

learn



£3.65m
was the average pay for
a FTSE100 CEO in 2011



90%

of the world's languages
could disappear by the
end of the century

SOURCES: BBC/PENN STATE UNIVERSITY

Social engineering

ENTREPRENEURSHIP

How it can pay to get kids interested in science at an early age

Rana El Chemaitelly is a mother of three; an independent businessperson who ran her own digital photography company for 12 years, until the service became a commodity; an engineer with a BE in Mechanical Engineering and a Master's in Engineering Management; and an instructor at the American University of Beirut, Lebanon. Before you read on, close your eyes for a moment and consider how you might combine these resources to form the basis of a new venture.



Massachusetts Institute of Technology. She was awarded the 'Coup de Coeur Femme' by Medventures for the Mediterranean and was recently declared a Laureate in the Cartier Women's Initiative Awards.

BUILDING THE FUTURE

Amid all the glamour, there are at least two things that El Chemaitelly offers us in understanding entrepreneurship. The first is how many different possibilities exist, even from a modest starting point. Compare your original idea with what she has actually done. Imagine how the person in the seat next to you might take yet another completely different direction from the same starting point. Good ideas and available resources are plentiful, but it is what the entrepreneur does that matters.

And then consider the longer term implications of her efforts. In her own way, El Chemaitelly is in the process of shaping engineering education. Policy makers and administrators can only dream of the changes that she is bringing to life. By proactively creating something new, tangible and valuable, her influence will be felt by the next generation of engineers who will design the world of the future. ●

INPUTS IN DESIGN

Now, with your own possible solution in mind, consider two observations that influenced El Chemaitelly's thinking. The first was that she found her students at the American University unprepared for their studies in engineering and unsure of what they might do with their education when they graduated. And the second was that her own seven-year-old son was so captivated by video games that he was missing out on many of the social aspects of childhood.



Child's play

The Little Engineer, created by Rana El Chemaitelly (left), teaches kids hands-on technology

environment. After school, TLE provided robotics, energy and engineering instruction, challenges and competitions to creative little engineers.

participated in TLE, and the firm has rolled out a mobile station - a complete centre inside a truck - to bring TLE to schools that want to try it and to areas where it is not possible to open a physical location.

BUILDING UP

In just three years, what was a cottage project has become a fully-fledged venture. Today, TLE has programs for students from six to 16 years old and is working on an offering for 18-year-olds. There are currently six TLE locations, with plans to open more in Tripoli, Bchamoun, Saida and Jbeil this year. Some 750 children have already

CONSTRUCTIVE STUFF

Along with the growth of the business, El Chemaitelly has also received international recognition for her positive social impact. Last year she was identified as one of the most promising entrepreneurs in the Middle East and North Africa (MENA) region by the

PROTOTYPING PROGRESS

El Chemaitelly transformed her resources and her observations into an initiative called 'The Little Engineer' (TLE). Launched in her home in 2009, while tyres burned and riots raged in other parts of the city, TLE was intended to teach hands-on science and technology to kids in an interactive and positive

details

By Stuart Read, professor of marketing at IMD, and Nick Dew, associate professor at the Naval Postgraduate School. They are co-authors of *Effectual Entrepreneurship* (Routledge, £35)



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