

Are College Professors Obsolete?

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STUDENTS COMPLAIN about college teaching. Administrators complain about college teaching. Boards of trustees complain about college teaching. Outside experts complain about college teaching. And some college teachers complain about other college teachers.

There are conferences, retreats, and workshops for the discussion of college teaching. I have attended some of these; I have read reports of others. I recall finding no indication that the participants in these affairs were aware of the basic question which must be asked if a discussion, retreat, conference, or workshop on the subject of college teaching is to make sense. Nor do I recall having heard students, administrators, trustees, expert consultants, or faculty members ask the basic question. Nor do the devices used by students to evaluate (God save the mark!) the faculty show any sign that the inspired creators of these instruments of measurement (and again God save the mark, if he can!) are aware of what the question is.

As a young teacher, too young to know better, I asked the question of my elder colleagues. Their mouths dropped open, and I was afraid they were about to call for help. So I had to try to answer it myself. It was five years before I was able to meet a class without wondering what I could do for those students that they could not do for themselves.

I am now going to ask this question. I am also going to try to tell you how I answered it, and to develop some of the implica-

tions of my answer. I shall state the question first in general terms, and later more pointedly.

What can a college professor do in the classroom that is essential to student learning and can be done only in direct interaction between professor and students, where the professor talks to the students and the students sometimes talk to him and to each other? What special, unique, and indispensable link does the professor forge between his discipline and the minds of his students who hear him talk in the classroom?

Make no mistake about this. If what happens in the classroom in face to face exchange between professor and students is not indispensable to learning at the college level, the financial problems of higher education can be solved in a hurry. Just get rid of the faculty. And don't think this will not happen if it can be managed.

Are professors necessary?

In this age of printing, of rapid and easy electrostatic duplication, of sound and video tapes, of closed circuit television, what need have colleges and universities for teaching faculties? Why not select from each discipline a few top authorities sufficiently photogenic and charismatic, preferably equipped with a few quaint mannerisms calculated to give a human touch to the performance, and pay them large salaries to record lectures on video tape? Such a service might be set up for nation-

wide distribution. Students could be tested by uniform examinations prepared for machine grading and the whole program controlled by computers.

Actually there would be no need to groom genuine scholars for the "teaching" role. They could be left in peace to grub in their libraries and laboratories and write their dusty tomes and pay their respects to the old rituals as they haltingly read their papers to fellow scholars. Trained actors could be employed to prepare video tapes for closed circuit television presentation in classrooms. Actors would have no difficulty memorizing scripts prepared by textbook writers, stabled in production studios, rather than by scholars. The use of phonetic signs together with personal coaching would guarantee correct pronunciation, proper emphasis, and effective gestures and platform movements. Some brief glimpses I have had of university lectures on closed circuit television showed only the head of the lecturer. Why not show only the mouth? Any mouth would do. You might even include a commercial for toothpaste.

But why have any kind of oral presentation? Why not simply expose each student to texts and commentaries properly programmed by experts in the behavior of rats, and let the student take care of his own learning? The institution would have only to provide the materials, most of them usable over and over again for years—as has been the case with some university courses on video tape, administer examinations prepared by commercial outfits in New Jersey, and collect the fees.

The fact is that if oral teaching is a method of passing on information from those who have it to those who do not, it is an anachronism. Oral teaching is too expensive and too inefficient to be tolerated unless there is an indispensable function which it alone can perform.

Someone may propose again that classroom meetings be turned into discussion sessions. I can only say that the most skillfully conducted and effective small group discussions I ever encountered were conducted for some of its middle management employees by a large business corporation. The leaders were officers of the corporation who had been put through an intensive training course in the techniques of leading a discussion. Since the most important technique is for the leader to learn to keep his own mouth shut and to get the others to talk, we would not need a faculty at all if we were to substitute this device for classroom teaching. Train a few bright students and let them lead the discussions—with extra credit, of course. Anyway, it has been my observation that the less that people know about a subject the better they can discuss it. So I think that we had better drop this idea right now if we intend to retain the notion that a college is an institution of higher learning.

Let us face the fact that there is no excuse for presenting in a classroom what is available in print, or what we can write out and duplicate, or what we can record to be played back. A corollary is that the more detailed the preparation of material the less appropriate that material is likely to be for use in class. If the intention, however, is not to teach but to process students, then the material needs to be shrewdly prepared in minute detail. For such purpose the teaching machine is the ideal instrument. (Parenthetically, let me say that there are some tasks, such as training in specific skills and providing remedial help, which can be done superbly with teaching machines and other programming devices. In my opinion we have not yet begun to make adequate use of these instruments.)

Oral expositions and informal discussions are not effective ways to communi-

cate the orderly and systematic structure of any field of knowledge. Such communication should be by the printed page. The appropriate function of oral communication in higher learning is to bring into focus certain problems or topics of central importance, for the understanding of other problems and topics. Such oral teaching is most successful when it is in response to the present awareness of interested students, of students who are studying a common subject and who have a common reading preparation. A professor uses the class period to clarify, to trace implications, to expose uncritical assumptions and presuppositions, and to open the way to meanings hitherto hidden from those students.

But still we must ask again why this requires oral teaching. Why not do this with video tapes?

I shall now try to answer this question directly. The need for oral teaching at the crucial points of learning arises from the distinctive nature of human understanding. Whatever else it may involve, understanding has a basic personal dimension. I can understand only as I assimilate the new into my own personal meaning structures, and to do this I must interpret what is new to me in terms of what I already have. The process of absorbing new ideas requires also the reconstitution of those I bring to the new experience. The less familiar the new ideas are to me the more help I need to see how they bear upon what is already familiar. The kind of understanding essential to really significant learning is not only an understanding of the material I am exposed to, but also an understanding of my situation in relation to it.

A student has special need for expert guidance when he seeks access to areas of knowledge hitherto unfamiliar to him. That expert guidance comes to him by way of a personal exhibit of what the subject matter means to one who does understand it.

Impersonal subject matter makes most effective contact with the novice when he encounters it not merely in abstract symbols but incarnate in a person. Such demonstrations are essential at the introductory level, but also at the beginning of a student's work in each specialized area of a discipline. The further he goes in a particular direction the more independent his work can be.

If a student is to obtain maximum benefit from the experience not only does he need to see the mind of an expert in action, but he needs to see it acting *ad hoc*. Students need to see how an expert marshals his knowledge on the spot and brings it to bear upon the topic discussed, and they need to see him do this spontaneously in response to the demands of a present unique situation. Such presentation provides a living personal paradigm of the process by which the human mind elicits and exhibits intelligibility.

Even when the attainment of understanding depends on long and persistent effort the light of comprehension often bursts upon us in sudden insights. The indispensable shifts of perspective which bring new insights are most effectively triggered in the novice by one who fashions his explanations and explorations in direct response to the present condition of the learner.

Since unfamiliar ideas become intelligible to the learner only as he finds them worked into already familiar meaning structures, the professor's job is to interpret those new and strange technical materials so that they will find a home where his students live. This requires also that he induce in his students the changes of perspective which open their awareness to what they had not seen before.

A professor's concern is with these actual people who are before him here and now in this particular class meeting. To make contact with them he has to begin where

they are. To begin where they are he has to know where they are. To know where they are he has to know something of who they are. If he is to control the presentation he needs to be able at every moment to tell whether or not he is making contact with their present awareness. To know this he has to see them and to sense something of their unspoken responses. With a class of ten to fifty he can tell when there is general bewilderment, when the point of an explanation begins to penetrate, and he can tell at what moments the light of understanding is seeping through the fractured shell of immediacy and superficiality. He is the one who has to break that shell.

In this sense, and properly only in this sense, is the relation of professor and student personal. Some tell us that to teach is to discover and remove blocks to learning, to establish personal rapport with students and between students, to strengthen egos, and even to reconstruct personalities. But although good teaching may often have such effects, college teaching is not therapy. Many reformers of higher education advocate what seems to be nothing else than a kind of advanced ego cuddling. But I am sure that young people today, as in my day, can take care of their own cuddling—of whatever variety. What they need today, as they did in my day, is to stretch the range and depth of comprehension beyond its present limits in the hope of coming to know something worth knowing. I have every reason to think that this is what most of our students, once they get the taste of it, want for themselves. Those who do not want it should not be here.

Teachers, subjects, and students

Some present proposals for the reform of college teaching show a woeful misunderstanding of its nature when they apply to

education the analogy of industry. Incoming students, they tell us, are the raw materials; educational planners are the product designers; faculties are the processors. But the analogy fails. Students are people, and people are not materials. College students are adults; they are mature enough to be treated as autonomous persons, not as infants and children to be molded to another's model. Teaching is not processing. To judge the success or failure of teaching in terms of product output may be appropriate to production line operations in a megalomaniacal multiversity, but not in a liberal arts college.

To teach at the college level in an institution committed to personal values is to impart knowledge. If a student is to acquire knowledge he must assimilate it into his own understanding in terms of what is meaningful to him. The raw material of teaching, if such a metaphor is to be used at all, is not the student but the discipline. A professor shapes and forms the content of his discipline to make it and its values accessible to his students. Certainly they will undergo changes in the process; but the change in them is the work of the discipline. Beyond his discipline a teacher has no more to teach his students than do those with no discipline at all, and the sum total of that is zero. He may entertain them, encourage or discourage them, drill them, train them in special skills, or coach them; but he cannot teach except in the context of the discipline in which he is expert.

To teach at the college level, then, is to profess a discipline. So when we talk about college teaching let us get our grammar straight. "Student" is not the direct but the indirect object of the verb "to teach." The direct object is the discipline. We teach our disciplines to our students.

There is no effective way to adapt the learner to the subject matter of a discipline. In any discipline worthy of the name

the subject matter exists in abstract and formally structured techniques and concepts. If a student tries to make contact with such material directly there is not much he can do on his own except to memorize terms, propositions, and formulas; and for him those terms, propositions, and formulas will be next to meaningless. No wonder that for such learning we have to use artificial sanctions. You cannot adapt the learner to the discipline; you must interpret the discipline to the learner. The failure to get this straight is, in my opinion, responsible for more nonsense in proposals for the reform of higher education than all else put together.

We hear a lot today about interdisciplinary studies. Certainly it is important for educated people to see relations between disciplines. But you cannot teach such relations as a subject of study. Relations among disciplines are discernible, in a significant way, only to persons already grounded in the disciplines themselves. The discovery of significant subject matter in the relations of one discipline to another is what creates a new discipline. When that happens, the new discipline can be a teaching subject, but not until that happens. The examples are numerous and academic people are familiar with them. They include such disciplines and subdisciplines as biochemistry, biophysics, astrophysics, physical chemistry, statistics, econometrics, physiological psychology, analytical geometry, theology, and symbolic logic.

It is my considered judgment, a judgment formed in the context of disciplines in my field of competence, that *there is no knowledge outside the disciplines*. There are hunches, opinions, beliefs, speculations, hopes, assumptions, convictions, but there is no knowledge. The foundation of knowledge is procedure, for procedure is the only verifiable warrant for a claim of truth. And procedure is what makes a discipline. The

foundation of a discipline includes a set of tested techniques which bring inquiry under the control of logic, and in the sciences under the partial control of mathematics—which is itself, of course, under the control of logic. A discipline has its own unity and its distinctive problems. Each discipline has also an explicitly formulated structure of interrelationships among its concepts, among its basic propositions, and among its working assumptions. *These and these alone are the features which make it possible for a discipline to be taught*. You cannot teach a mélange of facts or a helter-skelter of theories. With such things you can at best play imaginative or speculative games.

There is a movement today to abandon the disciplines. I can understand this only as a revolt against knowledge. Unfortunately the academic world is being infiltrated by people who despise knowledge and who are determined to impose a new authoritarianism upon our society. We do not have to look far to see where this leads. We need look only as far back as Nazi Germany and as far away as Communist China.

It appears that to be an expert in higher education today all you need is a new and exciting idea. Let me remind you that this is the way you put together a musical comedy, not a curriculum. Too often we get only the comedy without the music.

The better analogy of college teaching is found in the relation of an artist to his subject matter. A painter who does a landscape finds his material in his own trained and controlled vision. If he tries to paint for his viewers, to reproduce on canvass what they would see if they should look at the original scene, he is only a hack or, at best, an illustrator. He is not an artist. An artist sees what we who will view his painting could never see on our own. He forms and composes lines and shapes and colors so that some of the visual values in the plas-

tic potential of the scene itself are made accessible to us also.

So, too, every discipline has a kind of plastic potential, for whenever it is grasped in thought or in appreciation it is grasped by a mind with its own unique existence and experience and perspective. Since the awareness which constitutes a self is a unified awareness, each person who is to achieve an informed grasp of a discipline must see its subject matter in relation to the rest of his awareness. The new must enter into that unity if it is to be his. *It is the business of the college professor to interpret his discipline to the learner in terms of the learner's awareness.*

Who can teach?

Why should we pay a college professor to follow the lead of his own intellectual curiosity, to engage in give and take with other experts in his field, and to make his own contribution to his discipline? The answer is that these are the only people who have anything worth saying about the subjects of study which it is the business of college and university faculties to open up to their students. Only those who possess specialized knowledge, knowledge more extensive and highly developed than will ever appear directly in a classroom, and who are personally engaged in its advance, are equipped to teach in college. A professor's level of proficiency in his discipline, a level beyond the present reach of his students, is what alone enables him to judge the soundness of what he has to say to them. In the realm of knowledge there is only one test. That test is more knowledge. This is the case because all knowledge of fact and existence is conditional. The leading edge of our knowledge is always problematic. The criterion of more knowledge is the only alternative I know to authoritarian dogma.

What kind of knowledge is worth communicating directly from one person to an-

other in face to face encounter? It is the knowledge which that person has made his own by critical reconstruction within his own understanding. Second-hand teaching by academic hacks who do little except rehash textbook materials is not worth doing. Anything a student can get from such teaching he can get on his own. If he is not willing to do it on his own, let him do without. He will not miss much.

Unless a college professor can give his students something important they can get from no other source, his performance as a teacher is trivial and meaningless and a waste of time and money. But if a teacher is going to give his students something they can get from no other source, he himself must have something no one else has. At the very least, this will be his own unique understanding of his subject, a perspective which is open to discovery by others only as he presents it to them in his own person, adapted by him to his own style of communication and expression to fit the condition of his hearers. Without such personal communication there can be no meaningful connection between the learner's personal awareness and the discipline he studies.

The personal element in such communication applies to all the genuine disciplines of higher learning, even to the most abstract and formally structured. I have heard distinguished mathematicians and chemists and physicists present topics of their disciplines, and every such presentation carried the stamp of the man and his mind, and revealed much of what was unsaid of his conception of the cognitive, social, and ethical values of his topic. I am confident that the formal teaching of each man did so also, only even more pervasively.

Despite widespread impressions to the contrary, so often expressed in talks and writings on college teaching, the quality of undergraduate instruction is not a matter of skill in the techniques of teaching. There

are, of course, things that ought to be done and things that ought not, but the only rules that make sense concern the obvious and the trivial. The quality of teaching is a direct reflection of the intellectual and moral qualities of the teacher, as those qualities fuse with his subject matter in the heat of his own personal interest and satisfaction in communicating to those who want to learn. A teacher is worthless if he does not have command of his field. He is worse than worthless; he is dangerous. He is dangerous because his attempts to teach will distort and misinterpret. A teacher is seldom of much value if he is not himself actively engaged with the problems of his discipline, working to expand the frontiers of knowledge within his subject or to bring new light into its darker areas. Even in class, his best teaching is likely to be in those moments when he struggles with a problem in full view of his students and works through to a successful clarification.

A teacher's understanding of the meaning of his discipline must include more than an appreciation merely of its relevance to the world of scholarship and learning; it requires as well an awareness of the place of his discipline in the broader human context. If his teaching is to carry conviction and is to mean something to his students, it must express also his own intellectual and moral integrity and his sincere commitment to the values of knowledge and of persons.

Nothing can take the place of scholarly competence, however it may have been achieved and demonstrated; but a once demonstrated competence is not enough. Without the moving force of personal involvement in the problems of the discipline, and without a compelling desire to bring to others the satisfactions of understanding, the competence of a scholar or a scientist can reach and influence others only through impersonal channels of communication.

It is now commonplace to recognize that effective college teaching requires freedom of inquiry and freedom to decide how to communicate the results of inquiry. No one fit to guide college students in the study of anything important in itself can be induced to do anything he does not want to do or does not accept as consistent with his own standards. Unless those who set out to improve higher education face and accept this fact, their efforts will fail. The ones whom they would constrain are the very ones who would have to implement their demands, and those same persons have been entrusted with tasks which cannot be performed under constraint.

What a competent and interested professor whose mind is active and searching wants to do for his students is to open their awareness to the intriguing problems and illuminating ideas that have inspired his own study and research and thinking. He wants to share with them his own excitement in the insights which have come to him as he has explored his discipline. He does not seek to make disciples of his students, but he hopes that their awareness of his way of understanding will begin to pry open their own understandings. He hopes that their discovery of what the subject means to him will be the beginning of their own discovery of what it can mean to them and to mankind.

We who teach have for too long insisted upon placing serious obstacles in our own way. We still insist upon confining our students in straitjackets of meaningless and deadening academic regulations. Instead of testing a student's qualifications for our degree in terms of goals which we specify but which he is allowed to reach in his own way, we insist upon goose-stepping him toward those goals. The classroom is too often a drill hall instead of a place of discovery.

Why are we so blind to the fact that the freedom which is indispensable to our own scholarship is just as necessary for genuine intellectual achievement by our students? Some of us are vividly aware of how important such freedom was to many of our own students in making it possible for them to break away from the academic lockstep. Would any of us, working now in his own discipline, undertake a serious inquiry under such controls and restraints as we commonly impose upon our students? The conventional faculty attitude seems to reflect an underlying and, I hope, unconscious urge to encourage mediocrity and to recognize as superior work only what shows the most complete submissiveness. It is at this point, I believe, that faculties need to undertake some serious soul-searching.

Is college teaching worth doing?

I can approach this question only by asking another question, one which may seem overly presumptuous. Is Western civilization worth saving? Are its prize human accomplishments worth preserving? If these are not to be lost they must be kept alive in the awareness and in the skills of some members of each new generation. If they are lost from human awareness then historical monuments will be torn down for paving stones and fences; sculptures will be ground up for lime and gravel; superstition and necromancy will take the place of the sciences; sloppy slogans and wishful wool-gathering and pipsqueaky platitudes will parade as philosophy; and ideas which should be guiding forces of human action will dissolve in the juices of glandular secretions.

The achievements which have partially civilized us are the great creations of the human spirit. They are those disciplines which are the only bodies of tested knowledge we have; and they are the great heri-

tage of the arts: of poetry, music, painting, sculpture, and architecture.

These great creations do not maintain themselves. They cannot exist in books alone, or merely in physical embodiment in works of art. They can make and sustain a civilization only as they mold the shapes of living human minds. The indispensable condition of the preservation of civilization is continuity of awareness from each generation to the next. To maintain that continuity there must be present in our society a continuing leaven at work in the minds of men and women. Their devotion to knowledge and understanding and appreciation is the only source of the warmth which that leaven must have in order to remain in ferment.

This is our larger task as professors. The ferment which keeps civilization alive is the ferment of ideas, and the ferment of ideas is the one and only feature that distinguishes civilization from savagery. It has been the ferment of ideas in the academy that has partially civilized the religions of the West; it is by the ferment of ideas that organized institutions replace mindless rituals, that scientific knowledge replaces folklore and superstition, that education replaces primitive initiation rites, that responsible government replaces personal tyranny.

There is only one device men have ever found to quiet the storms of blind passion and to cool men's fury for mutual destruction. This is the insertion of knowledge and reason and appreciation of objective aesthetic forms as wedges to separate action from blind impulse. The control of all other human passions by a passion for truth and understanding is our one protection against those perversions of the human spirit which repeatedly threaten to turn men into demons, and in the lifetime of many of us have succeeded all too often.

Perhaps there is some truth in the sharp

saying originally uttered as an insult to teachers: "Those who can, do; those who can't, teach." All too often, however, it has turned out what the eager doers have done would better have been left undone.

Mindless doers were the ones who thrust the world into two world wars in our century, and have kept our own nation in the same ugly business ever since. Who was it who transformed great universities into overblown multiversities, and prepared their campuses for explosions in fire and blood? The dynamic doers were the ones. It is when ambition, greed, pride, hate, and lust break loose from knowledge and love for truth and desire for understanding that men try to gain their ends by cowardly secret planting of bombs, by shooting from ambush, and by attacking the physically defenseless in the protective anonymity of mob action.

The doers of violent deeds were not the ones who gave us the best we possess in the Western world. Our benefactors were not the Alexanders, however "great," or the Caesars or the Napoleons or the Hitlers or the Stalins. The Western mind grew from two main roots, Hebrew and Greek. Not from Hebrew warriors, but from Hebrew poets and prophets. Not from Greek and Roman conquerors, but from their poets and philosophers and mathematicians and scientists. The Greeks did not create their civilization by killing Trojans. It was their poets who helped to lay its foundations when they made those horrors committed by their ancestors live in imagination as a refining fire to burn such dross from their own minds and from ours.

Those of our past who formed the Western mind and shaped its values carried such names as Homer and Aeschylus, Isaiah and Paul, Aquinas and Luther, Voltaire and Goethe, Dante and Shakespeare, Rembrandt and Cézanne, Plato and Aristotle, Descartes and Kant, Galileo and Newton,

Einstein and Planck. Every attempt to break our continuity with such sources of Western life has been a disaster; it has produced not better men but monsters.

College and university teachers are the only men and women whose business it is to be equipped to open the minds of the best of each new generation to our heritage of knowledge and understanding. If we fail in our job, the monsters will be back. The woods are full of more of them, and some have already stuck out their heads. It is true that academe is a place of retreat from the world of action, but in this place of retreat is forged the only protection we have against the demonic drives which turn men's highest powers into instruments of destruction. I suggest that the action people get out of it, and find another theater of operation.

We need always to remember, however, and to remind those who forget, that our role is a mediating one. The civilizers of men are the disciplines which are in our care, and in our care alone. Our task is to build roads of access to these disciplines for each new generation. The constant concern of each of us must be to protect the integrity of his discipline from any who would pollute it to satisfy the enemies of knowledge, or dilute it for the sake of popularity, or cheapen it to titillate the vulgar.

As teachers we have to meet our students on their own ground. We have to go down into the cave where they sit, bound in chains. For that is where they are. We go down into the cave to break their chains, to get their eyes off the shadows that flicker on the wall, and to show them the way out. If we allow ourselves to be diverted into playing shadow games in the underworld, the kinds we often play in the academic underworld of faculty and committee meetings, we ourselves may forget what things really are like when we see them in the light of the sun.