

Toward Excellence in Teaching

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The formalized teaching-learning process is one of civilization's vital elements and one of the most fundamental to its survival. This is the route by which a rapidly growing body of theoretical principles, practical knowledge, and cultural heritage is transmitted from generation to generation. To be entrusted with the guardianship of a segment of that process is one of society's highest callings. Those of us who are fortunate enough to be involved in teaching undergraduates at a college or university need bow to no one when it comes to social significance of our efforts.

The Role of the Modern University

The dynamics of change in higher education with respect to knowledge generation and information dissemination warrant a review of the role of the modern university as a key element in the teaching-learning process. The university is our environment; it is the institution that is viewed with sufficient confidence by taxpayers (and contributors) to justify their expenditure of funds and by students to justify their expenditures of time. It is the institution that is viewed by students as having sufficient legitimacy to justify a life-long professional identification.

Not unlike the gross national product, population growth, the federal budget, and various other indicators of 20th century gigantism, institutions of higher education have become marvels of budgetary growth and diversity. Evidence of diversity within the university of today is everywhere — in public service programs launched, research undertaken, and courses of study offered. The pre-World War II president of an educational institution would be impressed and probably bewildered to see higher education in the late 20th century.

The easy conclusion would be that the size and diversity of institutions of higher education attest to the approbation lavished by a grateful and generous public. At no other point in history has the university possessed such vast resources. It can likewise be said that at no other point in history has the university shouldered such vast obligations.

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But that argument is too easily made and too quickly demolished to serve as a dependable scaffolding for higher education policy. Optimality of performance can scarcely be measured by viewing singularly the marginal productivity of what "is" in terms of extant programs. Assessment of what "might be" is elusive and troublesome — but vital if the highest level of stewardship is to be assured for the resources entrusted to higher education.

In its earnest attempt to be responsive to societal needs, the university is always in danger of losing sight of its own uniqueness as it functions in juxtaposition with government, foundations, and institutions in the private sector. (These are also evaluated on the basis of serving the same public.) With substantial public and private monetary support, in addition to student fees, and with some of the better minds in the world stabled in academia, institutions of higher education possess enormous capabilities. The possibilities for allocating those scarce resources are almost limitless.

Maintaining a sense of perspective as to the functions of the university that are vital to its continued uniqueness in terms of contribution to the human family should be an important criterion in the resource allocation process. For example, other institutions may be able to carry out part of the research function, possibly with unrivaled intensity and singleness of purpose. Others may be in a position to undertake public service activity, perhaps with greater efficiencies than could be attained by a university.

And this is not to say that research or public service are unworthy or inappropriate adjuncts of a great university. Their value to society is not seriously questioned. Rather, the point is that the one function that is central to the mission of the university is the renewal of civilization by developing the potential of creative minds capable of critical and independent thought, with the ability to communicate effectively.

This function has been the unique responsibility of higher education.

Not that learning, development of minds, creative thought, and detached criticism cannot take place elsewhere. They can, and do. But the university more than any other institution provides an environment for developing in its students creativity and the facility for critical thought —

- by insisting unswervingly upon integrity and objectivity in all it undertakes, with emphasis on disciplined and systematic inquiry;

- by assuring freedom to teach and to pursue inquiry even though some may perceive themselves or their interests personally disadvantaged thereby;
- by creating for its academic staff and students an environment of sensitivity to humanity and its problems; and
- by developing within its students an unanesthetized conscience and a sense of intolerance of injustice in any form.

The core of the university must continue to be the teaching function. Research and service are worthy, often complementary, and certainly research is a major part of the regenerative force within the university that enriches and makes more relevant the teaching function. Society has viewed favorably a wide array of activities for its great universities. Now, in responding to an almost endless litany of societal needs, the university should not lose sight of its most basic function, teaching.

The Educational Process: Desirable Qualities of Product Output

In our day to day efforts to do our very best teaching we sometimes lose sight of the basic development tasks we face as educators. We are charged, of course, with teaching subject matter content. For example, the agricultural economist must teach elasticity of demand, the theory of consumption, the principles of public goods and externalities, the nature and power of production function analysis and the theory of market structure, to mention the more obvious. But we are charged, implicitly, with more than that. The undergraduate years are a time for development, a time for building foundations. We know not what our students will be doing in 10 years or even five. We assume they will need to know something about our subject matter area or at least that they would find it to be useful.

But our sights should be set higher than that. I would mention three key abilities which every undergraduate should have on leaving the university. They will probably not possess these qualities or attributes unless we hold them up as beacon-like in importance.

1. The ability to think and to reason — creatively, analytically, thoroughly, and with reasonable alacrity. We in economics have jurisdictions over one of the most powerful and practical sets of analytical tools in existence. Few disciplines can boast of greater pragmatism in the application of subject matter to day to day life. This ability should be at center stage for every set of undergraduate teaching objectives worthy of the name.

Part of the ability to think and to reason is the quality of doing so with a restless intellect. It is important for students to have or to develop an insatiable curiosity and a sense of great impatience with the status quo. Effective educators can, I would submit, have an impact on the level of intellectual curiosity possessed by students —

- by encouraging students to search out the issues,
- by helping the students learn how to analyze those issues,

- by developing the ability to communicate the results of analysis clearly and effectively, and
- perhaps most importantly, setting a high standard for intellectual questing and curiosity. Our influence as a role model may be greater than we think, even at the university level. If students see the educator as having the qualities that are synonymous with intellectual curiosity, analytical ability, and effectiveness in communication, they are more likely to aspire to those same qualities which they admire and respect.

2. The ability to communicate in writing — accurately, precisely, and with a certain richness worthy of the language. Need for the ability to communicate in written form is not dead even though some teachers of high school and middle school English appear to have pronounced its benediction. There has never been a time when the ability to communicate was more important to individuals than now.

We all bear a special sense of responsibility for developing this ability in students. I am appalled and concerned at how little we expect of our students in terms of written exposition. It is unfair and unwise to assume that monitoring writing capability is someone else's problem. It's our problem because student development is our responsibility. If we do not expect students to write clearly, correctly, and in a readable manner, and do not insist that it be done, it probably won't be done. I would encourage every one of you to create opportunities for students to wax creative in written expression as part of your regular educational approach to development or revision of courses.

By not encouraging students to develop a finely honed set of writing skills, we may be contributing to the problem of inability to think and communicate in an even more subtle and pernicious way. If in our examining process and in other types of graded exercises we place a premium on memorization and give no rewards for or recognition of outside reading, we are helping the student who is not highly motivated to develop a feeling of great comfort with a limited intellectual horizon.

3. Finally, the ability to speak is an ability of obvious importance. Even in a time of increased use of the computerized communications process, the need for clear oral expression is great.

Many of our students are woefully unprepared to speak in public after four years of higher education. One of the major barriers to meaningful progress in this area, and in fact in all three areas, is class size. We pay a price for large section instruction even though we may impart technical subject matter with effectiveness comparable to that in small group instruction.

Qualities of a Successful Educator

For our purposes, I would like to disaggregate the teaching-learning function into three components: the student, the educator, and the instructional process that is created, molded, and shaped to accomplish the relevant educational objectives. Hopefully, the set of

relevant educational objectives includes the key abilities identified in the preceding section — the ability to think, the ability to write, and the ability to speak effectively.

Because our emphasis here is on the instructional process from the instructor's vantage point, I have chosen to emphasize those aspects here and to devote relatively less time to the student and the student's role except as it bears upon the effectiveness of the educator and the instructional process.

Essential qualities

Excellence in instruction is, in many ways, difficult to define and even more difficult to subject to a Procrustean bed of guidelines. Yet there are certain features of excellence in instruction that seem to cry out for recognition.

1. First, to know the subject matter is not enough to be an excellent teacher; but it is a vital component and no one can be a truly excellent teacher who has not fully mastered the subject matter to be taught on a level appropriate for the students. For this quality of an excellent instructor there is no meaningful substitute.

2. Second, to be able to communicate effectively with students is not enough but it is an essential component. Again, it is a necessary but not a sufficient condition for excellence in teaching. Yet were I faced with a highly knowledgeable individual who could not teach effectively or a highly effective educator who lacked subject matter understanding, I would easily choose the former, assuming the prospects for remedial activity were equally grim in both instances.

3. Third, excellence in instructors is often characterized by a great, boundless, infectious enthusiasm for the subject matter, its potential societal contribution, and its prospects for aiding in the development of the students. A truly outstanding instructor often views teaching as one of life's great pleasures, not a sentence to be carried out while tenure and promotion are being earned so that the individual can go on to higher and better things.

4. Fourth, a successful educator demonstrates a continuing interest in students and a willingness to meet students where they are. The most crucial time in take off of a modern jet airplane is in the first 30 seconds after commencement of the take-off roll. Similarly, the most crucial time in the formal educational process is during the first three minutes of class time. Students enter the classroom worried about the physics examination from the last hour, anticipating the coke break the next hour, and already thinking ahead to the chemistry lab after lunch. With all of that excess mental baggage weighing down the student, it's no wonder that the first three minutes may fail to lift that student into an appropriate intellectual orbit. And if that does not occur, the entire hour may be an aborted educational journey to nowhere. The educator should insure that students are brought quickly into a learning posture. This is where the excellent teacher makes the intellectual bells ring and the lights flash. There should be no doubt in anyone's mind

at the end of the first three minutes of the class that this will be an exciting intellectual venture. This is when the instructor needs to identify and bring into focus the linkages of the subject matter to the real world, for it is the real world from which the students have come and it is the real world to which the students will return.

The task of establishing linkages to the real world isn't just an introductory task for the first two or three minutes of class time — it is a continuing task throughout the classroom experience. A good argument can be made that genuine learning has not taken place unless even the abstract rule or proposition can be applied by the student in some meaningful, real world setting. It is not enough to be able to parrot the formulae for deriving point elasticity of demand unless the student has some grasp of the application of the concept, for example.

5. Fifth, a successful educator elevates his or her sights above single minded attention to the subject matter alone, and devotes attention to how the subject matter can be made more interesting. This may be partly a matter of making use of the various teaching technologies, as discussed in the next section, or it may be nothing more complicated than variations in speech or gestures. Dullness probably has no rival or peer in killing intellectual interest.

6. Sixth, an excellent instructor not only assures that the student has ready access to adequate support material but also encourages students by precept, example, and otherwise to make full use of available supporting material in the quest for additional grist for the analytical mill.

7. An especially important point for those of us in major universities is that the effective educator works at personalizing the educational process in an impersonal environment. For example, working with students outside the lecture room may be the only way to elevate the slowest students to some minimum level of competence and to challenge the brightest students to the outer limits of their abilities. A good educator makes every student in a class feel important even though each operates at a different ability level. Our challenge is to expand the capacity and confidence of students, those lumbering through the educational wilderness as well as the star performers sprinting on a fast intellectual track.

8. Finally, an excellent teacher is professional within and without the classroom. Although differences of view exist as to what constitutes a professional approach, and each instructor should develop an individual credo for guidance, at a minimum it is suggested that attention be given to assuring that the approaches taken to the teaching-learning process be nonsexist and devoid of offensive material otherwise. Appropriate anecdotes and illustrative stories with humor can be effective adjuncts to a teaching program; offensiveness can never be.

It is also suggested that a professionally minded educator deals with other professionals on a professional basis, without disparaging remarks or a trace of intellectual arrogance.

Qualities of Successful Instruction

It has been the practice at least since the time of the ancient Greek philosophers that an instructor should lecture to students, under the premise that the instructor is the more knowledgeable, and that students should dutifully and laboriously take notes of what is said. That pattern continues to be the dominant information delivery mode despite decades of research on effectiveness in communication that have identified potential improvements to the traditional lecture approach. It would be impolitic, impertinent, and improper to specify a model instructional approach; that is a matter for the educator to determine in light of the educational environment, the strengths of the instructor, the unique features of the students, and the nature of the subject matter being taught. It is possible to identify some of the potential components of a successful instructional plan.

A successful instructor makes use of every available technique that could be used to enhance teaching effectiveness. In particular, this involves utilizing as many of the senses as possible. In addition to making use of the students' ability to hear in processing information selectively for storage between the left ear and the right, it involves the student's ability to see. Through multiple delivery techniques, the instructor can fortify, emphasize, clarify, and extend the concepts under discussion.

- Where possible to do so, the use of colored slides can be used to highlight and to emphasize points as well as to dramatize and to portray complex concepts that are difficult for the student to grasp. If a relationship, principle, or concept can be visualized, the learning process is generally facilitated, sometimes very substantially.

Colored slides can also be used to bring the real world into the classroom and to maintain a continuous linkage to real world problems. Moreover, artful use of color and form can add contrast to classroom presentations. The technology for the use of slides in the classroom is relatively simple and inexpensive.

- Videotape is a highly flexible tool that can be used to portray subject matter in expert fashion. Especially for concepts used repeatedly, a substantial investment can be justified in preparing videotape segments for use in the classroom and for later reuse by the students individually.

Unfortunately, videotape is not an inexpensive supplemental technology but rather requires a significant capital commitment for necessary production and playback equipment.

- Although it can be over used, the use of transparencies with overhead projectors can be a helpful educational technique and can be as simple or as elaborate as desired by the instructor. Again, the overhead projector technique can be used to illustrate, to emphasize, to visualize, and to clarify.

- The audiotaping of classroom presentations can be an effective teaching device. The taping process can be handled unobtrusively with cassette copies made

available at a central media library location for use by students — (1) as an opportunity for repetitive and error-free coverage of the subject matter and (2) as an opportunity for initial and repetitive coverage of those, for whatever reason, who found it necessary to miss class. In addition to being more accurate than even the most complete class notes, audiotape can be used by students to recreate difficult or vague parts of classroom presentations with a vividness not otherwise attainable short of in-class videotaping of presentations.

Audiotaping is a relatively low cost technology with the major cost being for mastering and reproduction of cassettes. Cassettes can, of course, be reused. Moreover, it is generally not necessary to retape for each term unless the subject matter change is sufficient to warrant retaping.

For teachers who do not have an extension appointment, many valuable instructional aids can often be obtained from extension educators making use of such techniques.

For all educators, instructional aids and techniques should be orchestrated singly or in combination to produce maximum educational effectiveness. Uncoordinated and unplanned use of educational techniques can actually be counterproductive.

Sharing Instructional Techniques

Although it is indeed desirable to develop one's own set of instructional aids where that is possible, much could be gained from sharing instructional ideas, concepts and technologies on a "common market" basis. It should not be necessary for each instructor at each institution to redevelop instructional materials if materials of equal or better quality could be obtained at less cost from another instructor or institution. If an institution invests sufficient time and capital to develop a highly effective videotape on the concept of the social and private discount rates, it may not be necessary for that effort to be replicated elsewhere. For budget-conscious administrators who are sensitive to balance of trade considerations, if preparing materials for export costs five percent more, an administrator should be indifferent if the use of one item is obtained for every 20 exported. A "common market" approach to sharing educational materials should be cost effective for every participating institution.

Conclusion

For each of us, we must keep at least the basic parameters well in mind for a personal educational plan for the 80's. The guiding objectives must necessarily be influenced by your own institutional environment. I would hope that prominent among those objectives is a commitment to genuine educational excellence in developing in students the capacity and desire for creative thought, the ability to communicate effectively in writing and the ability to communicate well in oral expression.