

MAKING A DIFFERENCE

Interview of Fernando Mora-Carrasco



Professor Fernando Mora-Carrasco was chairman of The Network from 1997 to 2001. Professor Mora has been Dean of the Medical Program at the Metropolitan University Xochimilco, in Mexico City, and also its Director of Biological and Health Sciences. This interview was conducted on November 5, 2002 in Mexico City. The manuscript was edited and reviewed.

Jan van Dalen
Associate Editor,
Education for Health

In speaking with you earlier, it became clear that you have a very rich experience in health care education: you know very many people and you have been to very many places. Can you give us an overview of your career?

Well, you know, I am not from Mexico originally. I was born in Chile, and went to school there. When it was time to go to the university, in Santiago, I wanted nothing less than to discover the molecular background of behaviour, 'brain science'. The choice was between medicine and psychology and philosophy. I chose the latter Faculty. But at that time, in that place, it was 1952, experimental psychology was only in its early stage. The issues addressed were mainly 'schools of thought', empirical studies were not yet available. I was fortunate to be able to conduct experimental studies about the genetics of behavioural patterns in rats, which was boring and interesting at the same time. Boring because the empirical work itself was tedious, interesting because of its aims, and also because it took place at the labs of the biology department of the Medical Faculty. Then, as now, the Faculty had several scientists who studied the brain. That was where I felt at home. I had already found out that my main interest was science, rather than direct health care or ontology. I wanted to be a

biological scientist, and the Medical Faculty was the only place within my reach where this science was being developed! Since apparently interest in science was the main criterion to qualify for medical school, I was able to make the switch to medicine. During my years as a student I worked in the biochemistry department, studying molecular mechanisms of hormone action. And I even got paid to do it. At that time I think I was one of the very few faculty supported students. To be honest, among my fellow students there wasn't a great interest in basic sciences. Most of them thought I was going back to a torture chamber they had already managed to escape! I was probably the only one interested, although I had had a hard time in the clinical rotations myself. In these, the most important thing to do is be there. Make long hours in classrooms and wards. The clinical aspects of medicine had always been taught in a problem-based learning mode. At that time you were put in charge of five beds, studied the patients and presented the findings. The only problem was that I was not very interested in clinical thinking. It gave me less time to spend in the lab. At the faculty there was interest in developing a purely scientific faculty especially in basic sciences. Most people working this field were physicians, trained in an empirical way. For Latin America this was an old university, with some tradition. An 80-year-old professor there once said to me: "Well my son, you could be considered the grandson of Louis Pasteur, because when I was young I studied in France, with Louis Pasteur". That was the scientific climate there!

So the faculty staff noticed you during your study. What happened when you graduated?

When I graduated I was invited to consider becoming a faculty member. However, it was a requirement to have a PhD in order to become a faculty member in the basic sciences departments. So my advisors at that time thought that the University of Illinois was the best place for me. It turned out that for me it was the worst place, no mountains, no oceans. In Chile you are always close to both. But the people at that place then were really relevant! One of my professors, Salvador Luria, had been the teacher of Watson, who, together with Crick has discovered DNA structure a few years back. There were Nobel-prize winners around, and those who would later win it. And it was the beginning of the field of molecular biology.

Did you know at that time that this was going to be such an important field?

I was aware that it was something new, not that it would be so relevant. The scientific atmosphere was so inspiring! In the summers I went for short stays to different places, like Harvard and Stanford. It became very clear to me, in working with people like that, that I was not very good. When I compared myself with my peers or my role models then, I could easily perceive that they thought faster, worked harder, and read and read and read. Some people thought it was a privilege to be working there, and it was a privilege, but it has an edge to it. So for that, and very many other reasons I went into a crisis and changed everything: I went to Cuba.

Cuba?

I was young! Cuba at that time, it was 1961, had just finished their revolution, and wanted to rebuild their medical education system, as a prerequisite to developing a large and efficient health system.

Perhaps in my case it also had to do with usefulness. I was not satisfied with being a scientist. This way I could help the science doing something else. It is hard to describe how enthusiastic we were. That had nothing to do with sectarian communism, as in the Stalinist way, but more with renewal of ideals, socialism with a human face as it would later be called. The revolutionary change was beyond Cuba, it meant much more. Physicians had always used science. They were good scientists, but now they changed to do politics, which would lead to a worldwide change. We started a medical school from almost nothing, and it was a challenge! Imagine that Chile by that time had dozens of faculty members for basic sciences, whereas Cuba had nearly none. We felt we could do anything. You can also call it: conceited. From 400 faculty members, after the revolution only a handful remained. Fidel Castro wanted us to increase the student numbers from 120 per year to thousands. With almost no faculty? It definitely was a challenge. We really had no knowledge about medical education. Sometimes I think that motivation, ignorance and irresponsibility actually make you move mountains!

Later we did get educationalists, but they were of little use. They had no knowledge of the specific field. Although PBL was not recognised, students had much practical experience with patients, which was a very efficient and motivating form of learning. Since I taught biochemistry I thought: let the kids get the data, perform experiments, and from there, and with all available information, construct the fundamental concepts.

So how did the students appreciate that?

The current Rector of the University of Havana was a former student of mine. He told me later: "I hated you. As a matter of fact the whole class hated you! As an example of why this was so: We all had studied very hard for a biochemistry exam, and then you said: the exam is going to be extremely simple. Would you please write a set of intelligent questions, about the subject matter, and then answer them? If you really know your subject matter you can ask 'intelligent' questions." But the students knew too much about the details of molecule structure and metabolic pathways, and not enough about the construction of this knowledge. We had made the mistake of taking 'problem based learning' for granted!! But this way of working was way above their head. My questions were actually the result of 12 years of training in basic sciences.

So I was not liked a lot. They trusted my knowledge and my dedication, but they did not trust my criteria. Many years afterwards my son went to the same school, and he was given a hard time. Most of his instructors had been my students. Well, at least I was remembered...

We perceived early on that with those huge numbers of students we had to rely on student – instructor programmes. So we focused on the training of about

40 very dedicated students out of a class of 1200, who became our assistants, and with their help we were able to divide the large class into relatively small groups. We created a topic list and together with the students we developed problems for instruction. The political leadership of the country, Fidel Castro in particular, was very interested in this. He had in mind to create a surplus of doctors, to be sent to emergency areas or underdeveloped countries, in order to create goodwill. And moreover, who postulated that one doctor would be enough for 1000 patients? Every doctor should know the patients by name, know their families. But all of us were occupied with the details of running such a programme: labs, glassware, instruments, libraries... And I wanted a separate training program for basic scientists.

How did your interest in medical education come about? You must have been so busy at that time that you did not have any time to reflect on that...

No. We were not aware of educational theory. It was like my first year of psychology and philosophy in Santiago: to us they only were schools of thought. And given the political and ideological climate in Cuba educators had to be perfectly aligned with Marxist-Leninist thinking.

The science infrastructure in Cuba was starting to develop. In order to speed up our programme, our students had to pursue science degrees outside Cuba. There were at least 200 fellows in basic biological sciences being trained in socialist countries, and since 1966 also in Sweden, UK and France, which was very useful because wider perspectives were opened.

Participating in such exciting times must have been a formative experience in your life...

Yes. We were conceited, remember? We were ignorant and naïve. We went ahead and did it. Actually we were reproducing the graduate training system of the United States. We were not aware of that; but we were unconvinced of the Eastern European system, at least in this respect.

It so happened that I married a Mexican woman, in 1967. The Cubans were very generous; they helped me for something like a sabbatical year. We spent most that year travelling: Italy, England, Israel... After that I started working in Mexico, at the National University, for 4–5 years. Mexico is an extremely creative country, and it moves! I was in the microbiology department, and concerned about how we would get students to get empirical data from people. There were a lot of infectious diseases in underserved communities, so we told the students to go out and get shit! Go to the community to learn science!

Now in 1974 the government established a new university: the Metropolitan University. They thought that the then Autonomous University of Mexico was by far too large and extremely complicated to handle. The government perceived that a smaller and educationally better place was needed, in order to create graduates who could assume leadership positions. The health sector of that university was trained by the best PAHO and WHO people, people like Juan César García, José Roberto Ferreira, Miguel

Márquez, and also Tamas Fülöp. Tamas was later to become one of the founding fathers of The Network. So for the first time, at the Metropolitan University Xochimilco, an approach was made to integrate educational practice and theory! We worked with small groups, and the students liked it extremely. We were teaching from data. But we did make the same mistake as earlier: the basic sciences were better understood by the practicing physicians than by the young students. We had still overseen the fact that we taught with years of experience behind us. So one thing that we had to do was to redefine complex and simple. The set of physical parameters that you need at an Accident & Emergency unit is actually quite simple. The number of relevant variables becomes much bigger, and therefore much more complex, at primary care. When community work is performed, the definition of basic sciences changes: needed sciences are now communication skills, psychology, anthropology. Traditionally basic biomedical sciences are relevant in technically heavy, individually oriented practice settings, but in collective complex settings, sciences are going to be also socially heavy.

At that time many people had fled the suppressive regimes in Brazil, Chile and Argentina, and many of them arrived in Mexico. We collected a number of really bright and outstanding people, who were invaluable in our educational process, even in our own personal development. As an example: we had a group from Argentina, who had extensive knowledge of group psychotherapy. We were able to build bridges between Vigotski, Piaget and Foucault, that even now, more than a quarter of a century later, are considered innovative.

Through the involvement of WHO we became aware of the many health sciences educational innovations that took place in the world, and the need to evaluate the impact of our model: 10 years after our school was created we had an official visitation from WHO, among others by Jean-Jacques Guilbert. I was one of the founders of the Metropolitan University and had become the dean, so I had to write a self-evaluation of our program. That was an extremely interesting experience.

We created programmes that were beyond the faculty, also. The staff was not confident enough to reproduce that level of culture. We needed superb trainers. It did not occur to us to focus at the beginning mainly on the trainers. Or better: we perceived the need to train the trainers, but our actions were not effective in this field. This was, perhaps one of our most serious shortcomings.

How did The Network come into focus?

Because of this international orientation, amongst others through Tamas Fülöp, we found that The Network introduced the political element. About content it had no news for us. We helped and had backup for our ideas from McMaster, Maastricht and Newcastle. But we had no political impact, in the sense of becoming leaders in the field, even in our own countries or regions. Our programme was too complex to run. As an anecdote: a group of medical educators from Mendoza, in Argentina, went to search for innovation in

Medical Education from Harvard, not from Network Schools, and less from Latin American Network Schools. (Actually, on hindsight, that was right of them as well, because Harvard had a much bigger impact!)

How do you see the future of The Network: TUFH?

I see it as a task for The Network: TUFH to provide a structure for people from the less developed countries to visit other places and gain experience in other developing countries. This is where the help of Global Health through Educational Training and Service (GHETS) could come in. With their expertise in fundraising they could assist in facilitating that mobility. This in addition to the activities that the Network has done well in the last years: their meetings, student participation, publications.....

Do you see any challenges in The Network: TUFH's future?

We must not forget the scientific aspects of education in the field of health sciences, in particular visions of new ways to structure scientific knowledge to be really relevant in the making of a professional health worker.

Also we have to continue for our search for solid grounding of our educational theories, which are very relevant and applied extensively by now in the world.

Finally, the construction of primary care scenarios in academic fields is not an easy task, and a large part of it is in a state of underdevelopment.

Thank you for sharing your thoughts.