



**NAVARRA CENTER
FOR INTERNATIONAL
DEVELOPMENT**

The making of Young people who will change the world

Book review:

Creating Innovators:

by Tony Wagner

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Tony Wagner, Harvard fellow, former Gates Foundation senior advisor and author of this book is determined to have an impact in the transformation of the education of new generations. He sees education as the engine of change for younger generations, which will help them to better adapt to the future that awaits them and consequently improve the society and economy that they will encounter.

In Wagner's previous book, *The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need and What We Can Do About It*, he listed the seven skills students should learn at school in order to be prepared for the current market needs:

- Critical thinking & problem solving
- Collaboration across networks and leading by influence
- Agility and adaptability
- Initiative & entrepreneurship
- Accessing and analyzing information
- Effective oral & written communications
- Curiosity and imagination

In this new book Wagner goes a step further and tries to understand what makes a young person become an innovator while he figures out how to design educational and workplace environments that support innovation.

From the beginning of the book Wagner makes a realistic diagnosis of the context and points out the main problems the education system is facing nowadays. According to the author:

"Most policy makers—and many school administrators—have absolutely no idea what kind of instruction is required to produce students who can think critically and creatively, communicate effectively, and collaborate versus merely score well on a test. They are also clueless about what kind of teaching best motivates this generation to learn. And the tests that policy makers continue to use as an indication of educational progress do not measure any of the skills that matter most today. We need more profiles of quality instruction—and better sources of evidence of results—to inform the education debate"

However, Wagner focuses less on the problem (America's lack of innovators) and more on a remedy, supported by testimonials from an impressive array of young innovators employed in STEM fields (science, technology, engineering and mathematics) or civic-minded entrepreneurs.

In order to better understand what makes a young innovator and provide real examples of them, the author followed young STEM and social innovators—mainly in their 20's.

"It has been an utterly fascinating project, but also challenging because of its scope and complexity. For this reason, I decided to limit the innovators whom I profile in this book to young people between the ages of twenty-one and thirty-two who fall into one of two categories: individuals who are doing highly innovative work in so-called STEM fields, and individuals engaged in social innovation and entrepreneurship. The former are critical to our economic future, the latter to our social and civic well-being."

During these interviews with young innovators he found out how they got to where they are and what made them that way - the influences, the thinking, the type of parenting, education and the backgrounds.

In the first chapter of the book Wagner stands "A Primer on Innovation" and its importance in the twenty-first century. He reviews a variety of definitions of innovation, including the five skills that according to Dyer, Gregersen and Christensen separate innovative from noninnovative individuals (associating, questioning, observing, experimenting and networking). Wagner also builds on Teresa Amabile's work to put forth his own theory of innovation, based on expertise, motivation and creative thinking skills, or in his own words: play, passion and purpose.

Wagner brings his theory of innovation to life in chapters 2, 3, and 4 by showing play, passion, and purpose in action through the case studies of various young innovators.

In each case, Wagner points out how each of his case studies on young innovators had the opportunity to play with ideas, develop passion for their interests, and ultimately become gripped by a

sense of purpose that drove them forward.

This is the whole point of the book: the need to prepare young adults to do three things: have a foundation in expertise and be able to find and integrate expertise; think critically in the face of completely new conditions not encountered previously; and have the motivation to persist against all odds, embrace failure, and keep on going.

Wagner explains that research shows that human beings are born with an innate desire to explore, experiment, and imagine new possibilities, in a word, to innovate. Children learn such skills through **play**.

He also points out that **passion** is familiar to all of us as an intrinsic motivation for doing things. It is passion that drives individuals to freely explore, learn something new, understand something deeply and master something difficult

“In more than one hundred and fifty interviews for this book - - lengthy conversations with scores of innovators and their parents, teachers, and mentors passion was the most frequently recurring word”

Wagner is careful to point out how in each case study the young innovator had the opportunity to play with ideas, develop passion for his interests, and ultimately become gripped by a **sense of purpose** that drove them forward

Following his case studies, in chapter 5 Wagner discusses what works and what does not work for fostering innovation in schools by presenting five dualisms:

1. Individual achievement versus collaboration
2. Specialization versus multidisciplinary learning
3. Risk avoidance versus trial and error
4. Consuming versus creating
5. Extrinsic versus intrinsic motivation

In each dichotomy, Wagner rails against the former and advocates for the latter.

As exemplary learning environments that offer the best curricular structures for fostering innovation, Wagner highlights High Tech High in California, Olin College in Massachusetts, the MIT Media Lab, the Entertainment Technology Center at Carnegie Mellon University in Pittsburgh, and the Hasso Plattner Institute of Design (the “d. school”) and Bing Nursery School, both at Stanford University. According to Wagner, each of these institutions places an emphasis on collaborative, multidisciplinary, trial-and-error- oriented learning that focuses its pedagogy on creating over consuming stemming from intrinsic over extrinsic motivating factors. He distinguishes three stages in the learning process of these places:

1. Memorization-based learning tested by multiple-choice questions.
2. Project-based learning with pre-determined problem (and generally a “school solution”)
3. Design-based learning where you have to define the problem

Finally in the last chapter, “The Future of Innovation” Wagner transitions from a discussion of educating for innovation in schools to a discussion of parenting for innovation at home and developing innovation-friendly workplaces. He then closes the book with an epilogue entitled “Letter to a Young Innovator,” in which he speaks directly to his innovative young readers, encouraging them to persevere in their work by engaging in meaningful play, pursuing their passions, and establishing a driving sense of purpose.

Across the book, Wagner also defends the idea that innovators do not necessarily have to be entrepreneurs; they can be those people who can be innovative even working within organizations, corporations, and non-profits. They are imbued with a purpose, style of behavior and attitude that allows them to create something original of value, make a difference, or change a process, service, system or way of thinking.

A surprising factor of this book is that itself is innovative in its format. It uses Quick Response Codes for smartphone, in which readers can access more than 60 online videos further explaining the story. These short videos take readers to innovative schools like MIT’s Media Lab, Stanford’s Design School, High Tech High and Olin College. In addition, readers get to know the young innovators in a unique way – traveling as far away as Guatemala and Africa.

The book is written with both a tone and language not meant to impress the academic world, but to inspire and communicate to both educators and parents interested in supporting young generations. It is a book for parents, educators, mentors, and those who understand that education and innovation are inextricably linked.

Concluding, *Creating Innovators* offers fascinating and invaluable insights, but no quick recipes. This is a book written for those willing to break preconceived ideas and be open to new possibilities in the way young generations should be educated, an extremely useful framework on the ideas that need to be developed but not a recipe of “how to” develop them.