Commentary

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At the very onset I profusely thank you for your striking views on the state of education in the field of Microbiology in India (Indian Journal of Microbiology, vol. 50(3), 2010). I am a PhD Scholar now, but I graduated (MSc Applied Microbiology) way back in 2000. I got back to academics and research after a brief stint (8 years) of industrial experience. Probably, it is for this reason that I completely agree to your contention on the Industry—Academia partnership. From your editorial, your concern for science and your want for conserving the essence of it amongst the forth coming generations was evident and truly understandable. If you permit I would like to express my views in line with that of yours.

From the early years of my graduation (B.Sc. Microbiology, 1995–1998) I was not very comfortable especially with the number of students who are admitted to pursue graduation (UG & PG) in a specialized field as Microbiology. While I was doing my B.Sc., there were about 30 odd colleges offering the course with a strength of 40–50 students per college. I was wondering if there were career prospects for all those admitted??. Not surprisingly but for a few, most of my B.Sc. batch mates are settled into fields other than Microbiology or say Life Sciences. They jumped to other branch of science or to management. This jump obviously gave them a lot of trouble, initially in understanding the new domain and lately in their professional careers. Who is to be held responsible???

While at the tail end of industrial stint and at the time when I was stepping into Academics, I started to work on the subject for a better understanding and my conclusion was that this issue, like any other pressing issues of our country, will find solution at the stage of Governmental policy making. It may seem like I am passing the buck, but I am not.

In order to get to the root and identify the cause I tried to do a root cause analysis (RCA by 5 Why/Why—Why method—The **5 Whys** is a questions-asking method used to explore the cause/effect relationships underlying a particular problem. Ultimately, the goal of applying the 5 Whys method is to determine a root cause of a defect or problem—Wikipedia) on the issue. Though I may not be able to discuss the WHY's, I can in brief put forth on what I concluded.

The cause of the poor state of education revolves around the two parties concerned, one the teacher and the other, the one being taught (student).

Student Related Problems

1. **Quantity**—Needs no explanation, but does need an understanding on how and why the Government has relaxed on the restrictions on the seats. For reasons too generic, government through universities and affiliations has been increasing the seats.

I was told by a Journalist as per an undated survey conducted sometime back, say out of 100 odd students passing out of their school, only 15–20 could be accommodated by Government colleges, around 20–30 more by private colleges, what about the rest? Is this why there self financing colleges opening up in every 1 km radius? Do they have enough, good teaching

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personnel??? Do they have enough funds to provide adequate lab exposure to students?

WHERE LIES THE ANSWER???????

2. **Quality**—admitted

- a. Pupil with no capacity what so ever to deliver, gets to be admitted- Thousand reasons to be quoted.
- b. Student with no interest in the subject gets admitted- On insistence of the parents, hype created by media on the false career prospects and so on.

WHERE LIES THE ANSWER???????

Teacher Related Problems

It is said that the primary object of a teacher is to inculcate interest among the students in his subject, I do not know about others, but I have always looked at this Nobel profession with this as a prime objective. How many teachers think so? Or do they even have the quality to think so?

Quality of teachers appointed? and after appointment do we have a system to monitor the performance of a teacher as a teacher? Is the teacher accountable to the performance of his student?

I still am working on the subject. I did come up with many solutions applicable to change things the way they are, but I guess it will be seen as enforcement rather than a solution to a crisis. And to any force, there is always resistance. To my understanding what I see and perceive is that, in the time to come, things might get worse and I have reasons to say so.

“No doubt the number of scientists and other science personnel will grow, but...

..... Will Science grow ??????????????
???”

The ‘cause’ to a pressing issue of the kind has many roots, but the ‘effect’ is pretty much obvious.