

Eduardo Repetto: Communicating Difficult Concepts



Eduardo Repetto (PhD '98, aeronautics) is the Co-Chief Executive Officer and Co-Chief Investment Officer of Dimensional Fund Advisors LP. The Dimensional firms manage over \$400 billion for investors worldwide, with 12 offices around the globe. Repetto has oversight across the investment, client service, marketing, and operational functions of the firm. *ENGenious* sat down with him to learn more about his time as a graduate student at Caltech and his unique career path in the financial industry.

ENGenious: How has your Caltech education influenced you?

Repetto: You become humble very fast when you go to a school like Caltech. You realize that there are a lot of talented people around you who can add to your own experiences. I recognized that what other people bring to the table is very important; the group can bring something that you cannot do on your own. As a graduate student at Caltech, I was

able to interact with mathematicians, engineers, computer scientists, and many others as part of my courses and research. I learned how to work and communicate across groups with different sets of expertise. This experience has been extremely useful in my current working environment. I interact with people from many backgrounds, including investors, boards, lawyers from different countries, employees from each one of our offices, marketers, data managers, portfolio managers and traders, computer scientists, etc.

ENGenious: What were some of the lessons you learned at Caltech?

Repetto: You don't realize what you've learned until you have to apply that knowledge or those lessons. We all learn great technical skills in our own field of study that can be transported to other disciplines, but there is much more. As Caltech students, when we spoke with professors, we realized their ability to communicate extremely complex and technical topics to us in easy and understandable ways.

That was a big lesson by itself! It applies to all aspects of business. It is very relevant in the financial industry because we need to communicate technical and complex topics in a manner that reaches a wide range of audiences. In many cases there is no time to negotiate and agree on how technical the language should be. We need to adapt to the language used by our audience without sacrificing the accuracy of the content.

At the end of the day, communication is trying to make our audience understand what we are trying to convey. We have to distill the information so it can be assimilated, trusted, and repeated. This is one of the lessons my Caltech mentors, including professors Michael Ortiz,

Guruswami Ravichandran, Ares Rosakis, Kaushik Bhattacharya, and Wolfgang Knauss—among others—taught me.

ENGenious: Why is building trust so important in the financial industry?

Repetto: People's savings often represent years of life committed to work and sacrifices made to put aside earnings to fulfill future aspirations or manage future life uncertainties. Speaking about savings is the same as speaking about people's lives, so people need to trust that you bring expertise that can help them and that you understand their needs. Investors will not commit their savings without trusting the company or the strategy.

It is a big responsibility, helping people with their investments. In order to gain their trust, we need to have a sound investment process but also have a good understanding of people's needs and the ability to communicate how we can help in a trustworthy and straightforward way. Some investment concepts are very technical, so the manner in which we communicate matters.

I see a big similarity in how Caltech professors are able to communicate very difficult concepts. They have such a deep understanding of the subject that they are able to simplify the communication but still keep it meaningful and preserve the integrity of the concept. As a Caltech student, you get the technical knowledge, but your group meetings, your conference presentations, and your posters force you to find ways to communicate your ideas efficiently, and that's important, too. All of us are in the business of marketing something—our products, our expertise, or our ability to help or to teach. Caltech is not a business school, but it taught me many of the skills I apply on a daily basis in business.

ENGenious: What was it like being a foreign student at Caltech?

Repetto: I was very lucky to be mentored by Caltech professors that really care about their students. As a foreign student, even though we study English and have tests in English as a second language, it can be difficult to order a sandwich, let alone speak up in class! The professors helped us create a network that made us feel at home, which is extremely important when you are on your own, far from your home country and your family. Professors Ortiz and Knauss would even invite us to their homes, allowing us to interact with their families.

ENGenious: Why was it hard to order a sandwich?

Repetto: When I first came to the United States as a student, I was at Brown University. One day, I went to order a sandwich in a coffee shop. I was used to ordering sandwiches in Argentina, where when you order a ham-and-cheese sandwich and you just get a ham-and-cheese sandwich. In the United States, I asked for a sandwich and then the guy, who had a line of 50 people waiting to order sandwiches, starts speeding through the selection of cheeses—Swiss, American, white, yellow. I felt like he was bombarding me with it all and then, once he finished with the selection of cheeses, he started with the selection of bread—white, wheat, rye. I didn't know the difference among the types of bread or even what the names meant. I remember just saying "yes," because I didn't know what else to say without delaying everyone behind me!

ENGenious: How is the Caltech approach unique, and has it helped you overcome barriers?

Repetto: Caltech taught me the discipline to try to find the right answer,

to iterate and work until all the different aspects needed to understand that a solution is the right solution are taken care of.

When I was doing research at Caltech, first I tried to understand the problem at hand and the work done by others in the same or similar fields. This process included reading papers, speaking with professors and fellow students, and performing multiple iterations. Then I tried to push the current state of knowledge and be innovative while focusing on finding the right solution. I became disciplined in being critical of my work and my knowledge in a systematic way—recognizing its weaknesses and trying to find ways to overcome them or find alternative solutions. Caltech teaches this very well! Caltech brings you together with extremely talented and approachable people from all over the world, who are always willing to speak about interesting problems and possible ways to solve them. This is very similar to my current work environment; we are always searching for the right solution and always debating ways to improve it.

ENGenious: Is a Caltech education valued by your colleagues in the financial industry?

Repetto: Being a Caltech alumnus and being associated with Caltech is a very strong endorsement, no matter where you are. Caltech has a reputation outside the main scientific environment for the rigor that it imposes on every process that it is involved with. There are many Caltech graduates who are dispersed around the world in very important positions and are highly recognized for what they have done in science and in other fields. I work very closely with one such Caltech PhD, Gerard O'Reilly. He's one of the smartest people I've met. He's Irish, from Trinity College, a clever guy, very approachable, always willing to take an extra step to help and able to communicate very

difficult concepts with great ease. Another Caltech mathematics alumnus that I know and admire is Luis Reyna. Luis showed me that you can succeed in finance with a PhD from Caltech. He was the one that told me that a Caltech education and work ethic are highly desirable in the financial industry.

ENGenious: What made you decide to support graduate fellowships at Caltech?

Repetto: It was not just me. It was also my wife, Carla, who grew up in this area and whom I met at Caltech's Dabney Hall. Coincidentally, we now live across the street from where she grew up. Caltech has done a lot for me, and we decided we should do something for the next generation. We have been very lucky. One's studies, knowledge, constant willingness to try to learn enhances his or her chances of doing well when opportunities show up, but you also have to be at the right place at the right time. Hopefully, Carla and I can enable other students to be lucky like we have been.

ENGenious: What advice do you have for the next generation of Caltech students?

Repetto: Take advantage of all that Caltech can give you. And it's not only the courses; it's also the interactions with professors and other students. Learn the communication skills you need to convey difficult concepts to different kinds of audiences. Take advantage of learning from different people who come from different backgrounds. Enjoy every moment. Enjoy every opportunity. I always tell people who are looking for a job: Don't find the job that pays you more. Find the one that you can do for a long time, and have fun and enjoy it, because the rest happens. Enjoy what you're doing. That's the most important thing.

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