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Eleven Thoughts for Teachers

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Abstract This brief paper reflects on some aspects of teaching in research universities. First it considers some problems facing teachers in higher education in all countries. It then stresses the central functions of teaching, as both transmitting skills and knowledge, and also shaping attitudes and character. We do this latter best by narrowing the status gap between ourselves and our students: by finding ways to learn from our students; by bringing our research into our undergraduate courses, and by pointing to the limits of our knowledge. We meet the moral demands of teaching by dealing honestly with evidence at odds with our own theories and values. And we keep learning fresh and alive by finding ways to sustain our own pleasure in teaching.

Introduction

Rather than report on my current research on higher education, I thought it might be more useful for me to share some reflections on the academic profession, on teaching and learning, on the academic life, on which some of you are just embarking. I speak not from any textbook, but from my experience of over forty years as a university teacher in the United States, Britain, Sweden and elsewhere. I understand the difficulty of speaking across the gulf of language, culture, and age. But I will try.

Eleven thoughts

1. Three problems facing teachers in all countries in the next decades.

Young teachers everywhere will be facing three emerging problems over the next few decades in all countries:

a. There is the promise and threat of the new technologies of instruction, which over the next decade will change our universities and our work in large but unpredictable ways.

b. Everywhere we see growing enrollments in universities, broader access to higher education, but less money per

student from the state, meaning bigger classes and less time of the instructor for each student,

c. Our students are the first real "video" generation; they come to university knowing less and reading less. This increases the importance of general education in the university, to teach a common body of fundamental knowledge that formerly was gained in school and home.

2. We transmit skills and knowledge; even more important, we shape minds and character.

The main product of our teaching is young minds, which we help shape. In university we transmit skills and knowledge. But we also shape the minds and character of our students. It is probable that the new technologies will take over much of the first function, of transmitting skills and knowledge. But technology cannot do the second very well. We will continue to have an important function in the education of students through our direct human relationships with them in seminar and lab.

3. The university is a community of seniors and juniors.

The university is a community of seniors and juniors, engaged in a common effort to role back the boundaries of

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ignorance, to learn more about the nature of things, and the meanings of things. To see us a community of seniors and juniors, all learners minimizes the differences in status between us and the students, and emphasizes our joint enterprise. Of course you know more than they, at least in your own subjects, so ideas and information may seem to flow mostly one way, at least in your own subjects. But students teach us too. In the questions they ask we learn what is unclear, perhaps to us as to them. And later, perhaps from our graduate students, we learn how ideas we hold may no longer be useful, or need to be reexamined in light of new evidence or arguments.

4. Reducing the social distance between students and teachers.

How can we reduce the gulf of status and age between ourselves and our students, between seniors and juniors? How can we stress our joint enterprise, our common war against ignorance? We can start by encouraging, and even requiring, the discussion of lectures and readings. We must also respect the views of students, and not be too quick to correct. As teachers we need to learn how to bring students into the discussion; this too is part of our professional skill.

5. Bringing our own research into the undergraduate classroom.

We can also remind our students that teachers are also learners, in part by talking about our own research as early as possible. Even as undergraduates they can begin to see that knowledge was not born in a textbook, but is hard won and full of difficulty and uncertainty. Few textbooks convey that sense of how knowledge is gained. But we know that failed starts, failed experiments and wrong interpretations of evidence are all inherent in real research and scholarship. We know, and must show our students, that finding things out about anything important is not easy or neat, but is complicated uncertain, and also involves luck. Let students see that scholars and scientists also flounder, are also confused and uncertain, just as the students are. This is also one way to deal with the tension between teaching and research.

6. Confession of the limits of our knowledge helps students see teachers as more like themselves.

Let students know the limits of your own knowledge -- the problems and questions in your own field to which you, and maybe the field, has not yet gained a satisfactory answer. This also makes you a learner, like your students. Only insecure teachers cannot confess their ignorance; to state the limits of one's own knowledge is a mark of security in your scholarship.

7. Importance of emphasis on reason, evidence and creative imagination.

In all your discussions, stress your reliance on reason, evidence and creative imagination. A creative imagination is necessary to create new knowledge, but it is not a substitute for reason and evidence. Illustrate the combination of creativity, reason and evidence in the literature, and in your own work.

8. The important role of evidence which does not support our own ideas and theories.

Put before your students as of great importance the role of evidence that does not support one's prior thinking or hypotheses -- what we call "negative evidence." Our treatment of negative evidence is the moral center of science and scholarship; we can ignore it or cover it up; we can explain it away as trivial or exceptional; or we can make it central to our work, and allow it to force us to develop our theories and ideas in directions that will bring negative evidence into better explanatory schemes. This is especially important in humanistic studies and the social sciences, where the self-correcting processes of the natural and physical sciences are not always present.

9. The difference between teaching and indoctrination linked to how we handle negative evidence.

How we deal with negative evidence in our fields is the difference between education and indoctrination. Indoctrination is teaching students systems of ideas that are prior to and independent of evidence, systems of belief and fantasy that comprise ideologies. Leave that to politicians. The work of scientists and scholars is altogether different, and it is useful to make that distinction clear to students. It is not enough to believe something strongly: we must always ask: What is the evidence?

10. If we are bored in our teaching, our students are also likely to be bored.

Finally, we must seek and find pleasure in our work. When it seems dreary and boring, then something fundamental is wrong. We must find ways to make our teaching a pleasure to ourselves. Whether students also find it a pleasure is not always in our control. If what we teach is interesting to ourselves, it will be interesting to our students, or at least to many of them. But when our teaching becomes boring and unpleasant to ourselves, it is time to rethink what we are doing, and perhaps find ways to do it quite differently. Our freedom to re-create our work is a great advantage we have over almost all other occupations and professions, and we

should take advantage of that freedom often.

11. Inspiring students

We all hope to make a contribution in our lives to our scholarly or scientific disciplines, and thus to society and to mankind, through our research, our discovery of new knowledge. But we may in fact make our greatest contribution to our civilization through our students -- not only by what we teach them but also how we inspire them.

So let me close by asking each of you to think of most inspiring teacher in your university career -- either as an undergraduate or as a graduate student. I would guess the every one here has had at least one teacher who reached you and changed your life in a powerful way -- some teacher whom you think of and remember often. Now, can you be like that teacher to any of your students ?

If you think of that teacher who inspired you, I suspect that his impact in you came in one of two ways: he could have said something to you at a crucial moment in your life to give you the sense that you could be more than just a student -- that you could be someone who created

and transmitted knowledge, a scientist or scholar, a university teacher or professor!

Or perhaps he was the other kind of teacher, one who clearly had a special feeling for his subject, was for you the very spirit of science or scholarship -- the kind of person of whom you could say: "That is what it means to be a scholar or scientist, that is what it means to be a historian or chemist or whatever, and I want to be like that, I want to spend my life doing that!"

What both of these types of teachers -- and some rare people inspire their students both through a special human connection with them and through a special relationship to a subject -- what both of these types have in common is that for them teaching is not a job, not a routine way of making a living, but is the very essence of life, it is what gives their lives meaning.

Maybe there are some teachers like that in this audience today.

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