

STUDENTS, FACULTY AND PROFESSIONALISM

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The most important resource of the University is the student. The only task of the University is to nurture—to make the student grow to be a creative and productive member of society. These are rather simple contentions, and there may be people who disagree with me about their importance. It is my feeling that, today as never before, students are being very badly neglected at most of the Universities in this country. This is true in any field of endeavor: engineering, liberal arts, or business. I can cite many instances to show that this neglect actually exists.

If we walk on a campus today we see some characters who look as if they were turned loose from some southern California cult. They have hair running down their backs, beards and togas, and all kinds of weird customs. We see students who are protesting everything including protest, and others who are wearing buttons that say "acid." These types are everywhere across the country. We see students who are walking around saying: "Who am I?" "What am I?" "What am I doing?" "Where am I going?" We see people "dropping out" or "turning on." We see in our own society a very great lack of professionalism. We wonder what causes this and why it takes place.

I agree wholeheartedly with John McKetta that professional development is certainly a life long proposition. But I think if we examine the facts, we will find that the very first contact that a student has with the professional man (some of you might question calling professors professional

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men) comes at the University. And as the old saying goes 'As the twig is bent, so grows the tree.'

But what is or could be wrong with the attitude in most of our universities? I cannot generalize as any generalization is incorrect, including this one. However, if we look at the attitudes of our faculty, I think that they do not, in the main, lead to the kind of attitudes that are needed for professional growth.

What is wrong with these attitudes? I will cite actual cases. One professor in one institute has a little egg timer—it goes for three minutes. A student comes in, "Professor Jones, I have a question." He turns the egg timer on, "You have three minutes." By the time the student stumbles and stutters through about a minute and a half, he never gets into the question. "Your time is up, leave my office, I am a busy man." Professor B. keeps his door locked. He is a very busy man. He has no time for students. He has to generate his committee work, his papers, his research, all his activities. To spend time advising students is just a little bit beyond him; he just can not take the effort to do it. Professor C. writes letters of recommendation for his students, and he does a wonderful job of damning them with faint praise. A typical example of Professor C.'s letter is the one he is supposed to have written for Jesus Christ. It went something like this: "This man is rumored to have founded a great religion; however, there is no evidence to show that he was other than mediocre in his chosen profession of a carpenter." These are not isolated examples. I find instances of such lack of contact with the faculty all the time when talking to students whether they are transfers, graduates, or actual employees in industry. They say, "The faculty does not really care what hap-

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pens to me," or "nobody wants to take the time to advise me."

Somebody may say, "Well, yes, this is fine for you as Denver is a small private school, but what about the larger state universities?" I maintain that even at large schools there must be advising, there must be contacting, and there must be guidance. The contrast between schools is indicated by what some interviewers told me. For instance one of them said, "It's remarkable a couple of your students have actually improved in college the last two years. You don't seem to have the attitude they have at some schools." I said, "What do you mean?" He said, "Well, at some schools they seem to be trying to drive all of them out of engineering—to fail them all out." I think this unfortunately, is the attitude of many professors. We are all busy, and everybody has things to do: you must write papers; the Dean is on your back to get a couple of research contracts; somebody else wants you for this or that. I think this means that University professors, instead of working the sixty hour week that Dean McKetta talked about, must work almost a one hundred twenty hour week. It means that if a professor has nothing more to do in his office all day than to advise students, he ought to be doing it.

I find that even our younger professors in engineering, the so called "bright lights" or "high flyers," on the research side have an anti-student attitude. I recall one of them at another campus, as students were trouping in for registration, saying to me with a disgusted look on his face, "Wouldn't it be wonderful if they just weren't on the campus?" My own attitude is if they were not on the campus there would be no reason for the campus' existence. I think that all of the professors must feel toward the students much as one might feel toward a younger brother or sister, or, depending upon age, toward a son or daughter.

The purpose is to make them grow. It is not to beat them down—it is not to demolish them. It is to instill into them the attitude called in the army "esprit de corps," which is pretty much undefinable, but I think most of you can sense the difference. In baseball they call it hustle, maybe in engineering we call it "professionalism." The lack of professionalism, evident in many graduates, comes, I think, from a lack of concern on the part of the faculty.

Who is at fault? Is it the faculty only? Well, I do not personally think it is the faculty alone. To indict the faculty is to say that it is not doing the job while everybody else at the University may be. I think the whole concept of the University really must change in some ways. Schools have become very impersonal places. The administration runs the college or university as a business proposition. Because it is a business proposition, the earlier concepts of teaching and living and working with the student have gone out the window.

Of course, it requires an interested faculty. The faculty must want to work with the student, to build up his "esprit de corps," to increase his professionalism. Help must come from higher levels also. It should come from department heads, it should come from deans, and it should come from provosts. These people must do more than pay lip service. If they have faculty members who are openly antagonistic to the students, then such members ought to be called in and told: "Well, look, I don't care if you have 90,000 papers. I don't care if you are on all these national committees. If you don't have time for students then you're not part of this University. You'll have to go elsewhere." I do not think that there is enough, if any guidance by the people that are in the prominent places in the education profession. However, one does not get any dollars for such activities and maybe this is wrong. Concern for students never shows when the time comes for pay raises, or publication counts, or comments like, "Well, I hit the Department of Defense for \$200,000 last year in the game of grantsmanship." I think work with students is the most important activity one can do. If a professor can develop one student—just one—it is worthwhile. If he can take one boy or girl that is failing, set him or her on the right course, and help him or her become a useful and productive member of society, then the professor has done something beneficial.

I am not going to say that every college and every university has staff members that do not care. But I do think that the "Berkeley syndrome" is unfortunately too often the case at many of our schools. I remember a remark one young faculty member made to me: "You know one of the problems is that too many of the professors think they are too good for the students." And I think this is true. I think until the attitudes change, until you feel that "by golly I want

to get in there and work with these students," not much can be done. I do not mean molycoddling of students. Some people may say, "He's advocating leading them around by the hand." No, I do not mean this. When a boy comes in and says: "I've got six job offerings. How about telling me about these companies?"—or he says: "Gee, I'm thinking about going on to grad school, but I really don't know."—or he says: "My freshman math instructor has failed 95% of the class."—I believe the professor ought to be doing something. I think that he ought to be asking questions. He ought to act as the inspector general, if nothing else.

In other words, the professor ought to be concerned and interested in the student, and he ought not to be concerned as much in pleasing various administrators. Doing what is right for the students is much more important than fulfilling a set of paper regulations. Let me also say that I have written quite a few papers. I have time to participate in national meetings, and I get quite a bit done. But, I have never shut my door to a student. I do not think anybody on my staff at Denver has either. I think this should be the tenor at all schools. If this forces one to work in the evening or on week ends, then one must. But advising a student who might be standing out in the hall with his knees shaking—a freshman or sophomore—is much more important than writing any paper or doing anything else. I maintain that if you inspire the student with the right attitudes he will continue to grow when he goes into industry. He will take off in the right direction, and he will be primed to walk the second mile that Dr. McKetta talked about.

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ChE problems for teachers

We continue with the thermodynamic problems and solutions prepared by Professors Irey and J. H. Pohl at the University of Florida.

1. An incomplete equation of state for a substance with the work modes $-EdZ$ (associated with charge) and PdV (compressibility) is written as;

$$\frac{V-V_0}{V_0} = \beta T + K Z P$$

- a. Determine the electric potential, E , as $E = E(V, T, Z)$.
- b. Calculate the difference in internal energy

$$u(T, V, Z) - u(T, V_0, 0)$$

due to changes in volume and charge.

- c. If $C_{v,Z}(T) = C_{v_0,0}(T)$
 $v = v_0$
 $z = 0$
 find $C_{v,Z}(T) - C_{v_0,0}(T)$.

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