Teaching

There could be two aspects to (classroom) teaching activities. One, conveying some 'standard' knowledge in an interesting way, to enable students to shape their basic concepts and ideas and two, facilitating the student's own efforts, perhaps in working on new issues.

The first is conducive to group learning. Curating good reading material (nowadays also video material and interactive material on the web) is useful to students, as there is just such a lot out there. It is a given that very few will read books in the older style (since I also read much less than earlier, it is not fair to expect students to do so).

For the second, I think the course project style can be useful, thought it does require a lot of time and also has thorny issues with evaluation. Both hurdles can be overcome (the first with some planning and the second with some thought and also conveying the scheme to students properly). Unfortunately, written submissions have limited value now, and oral presentations are a must.

Since I am not a particularly succesful teacher, perhaps I can only give some advice on what has worked partially. In the courses I teach, I give exhibits (two pages long) with diagrams, paras of text, sometimes some data 24 hours before the mid sem and end sem exam, and say that at least some questions in the exam will be based on this material. This calms down the students and they have some target to read and think about. I was told that asking ChatGPT for all possible questions related to this material is possible and mugging up all those is doable. That seems a lot of work for students to do, so it may still be worth trying! One small positive outcome of this is that it reduces last minute question paper preparation (at least a good chunk of it) and hopefully that makes for a better paper.

A very simple metric regarding whether an exam has achieved its purpose is the following. For a 3 hour exam, how many students are in the exam room after 2.5 hours? If that number is above 75%, then the exam is a success. If the questions were too straightforward, many would have finished in 2 hours or less and left, if they are too tough or obscure or tedious, then again, some would have given up and left at the 2.5 mark or earlier.

I have gravitated to teaching basic courses and broad based subjects to as many students as possible, rather than teaching very specialized material to a few. It may be because I have less specialized material to offer, but it is also because I have acquired some perspective to do justice to teaching some of the basic topics in my area. Breadth in teaching, and trying to teach different areas (especially the basic ones) over the years, is certainly very enriching and has added to all other activities.

To the maximum extent possible, original writing by the instructor related to teaching is desirable. Some are disciplined enough to write textbooks or teaching material. But it also includes refreshing one's notes, updating examples, questions in exams, writing suggestions regarding reading material and responding in detail to student queries.

About class attendance, while my ego is hurt by having to make attendance compulsory, I must also question whether I am able to look students in the eye and say "I believe that I can tell you and engage you enough to make the class time worthwhile, and I will be taking attendance. Class time does count towards your exposure to the subject and your performance in the course". If I could do this, it would be great.

Purely admin advice to younger teachers is that marking and grading is entirely the instructor’s responsibility and even with Teaching Assistants increasingly involved in this, students in the

courses should see and feel that it is the instructor who finally decides on marks and grades. This requires physical presence in paper viewing sessions (universally called ‘crib sessions’) and in responding to complaints and queries about grading. Leaving TAs to handle these matters is very dangerous.

A concern I have while teaching at IIT B is that some of the students don't understand spoken English when they enter and can take quite a few weeks to get used to it. Some sensitivity is required in this regard.

If one can achieve a personal rapport with students, for example, by knowing their names, it would be great. I think this is important and I may be giving up too quickly on this attempt. Related to this is the truism that unless the teacher is enthusiastic and enjoys the class activity, it is very unlikely that students will do so.

Teachers who influenced me have been quite varied in their styles, so I am not worried that one's own style will not cut it. What is important is that it really should matter whether students are absorbing something or not. Sometimes that is all it takes to change the activity to a positive one, someone cares about it.

Finally, it seems evident that our major contribution to the field and to the discipline and profession often comes through good, sound teaching. Research, applied work, administration, all this will happen in its own time, but teaching will always make a mark where it counts. It is also the one thing that defines a department or a group collectively, in terms of its impact on the student group, no matter what they work on in their research, or what they do later on. It is worth discussing teaching and what works and what doesn't and support fellow teachers.

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