Interview with Gylmar Mariel Cárdenas, M.A.

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ABSTRACT

In this interview, we have the privilege of speaking with ***Gylmar Mariel Cárdenas, M.A.***, Head of the Outreach Division at the Autonomous University of San Luis Potosí, who provided us with a comprehensive overview of his professional career, highlighting important aspects related to his position and its significance and impact on medical students.

Keywords: outreach, opportunities, community service, international.

Could you tell us a little about your career and how you came to hold your current position in the Outreach Division?

I graduated from the Autonomous University of San Luis Potosí, from the Faculty of Engineering; I'm a mechanical and electrical engineer, and I did an internship in the automotive industry, starting at the company "Cummins", where I consider myself lucky because after three months they offered me a position at the plant as a Manufacturing Engineer in the drivetrain department, which was a tiny little room where they bring in tractor-trailer engines and test them to see if they work properly or not. If they don't work properly, they repair them and put them back in to finish the job. After that, I was offered a job in the United States, but they wouldn't let me go, and this is something I believe was my own fault, because I made myself "indispensable". They told me, "No one else does what you do". Honestly, I didn't like that reaction, but now that I think about it in hindsight, I never actually trained anyone who could replace me.

Here's some advice I'll give you right now: always train someone who can take your place, because if a job opportunity ever comes up within the same company, you'll be able to say, "Okay, I can leave, but this person is staying, and with just a little more training, they'll be able to take my place". I think that was my mistake, I never trained anyone who could take my place; at the time, I didn't understand that, and I got really upset. Some time later, I received the same offer again in the United States, and the same thing happened, plus another opportunity at a company called "Valeo" in France. So, I resigned from "Cummins" and moved to France as a Research and Development Engineer.

I returned to Mexico after two years; they made me Research and Development Manager, and later Project Manager, where I was in charge of overseeing a group of projects and ensuring that the alternators were customized for each client. After that, I moved to another company called "Eaton," which specializes in tractor-trailers; at that time, we were manufacturing transmissions and clutches, but I was doing essentially the same work. After that, I joined another company as Engineering Manager for the alternator division, and from there, they offered me the position of Production Manager and later Plant Manager. It's a "bit" of a complicated job and, to be honest, really grueling, but well-paid; I had some disagreements with my boss there, so I decided that was enough.

I was planning to take a sabbatical, and a month later I came here to San Luis Potosí for a management interview. Around that time, a friend contacted me and told me he'd been offered a job with the state government, and he said, "You should go for it". I went to the interview, and to be honest, I did end up joining the government at the Secretariat of Economic Development, working in the industrial infrastructure division, where I stayed for the rest of the six-year term. The administration changed and I left, but I was already working here at the university in the School of Engineering. I applied for a position, won one of them, and now I'm a full-time professor. They put me in charge of the Community Engagement Department because of my government experience, and I brought a lot of investments here to San Luis Potosí.

In May 2016, the dean asked me if I could serve as the Assistant Secretary of Planning for the Faculty of Engineering. In October 2016, the headmaster asked me to assist him with the Community Engagement Division, and now I'm here. Here, we are responsible for community service programs, social service, continuing education, alumni relations, entrepreneurship, and knowledge transfer; the very same areas we've been working on since 2016.

Why is it important for students to do community service?

Imagine if, as students, you had never done any hands-on work. What do you think would happen? How would you feel? In the medical field, for example, you start very early with lab work or clinical practice, and you gradually develop an interest in the theoretical aspects as you apply them in practice.

This isn't unique to medicine or engineering; it applies to all fields of study. When you know what you're getting into and what you'll be doing in the professional world, you develop a deeper love and appreciation for it. The important thing is to see what your work will entail. There are two decisions that I realize are the most important in your life: the first is what you're going to study, because that's how you'll make a living; and the second is who you're going to marry. These are two very important things. If you'd asked me as a kid what I wanted to be, I'd have said an astronaut or something like that. Later, the truth is that my dad was a dentist, my mom had studied biochemical engineering, my wife is a dentist, and my father-in-law is a doctor. I come from a medical background and really liked it, but I was also interested in machines, so I decided to study engineering, and much of the research I do is in biotechnology.

I think it's very important for you to get hands-on experience, to know what you're getting into so you can take a greater interest in it. That's why I believe community service and internships are so important. However, something I strongly encourage is this: if, when you're just starting your degree, you begin to get a feel for what you'll be doing later on, it will spark more interest in what you're learning in class. What I'd say to the people in charge of community service placements is: get the students out there, take them to the workplaces where they'll eventually be, regardless of their major, so they can figure out whether that's what they want to do or not.

Specifically for medical school, how important is it to perform community service in rural areas or by caring for those in need for one's professional development?

I'll answer that with another question. Do you know why the Faculty of Medicine of the Autonomous University of San Luis Potosí is considered one of the best in the country? Because of all the hands-on training. You have four hours of uninterrupted clinical practice every day for two years of your degree program. You have almost no breaks compared to other universities, which have only a third of what you have; even in Europe, where they have only a fifth. So it's very important because of that hands-on experience with experts in the fields who work in those areas every day.

Apart from community service, are there any other options for completing social service in medicine?

You have three types of service: community service, research, and outreach. Which of these is most important? The one you choose, based on what you enjoy doing.

In all of these service options, you'll have different experiences, and it's up to you. We had a program with the Faculty of Medicine called "Social Service in the Productive Sector," in which eight people participated, and seven of them confidently said they learned a lot; but I'll say it again, it depends on what you want. So, which social service option is best? It depends on what you want.

What are the main challenges that students most frequently face during their community service?

When it comes to skills like leadership, teamwork, knowing another language, and being resilient in the face of the complicated situations they encounter, that kind of knowledge comes from within each of you. It depends on each person's personality and how they handle situations. Especially for those of you dealing with a lot of stress, you need to have the strength and character to know how to handle these events. There's a lot of talk about the younger generations being "fragile", but we also need to know how to guide them and help them learn to face these challenges. I'm proud to say that we prepare our students very well, based on my own experience and what I've seen up to now.

Has there been any kind of international program to send students on rotations to other countries?

We haven't explored that option very much, and it would certainly be interesting to do so. We do have a German cultural exchange program where recent graduates can go to work in Germany for approximately 2 to 4 years, but the reality is that they're looking to stay there and work. At the end of the day, these are opportunities, and many know how to make the most of them in their own way.

Are there any other exchange programs available for students in the health sciences in general?

Yes, in fact, we have many programs and agreements with different universities that allow for research exchanges, although these are only available to graduate students and alumni.

For undergraduate students, we offer study abroad opportunities, through which we have more than 600 agreements with universities in many parts of the world.

In the medical school, exchanges to France and Germany are in high demand, and we have also hosted many students from Spain and Colombia. The process is the same for all schools: students must visit the Department of Internationalization to obtain the necessary forms, secure a letter of acceptance from the host university, and determine which courses they will take so that credits can be transferred, among other requirements.

There is also the option for students who wish to do so to complete their community service abroad; so far, I recall three medical students and one engineering student who completed their community service abroad, the first time this was done with interesting results, but this requires an agreement with the university.



Figure 1. From left to right: Yahir Chico, Gylmar Mariel Cárdenas, M.A.; Carlos Aguillón.

In the Faculty of Medicine, as in other schools, there are students with entrepreneurial ideas, whether it's writing books, creating digital resources, or other ventures. What kind of support can the Outreach Division offer all these students?

Yes, it's extremely interesting, some students have even gone on to start their own companies. In the department, we can help them in many ways, both with incubation, if they have a small business already up and running, and with acceleration, through the Office of Technology Transfer and Knowledge to register their trademarks. Let me give you an example: we helped the company Koplik® register its trademark. They came here, sat right where you are now, and began telling us all about their project. We helped them with the registration process, and now the business is up and running. Since then, they've visited us several times to update us on how the venture is going, and we've supported them in applying for various funding opportunities. Right now, we're exploring ways to accelerate their business growth.

Another story is the project led by Dr. Mario Martínez, head of the burn unit at the "*Hospital Central*" [now the "*Hospital Regional de Alta Especialidad 'Dr. Ignacio Morones Prieto'*"]. He began by conducting research on thermography, and after several researchers agreed to establish the company, we teamed up with engineers to determine what equipment we could develop for them. We purchased a thermal imaging camera, and through testing and research, we successfully launched the small business.

All companies go through an investment curve where there are losses at the beginning, but then growth begins, the investment is recouped, and profits start to roll in. We've had several such ventures, and we continue to promote them through various initiatives such as the "Reto San Luis," where various business ideas compete; or "EagleNest", where five entrepreneurs serve as investors and, through donations, a cash prize is awarded to the selected business project, in the style of Shark Tank®, with projects from each faculty competing.

The entrepreneurial spirit of all the contestants does not go unnoticed.

Since 2019, we've been asking ourselves: How can we train students in entrepreneurship if the teachers aren't trained either? So, we began training teachers in partnership with the Wardhwani Foundation, so that they, in turn, could start training students in entrepreneurship.

For you in the healthcare field, a medical consultation is an entrepreneurial venture, one that's more objective than any other. I've noticed that in healthcare degree programs, we're never taught how to bill patients, how to conduct a consultation, how to satisfy your patients, or how to make your practice appealing. These are marketing topics, and the program focuses so heavily on healthcare that when students graduate, they ask themselves, "What do I do now?" and "How do I do it?" It used to be believed that this business was a "Maya business", where you open the business and just wait for clients to come, but that's no longer the case. Competition is very fierce these days, and it's a very valid question: "How do I make my business/practice/clinic/hospital attractive? How do I draw people to me?" Obviously, if you're a very good doctor and treat your patients well, people will talk about you, and you'll gain recognition through word of mouth. But what about in the beginning? No one knows you yet.

Based on the above, do you think it would be essential to add a course on marketing or business administration to the medical school's curriculum?

It's extremely important. I've always said that we all need to be natural salespeople, because, as I tell my students, even if it sounds bad, you have to know how to sell yourself: how you're going to sell your work, your image, your personality, and what you're offering. And what are you offering? Knowledge.

I highly recommend that you follow us on social media, because we offer several free courses, such as "Empréndete", which covers the basics of starting your own business, as well as the "Business Guide" and "The Entrepreneur's Path." You can find us as ***Vinculación UASLP***.

I've always believed that with all the knowledge we acquire in this beautiful art of medicine, there are potential opportunities beyond the clinic, but we lack that entrepreneurial vision, the ability to identify a problem, propose a solution, and create a business. I see this in my colleagues, they all plan to focus exclusively on treating patients, but I believe the field of medicine extends even further than that; we need people who understand human biology in engineering, politics, and other fields.

Even so, I'm impressed by everything you're capable of doing, seeing you all interviewing me, running a medical journal, though I should mention that you're not the first: we once had two medical students in this department who made all the division's promotional videos for me, and I used to wonder, "What is a doctor doing making videos?" They did them perfectly well; I

bought them a green screen, lights, microphones, and stands, and the result was very interesting. I couldn't stop thinking: instead of having a systems engineer, I have doctors doing this work, and they do it very well. That's why I'm impressed by the medical field, because they have so many skills. I've noticed that people in medicine have a very unique profile.

Could you share a final message with all the students reading this?

I think passion is a key factor, if you're passionate about something, go for it. If you have passion, no obstacle will be too big.

I've given many talks on entrepreneurship, and I've often visited graduate programs to answer the question, "How do I fund my projects?" The first thing to ask is: Is the project you're interested in something you're truly passionate about? Do you love it? And if that's the case, you'll really be able to find money even under rocks.

There are four ways to raise money, which I call "the 4 F's": family, friends, funders, and fools (people who believe in your idea). Any of these can fund you, but if you're truly passionate about it, you'll convey that passion, and people will get excited about it right along with you. There are several crowdfunding sites online, and if you check them out, they'll ask you to record a 5-minute video explaining your project and demonstrating your passion for it. Appeal to people's emotions, emotions are what can make a real difference, and you'll succeed.

You'll see this with your patients; if you convey that confidence to them, they'll feel better. You'll see it. Much of what you'll be working on with your patients involves body language, so always be passionate about what you're doing, no matter what it is.

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