lead to ambiguous usages has become such a menace that the UGC had to strictly instruct all the universities to adhere to a specified number of 130 and odd acronyms for degrees which have already been approved by it for various graduate and postgraduate programmes.

It is, therefore, suggested that a scientific body must be constituted to approve of and to allow the use of any new acronym that is suggested after strictly ascertaining its essentiality as otherwise the menace of acronyms will increasingly haunt the academic world.

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Contractual appointment of teachers – a welcome proposal of UGC, and additional suggestions to revive excellence in higher education

The news that UGC has a proposal to institute contractual appointments for three or five years in the universities and colleges in future, is a welcome reform in the higher education, especially for science teaching and research. The UGC has become alive and active to the non-deliverance, sheer indifference and non-professionalism of the teachers and this awareness and need to do something about it, would indeed go a long way to revive excellence in higher education. Three decades back in 1972 the author had suggested to UGC the same step in a slightly different form. The conditions in the institutions were not as alarming then as they are to-day. The situation has worsened not only quantitatively but qualitatively too. It is a sorry state that at present the teachers in general do anything else other than teaching and study. The author had suggested to the UGC an annual evaluation of the teacher by the students whom she/he taught in the year on the basis of a proforma followed by an impartial and objective assessment by a committee of senior teachers. Another

suggestion made was to eliminate inbreeding and minimize misuse of authority in the selection committees – the first appointment not to be made from amongst the postgraduates or research degree holders of the same University.

There are three aspects or reasons for the general deterioration in higher education and all the three form a vicious circle, with a cause and effect relationship with each other. Teachers in general do not have love and devotion for studies. They lack commitment and dedication to their noble profession. Any attempt to make them accountable has met with opposition. They have never felt the necessity or taken an initiative to truthfully assess and evolve a code of conduct for themselves. It is only the conscientious teacher/researcher who continues to work sincerely for longer hours than required. In the absence of any controlling measure, teachers who join the profession not by choice and love for it, tend to misuse or misappropriate the autonomy and freedom provided in the profes-

sion. Contractual appointment is a right step to correct this situation. Besides, if one is allowed to seek promotion in the same institution, extraneous factors also seem to contribute to one's promotion. For this very reason, migration of a teacher for promotion would be a healthy condition for sustainable progress of the teacher.

The second reason for the deterioration in higher education has been the appointment of inferior teachers on the faculty who have either no interest in teaching/research, or otherwise are not the best amongst the available ones. Contractual appointment, the first appointment of a teacher not from amongst the postgraduates/Ph Ds from the same University/department, and seeking of promotion in some University other than the one where serving, all these measures would take care of the ills mentioned above and would lead to a possible welcome improvement in the academic standards. The appointment of temporary staff in the universities/colleges negates the sanctity of the selection proce-