

ON BUSINESS SCHOOL'S ALLEGED EDUCATION

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When I retired from Wharton as a member of the regular faculty and became emeritus I was asked to reflect on the value of a business school education. I endeared myself to the faculty by identifying what I thought to be the three most important values of such an education.

- First, it equips students with a vocabulary that enables them to talk with authority about subjects they do not understand.
- Second, it inculcates them with principles of management and organization that have demonstrated their ability to withstand any amount of disconfirming evidence.
- Third—and this is what makes business school education worthwhile—it provides a ticket of admission to a job that provides a chance to learn what should have been learned in business school but wasn't.

There are many reasons for the failure of business schools to educate effectively, more than can be covered in a short presentation. Therefore, I focus on a few that I consider to be among the most critical.

First, business schools, like most schools, assume that *being taught a subject* is a good way to learn it. Nothing is further from the truth. Being taught is a major obstruction to learning. We learned the most important things we know without their having been taught to us; for example, talking, walking, eating, and socializing.

Furthermore, as anyone who has taught knows, in a conventional class the one who learns the most is the teacher, not the students. Teaching, in contrast to being taught, is a wonderful way to learn.

According to The Association of Libraries in the United States retention rates for each type of exposure are as follows:

- 10% of what is seen
- 20% of what is heard
- 30% of what is seen and heard
- 70% of what is talked over with others
- 80% of what is used and done in real life
- 95% of what someone else is taught to do

Schools have reversed the proper role of students and teachers— the roles that were played in the old one-room school house. The students taught each other with assistance from the teacher as they, the students, requested.

Recently, after an invited lecture to an undergraduate class at the University, a student accosted me in the hall and asked if he could ask a personal question. I told him he could.

"How old are you?" he asked.

"Eighty five," I answered.

"Wow!:" he said, "You're really old."

I could not deny it. We continued down the hall. Then he asked, "When did you teach your first class?"

That was easy. "In the fall of 1941," I answered.

"Wow!" he responded. "You've been teaching a very long time."

I agreed. Then he asked a very good question: "When was the last time you taught a course on a subject that existed when you were a student?" That took some thought.

"In September of 1951," I finally answered.

"Wow!," he said. "You mean to say that everything you have taught in more than fifty years you had to learn; it was never taught to you?"

"Right," I agreed.

"Wow!" he said. "You must be a pretty good learner." I modestly agreed.

"What a shame," he added, "you are not that good a teacher." He had it right. Learning, not teaching, is what most good faculty members know how to do. And by insisting on teaching we have prevented students from learning how to learn and we have failed to motivate them to want to go on learning continually. *We have failed to make learning fun*, which by itself is a sufficient reason for doing it. It was when we were children.

Consider a few examples of what can happen when students are "let loose."

A group of graduate students headed by one from Peru, Francisco Sagasti, came to me one day and asked if the five members of the faculty who had worked in developing countries, could put on a course on planning for development in such countries. He said there were thirteen students from different developing countries who wanted such a course. I said the faculty would *not* put one on but, I hastened to add, that the thirteen students could.

"Who would be the students," he asked.

"The five members of the faculty," I said.

"Wait," he said, "they already know more about the subject than we do".

"Right," I said, "so you will have to find out what they already know and what they don't but should know, before you can plan your course."

He asked whether the faculty members as students would do the work required of them by the student-teachers. I said that they would behave much as the students do in the courses they take. If the faculty members were bored, they might even drop the course. After some thought Sagasti said the students would need some time to prepare the course. He asked if they could wait until the following semester to put it on. I told him it would be OK.

He and the thirteen other students put on the best seminar I have ever attended. They reviewed the unique development problems that existed in the countries from which they came, and they raised for discussion ways of dealing with them.

Francisco Sagasti later became the chief strategic planner for the World Bank and is now the principal public planner in Peru. Virginia Melo, another in the class, became the chief planner for the state of Geras Minas in Brazil.. Each of the others wound up in important developmental-planning positions—all this because of what they had taught, not been taught.

Another example. The research group I directed at Wharton had completed some very rewarding research on the reasons people drink alcoholic beverages. Shortly after the report of this work appeared, a student, Robert Cort, came to see me and asked if I thought the results were applicable to the use of drugs. I said I didn't know but thought that with modification they might be. He asked if I could support him for three months during which he would devote all his time to looking into this possibility. I provided the support he requested.

He disappeared for three months. When he re-appeared , he gave me a proposal for research on drug addiction. With only minor modification I submitted it to our National Institute of Health and received a \$360,000 grant. But of even greater significance was the fact that the Dean of the Medical School at Penn asked Bob to give a course to the medical students on drug addiction. He knew more about the subject than any member of the medical school faculty.

To learn how to learn and be motivated to continue to do so is to be twice blessed. This is why so many “outsiders” make very significant contributions to fields in which they were never taught. Not one of the four living American statisticians selected by the members of the American Statistical Association as having made the largest contributions to contemporary statistics had ever had a course in statistics. Three of the

greatest architects the United States has ever produced — Richardson, Sullivan, and Wright — learned architecture through apprenticeships, not schooling.

Now I turn to the second major deficiency in business school education.

Einstein once wrote, “Without changing our patterns of thought, we will not be able to solve the problems we created with our current patterns of thought.” I have met very few business-school faculty members who do not agree with this statement. But very few of them know what our current pattern of thought is, how and why it creates problems, and what is the significance of this statement to management. In my opinion, knowing the answers to these questions is the most important requirement of successful management, but these answers are not provided by business schools.

The currently dominant pattern of thought in the western world is *analytical*; it emerged during the Renaissance and has become synonymous with thought. Analysis is a three-step process. (1) The thing to be understood is taken apart. (2) Understanding the behavior or properties of each part taken separately is then pursued. (3) The understanding of the parts is aggregated to produce understanding of the whole, the thing of which they are parts.

It wasn't until the 1950s when we began to inquire into the nature of systems that we discovered that no amount of analysis could provide *understanding* of a system. Analysis can yield *knowledge* of a system, reveal how it works, but not why it works the way it does. This follows from the nature of a system.

A system is a whole that is defined by its function in a larger system of which it is a part, and consists of at least two essential parts. An essential part is one without which

it cannot perform its defining function. Each of these parts can affect the behavior or properties of the whole but none can do so independently of the others. That is, the effect of each essential part on the whole depends on what at least one other essential part is doing. The essential parts of a system form a connected set; there is a direct or indirect path connecting any two of them. Therefore, the properties and behavior of a system derive from the *interactions* of its parts, not their actions taken separately. In other words, a system is a whole that cannot be divided into independent parts.

Therefore, when a system is disassembled it loses all its defining properties, and so do its essential parts. A disassembled automobile is not an automobile, even if all of its parts are in one place. Furthermore, a motor, essential for moving an automobile, when removed from it, cannot move anything, not even itself.

In the first step of analyzing a system it is taken apart, and when it is taken apart it loses all its essential properties and so do its parts. Therefore, a system cannot be understood by analyzing it, we cannot answer why questions about a system by analyzing it. For example, no amount of analysis of a British automobile will explain why the British drive on the wrong side of the road.

The incredibly important consequence of all this is the fact that when the performance of the parts of a system, taken separately, is improved, the improvement of the performance of the system as a whole may not be. In fact, a system can be destroyed by improving the performance of one or more of its parts. Nevertheless, business schools teach about the performance of each part of a business as though it were autonomous and has independent effects on the business as a whole. The current doctrine of management

in the west is “divide and conquer.” The focus of business-school teaching is the action of the parts of a business taken separately, not their interactions.

There is a very complicated proof of the fact that improvement of the performance of the parts may not improve the performance of the whole but we need not go through it here. An example will show that it is true and why. It involves conducting a thought experiment., one that takes place entirely in the mind.

According to the ultimate source of all knowledge in the United States, *The New York Times*, there are 457 different automobiles available in the country. Suppose we brought one of each and put them in a large garage. Then we hire a hundred or more of the best automotive engineers in the world. We ask them to determine which car has the best motor. Say they reach agreement on the Rolls Royce motor. Then we ask them to determine which car has the best transmission. This, say, is the Mercedes. Next, we try the fuel pump. Perhaps it is found in the Lincoln. And so on to each essential part of an automobile. Once the list is complete we ask the engineers to remove the parts identified and assemble them into an automobile. This would be the first automobile that consisted of only of the best available parts. However, it is apparent their assembly would not yield the best automobile. In fact, they could not even be assembled into an automobile because they do not fit together. They were not designed to work together. It is how the parts work together, not how they work separately, that determines the performance of the whole. Most business schools do not teach this.

Moreover, deliberately making a part perform worse may make a whole perform better. When a supermarket offers a product for sale below its cost, as a loss leader, the

intention is that by doing so it will attract customers who otherwise not come to the store and who, when there, will buy more of the profitable products.

In the more than 400 corporations in which I have worked I have never heard an executive tell a division or department to perform worse because it will make the whole perform better. But as an architect, which I was in my early days before I was saved, I did have to make a room worse in order to make a house better. I designed a house for a family to be built into the side of a hill on a beautifully wooded lot in the exurbs. On the upper level there was the usual living room, dining area, kitchen, bedrooms, bathrooms, powder room, and utility room for the laundry. On the lower level there was a large play/party room. After the design was complete and a contract had been let for construction of the house, the housewife called me and said she loved the design but had one worry about it. Because the play/party room was below the kitchen she would have to be running up and down the stairs bearing food and drinks either for the children at play or adults at a party. She asked whether a dumbwaiter could be installed to reduce this “uping-and-downing.” I told her it could be done but only by taking counter space out of the kitchen which would make it harder to work in. She said she did not care; she wanted the dumb- waiter. She got it. She had made the kitchen worse but the house better.

The final point I want to make about business school education is that, like all schools, it teaches that mistakes are bad things, something one gets down-graded for. Nevertheless, one cannot learn from doing something right because one already knows how to do it; one can only get confirmation of what one already knows, However, if one identifies a mistake and corrects it, learning takes place.

As a result of their attitude toward mistakes, schools instill an attitude toward mistakes reinforced by most business organizations: avoid mistakes if possible and if one is made, avoid being caught. Now, there are two kinds of mistake: *errors of commission*, doing something that should not have been done; and *errors of omission*, not doing something that should have been done. Errors of omission are usually more serious than errors of commission. Businesses are much more likely to fail or get into serious trouble because of an error of omission, losing an opportunity, than by an error of commission. Nevertheless, the accounting systems used in the western world account only for errors of commission. This means managers do not have to be concerned with missing an opportunity, only with doing something wrong. Therefore, they can maximize their personal security by doing as little as they can get away with. This is why organizations and their management are so difficult to change, why so many fail to adapt to their changing environments.

The average life of an American Corporation is reported to be 11 1/2 years. Half of the corporations on the *Fortune* 500 list twenty-five years ago no longer exist. Only one of the blue-chip corporations on the original Dow Index exists today. Evidence of the strength of western economies clearly lies in their ability to survive a great deal of inefficiency and failure. *Business schools contribute more to the inefficiency and failures of business enterprises than they do to their survival.*