



## How to Boost Innovation and Creativity

The following paper aims at helping not only researchers and scientific people, but also corporations, institutions and all individuals involved in creative processes.

**1. Get insights from cross-field and cross-cultural combinations (the “Medici Effect”).** This is why many cross-cultural and international research teams with specialists from different disciplines are often successful.

**Z. Do not focus on money.** Money and the pressure for profit-making is probably the biggest innovation-killer of them all. Assume that you will not be rewarded for the work you are doing.

**2. Never give up! Persevere!** “Many of life’s failures are people who did not realize how close they were to success when they gave up.” Thomas Edison

**Y. Find inspiration from Nature.** Leonardo da Vinci, the most creative mind of all times, was well-known for finding inspiration from Nature. Jørn Utzon, the architect of the Sydney Opera House, said that “My laboratory is the beach, the forest, the sea and seashore...”

**3. Find inspiration from travelling.**

**X. Set “impossible” goals.** “I like to be on the edge of the possible” Jørn Utzon. So instead of asking your research team to find solutions for a car or an airplane that consumes 10% less petrol in 2025, tell them that you want a totally green transportation system that takes you from London to Sydney in less than 30 minutes. And this by 2012. “I am looking for a lot of men who have an infinite capacity to not know what can’t be done.” Henry Ford

**4. Mental freedom.** It is very hard to be creative when you have to struggle to meet month’s end or when you have a regular 9-to-5 job requiring your presence.

**W. Understand that there are many kinds of creativity.** Different people have different creative strengths. The trick is to find your best medium to express your creativity: it could be music, the Internet, painting, teaching, dancing, mathematics, running a company, etc. Creativity is possible in any activity that engages human intelligence.

**5. Be open to unexpected answers to a problem.** This is not always easy. You need to make clear what kind of goal you want to achieve and most of the time the answer is not going to be the one you expected. The solution of a problem is seldom to be found where you expect it to be. “There is nothing in a caterpillar that tells you it’s going to be a butterfly.” Buckminster Fuller

**V. Clearly define your goals.** It is extremely important to have a clear picture of what you want to achieve. Inspiration might come anytime. In the shower, during a walk, while eating ... A good example of a clear goal was “to have a man on the moon by the end of the decade” (1960’s).

**6. Know WHY you want a specific answer/research result.** You must be able to honestly answer this question. “To become rich” is only an option if it is something like “To become rich to be able to help other people with X, Y, or Z...”.

**U. Be genuinely interested in helping other people.** “To have been allowed to create something that enriches the lives of my fellow human beings is a wonderful gift.” Jørn Utzon

**7. Put the hours in.** “Genius is one percent inspiration and ninety-nine percent perspiration.”  
Thomas Edison

**T. Be aware of the importance of imagination.** “Imagination is more important than knowledge.”  
Albert Einstein

**8. Do some real thinking.** “There is no expedient to which a man will not go to avoid the labour of thinking.” Thomas Edison

**S. Everybody has something to teach you.** “I have never met a man so ignorant that I couldn't learn something from him.” Galileo Galilei

**9. Learn from the best.** “If I have seen farther than others, it is because I was standing on the shoulders of giants.” Isaac Newton

**R. Learn to trust your intuition.** “No great discovery was ever made without a bold guess.” Isaac Newton; so creativity is not a purely intellectual process: it is enriched by capacities like feelings, intuition and playful imagination.

**10. Make the most of your creative peaks.** This is a little difficult to explain, but people who have experienced them know the importance of having pen and paper at hand when ideas start to flow. The term “flow” is used to describe peak creative performances.

**Q. Meditate.** Science has now proved that your brain rewires in a positive way when you meditate. People who meditate regularly are far more creative than the people who do not.

**11. Do not accept sub-optimal solutions.** Innovation often comes from people who are “pissed off” by bad service, bad products or insufficient solutions and know that there must be a better way. One example is Richard Branson who started the Virgin Airline because he knew he could do much better than the monopolistic British Airways.

**P. Life threat.** When your life is threatened, your survival instinct pushes you to find very creative solutions to problems. This is why many innovations came out during wars. In the same way, when the “life” of a company is threatened, they seem to get more creative. The trick is to be able to fake a threat to induce creativity. Don't start a war. Please.

**12. Get inspiration from science-fiction.**

**O. Question everything.** Let us say I want to build a better car. So what is a car? It is petrol-run box on wheels that helps you go from A to B. Most people would try to optimize the engine so that it needs less petrol.

Some more creative people will try to make the car run on electricity, compost, or solar energy. Nice. But it does not solve the traffic jam problem.

In come some over the top extremely creative people and say, why do we need roads? We can build “personal airplanes” which are a mix between a car and an airplane. NASA has been working for over a decade on this. But we already have traffic jams in the skies, and even if these airplanes would fly ecologically, they would be a huge visual pollution.

Struggle. Struggle. And no innovations. Back to square 1. Why do we need cars? To get from A to B. It is not easy to reinvent the wheel or the wing... but the answer to the transportation problem today will probably not come from improving the current solutions (car, trains, boats, airplanes, ...), but from a new transport system altogether...

**13. Willingness to change the world for the better.**

**N. Use affirmations.** If you tell yourself every day that you are creative, you will automatically become far more creative than 99% of the people.

**14. Don't be afraid that your ideas get stolen.** Have the IKEA-mindset: if someone copies one of their designs, they do not sue them, but get even more determined to create new better designs. As soon as the lawyer steps in, creativity hits bottom and everybody loses.

**M. Do not ask for approval.**

**15. There is no correlation between creativity and equipment ownership.**

**L. Love what you do.** “Anything will give up its secrets if you love it enough.” George Washington Carver (inventor of the peanut butter and 299 other ways to use peanuts)

**16. Spend a lot of time alone.** Many really creative ideas come when you are on your own.

**K. With drink buddies.** When you are having fun with friends and have a few drinks together, sometimes creativity flows abundantly. Unfortunately, too many artists go over the edge with the consequences we know of.

**17. Freedom of expression.** Many creative ideas will sometimes not be politically correct and you need the political framework that enables you to express your ideas and creativity. This is why democracies are far more innovative than dictatorships.

**J. Work on your character.** Do not let anybody talk you out of your great ideas. It is a fact that most revolutionary ideas are seen as weird, impossible or stupid. Don't give in to what other people tell you.

**18. Do as much as you can just a little different from everybody else.**

**I. The play instinct.** To be really creative, you need a mindset of fun and play. You play with different ideas and combinations until you find the solution. Or you see it as some kind of treasure hunt where the fun part is the research process itself. Do not worry about the outcome.

**19. Read a lot.** But question everything you read. Most books have interesting insights and some inaccuracies nicely mixed. If you read a lot about many totally different subjects, it will be easier to make unusual creative connections.

**H. Learn from “miracles”.** Miracles are only happenings that science has not been able to explain so far. If only one person has done it, that means that it is not impossible, now science has to find out how he did it (e.g. getting cured from an “incurable” illness). And even if nobody has done it yet, that does not mean that it is impossible either (like flying to Mars).

**20. Learn from your dreams.** Every night, we have various dreams. We know that some of these dreams have clues to give you answers to questions you have. Now the trick is to understand these clues (here science needs to do more research to better understand how to decipher dreams).

**G. Be humble.** Arrogance is one of the worst creativity-killers. If you think that you are above somebody else, chances are that you are not very creative. Just because you have done research on a particular topic your whole life, does not mean that you will be the one finding a breakthrough solution. A perfect example of this is Allen Carr, who came up with the so far most successful solution to help people stop smoking: he was an accountant!

**21. Gratitude.** If you are not thankful for life, life will not show you its secrets. Einstein was said to say “thank you” many times a day.

**F. Everybody is creative.** Scientists, technologists, business people, educators, anyone can be creative in the work they do! All adults can learn to be creative again. Yes, creativity can be learnt.

**22. Understand the big picture of creative flow.** The trick is to concentrate research in the right direction. Sectors like IT have seen so many innovations in the last decades. This is a good sign. But Moore's law will stop one day. The research community needs to ask itself why they struggle in some areas: Why aren't there any breakthrough innovations in the car industry? Or aviation? Or pharmaceuticals? Maybe it is a sign that we need to focus research on something else.

**E. Seek out creative clusters.** You can be creative everywhere, but the odds are slightly better if you are surrounded by other creative and innovative people. This can be in a company whose culture is innovative, or a whole geographical area like Silicon Valley in California.

**23. Arts and science need not be separated.** Again, the best example here is Leonardo da Vinci who excelled in both. How did he do that? Maybe nobody educated him to think in a Cartesian way where logic and emotions, “truth” and intuition are separated.

**D. Academic education does not matter.** Many of the most brilliant and successful people in all walks of life failed in education. If you are passionate about something, you will succeed whatever your background is. The future will be more self-study. And today, with Google, you can have answers to most of your questions within a few seconds.

**24. Creativity needs courage.** When you believe in yourself and take the first step in a new direction, more creativity will follow. Easier said than done, as it sometimes involves taking major risks (financial, or other). Nokia had at some point to take a big risk, dump the television and shoe business for the mobile telephone business which has enabled creativity to flow in the company.

**C. Balancing your intelligences is good for creativity.** This means that it's not only about mental intelligence (IQ), but also emotional intelligence (EQ), body intelligence (BQ) and spiritual or soul intelligence (SQ).

**25. Fake it until you make it.** Also called simulation. Trial and error.

**B. Many ideas will come when you are not thinking about them.** So make sure you always have pen and paper nearby to write down your new insights straight away. Do not expect to be able to recall them later.

**26. Openness for mistakes fosters a more innovative culture.** This is obviously very important in for an innovative corporate culture, but every creative individual must also understand this in order to take more risks for better results. “It is better to have enough ideas for some of them to be wrong, than to be always right by having no ideas at all.” Edward De Bono

**A. Restrictions make us more innovative.** “Necessity is the mother of inventions” Plato. Many new creative recipes were invented because the planned ingredients were no longer in stock, so the cook had to try a new combination. In a similar way, financial restrictions have led to many smart innovations.

**27. Innovation is also about selling.** The problem is that most visionary inventors and innovators run ahead of their times and confuse the crowd. When Michael Faraday gave the first demonstrations about electricity in the 1830's, many were impressed, but could not see the use of it... So your plan for getting your work/product/idea out there has to be as original as the actual work, perhaps even more so.

## Doing something really creative is one of the most amazing experiences that one can have.

Sources:

- Out of Our Minds – Learning to be Creative (by Ken Robinson)
- The Medici Effect – What Elephants and Epidemics Can Teach Us About Innovation (by Frans Johansson)
- How To Be Creative (by Hugh MacLeod): can be downloaded on:  
[http://www.gapingvoid.com/Moveable\\_Type/archives/000932.html](http://www.gapingvoid.com/Moveable_Type/archives/000932.html)