

Comment

Knowledge sharing (or a life of knowledge sharing)

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I have been involved in College education since my days as a student in the Universidad de Buenos Aires. At that time, 1960, I helped to teach the course of Scientific Russian given in the Faculty of Sciences; strange as it might seem, the aim of the course was to allow the students to use scientific books especially in the area of Physics and Mathematics. It produced a great satisfaction to see the students' progress in their ability to use the Russian language. At that time it seemed quite normal among the students the need of coping with several languages (apart from English, of course) to be able to read the most up to-date textbooks! The Argentinean University of the time was coming out of a dull period during the second Peron's presidency and was a period of a tremendous flowering of efforts and talents. When I entered the University at the age of 17, the Vice-Dean of the School of Sciences, Dr. Manuel Sadosky welcomed the new students and greeted us with words that I remember for ever:

“For you to be here, 27 million people are working to pay for your education. Many of them will not even see the gates of a University. You incur in a debt that will only be paid back by giving to the society or your efforts to improve their living.”

Education at all levels had been free in Argentina since the end of the XIXth century, and probably this made the country different in the Latin American context. Unfortunately, the quality of education has diminished when the State decided that private education was good. As a matter of fact, it creates two societies: the educated in private schools and the uneducated one from most of the state schools. These better-educated people have better performance in the free University system and are the majority of the students at university level.

During my post graduate training, I continued teaching, now Microbiology, at the University of Cordoba, where our entire group has been displaced after the coup in 1966, which resulted in the beginning of a long decline of higher education in our country. The microbiology I had learnt from my Ph D advisor, Dr. Raul Trucco, and wanted to transmit, was the idea of general microbiology, as has been created by the great Soil microbiologist Sergei Winogradsky and later by the Dutch school of Kluyver's, imported into Pacific Grove in California by Cornelius Bernardus van Niel. Raul Trucco was one of his students in California and he tried to introduce modern microbiology in the University of Buenos Aires. The focus of these courses was on the enormous ability of microorganisms to perform any type of task, that microorganisms are adapted to thrive in any environment where liquid water is present, and that in the environment, microorganisms grow in starvation conditions rather than in rich culture media from the laboratory, as applied to Bacteriology or the art of cultivating pathogens.

As many of the young researchers of the time, I received a fellowship for a postdoctoral position in the UK and later to the USA. I was tempted to stay in the NORTH for many reasons: economical, well-being, proximity with my parents in law (my wife is French), the good life, however, I also saw that many of my acquaintances, particularly in the United States, missed many of the discomforts of Argentina (like barbecues and mate) and did not adapt well to the new environment. Then I thought that I would be more useful in my country where my abilities were not so common and decided to come back to Argentina in the middle of another of the seemingly inevitable coups, in this case the bloody dictatorship (1976-1983) that cost 30000 *desaparecidos*.

When coming back to Argentina, after my post doctoral periods abroad, now in the Universidad Nacional de Tucuman (my present position), I tried to continue the teaching experiences I had received from my mentor and Ph D supervisor, Dr. Trucco. I wanted to follow his steps in keeping the idea of

general microbiology alive, and, once settled in my new University, I organized the first national course of Microbial Physiology. This course was imparted to 14 students as part of a national master degree in Biotechnology in 1984 and since then, I have been teaching similar courses almost every year at my actual position in the University of Tucuman in the north of Argentina. The colorary of all this is: I had to share the knowledge passed to me and developed by me!

This type of approach has also been shared with Brazil, through courses sponsored by the CABBIO (Centro Argentino Brasileno de Biotecnologia) in Argentina and in Brazil. This joint Brazilian Argentinean venture started almost 20 years ago and is one of the models of knowledge sharing between the two countries in the area of biotechnology.

Preoccupied with the dwindling number of general microbiologists in the country, a group of professors from five Universities created the SAMIGE or Sociedad Argentina de Microbiologia General (Argentine Society for General Microbiology). The society will hold her second meeting in October and actually is a network of centers where general microbiology is developed. With the support of the Consejo Nacional de Investigaciones Cientificas y Tecnicas (CONICET) from Argentina, a network of the microbiologist working on oil degradation and bioremediation has been created within the framework of SAMIGE. As all networks, this is about sharing resources and capabilities in a very important area of environmental microbiology.

Actually it is quite rewarding that half of the members of the network have been previous students of mine.

My perception is that, especially in higher education, knowledge sharing is the basis of any successful school. The Professor shares the knowledge with his/her students, and this mechanism ensures the transmission of ways of thinking and actual expertise that allows the development of the student to become an independent thinker and researcher.

This, I suppose, has been the main idea of University, since the beginning of their existence. In the present time, this functioning of the University is sometimes impaired by the concept of profit introduced in the campus. In some areas of knowledge, especially in the technologies like Biotechnology, researchers now sign secrecy agreements on their work so; eventually, it will be patented before made known to the public. This relatively new trend, could lead to limited knowledge sharing and the resent of higher education as a whole. Instead of a place for sharing ideas, University would become a place of secrecy, killing the concept (knowledge creation and transmission) that gave birth to it.

Though the first impact of this way of thinking has been great, waters seem to flow into order again and the two concepts seem to have found equilibrium, especially where good systems helping the researcher to decide if something should be use to apply for a patent and then published.

With the great dangers as global warming are being recognized, Knowledge sharing will be the only way of survival in this, our lonely planet.