

THE TALENT CODE

by Daniel Coyle
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- A skill is a cellular insulation that wraps neural circuits and that grows in response to certain signals.
- Talent: the possession of repeatable skills that do not depend on physical size.
- People inside the talent hotbeds are operating at the edges of their ability, so they will screw up. And somehow screwing up is making them better.
- Deep practice is built on a paradox: struggling in certain targeted ways – operating at the edges of your ability, where you make mistakes – makes you smarter. Or to put it a slightly different way, experiences where you are forced to slow down make errors, and correct them, end up making you swift and graceful without your realizing it.
- The trick is to choose a goal just beyond your present abilities; to target the struggle. Thrashing blindly does not help. Reaching does.
- Struggle is not optional – it is neurologically required: in order to get your skill circuit to fire optimally, you must by definition fire the circuit sub-optimally; you must make mistakes and pay attention to those mistakes; you must slowly teach your circuit. You must also keep firing that circuit – i.e. practicing = in order to keep myelin functioning properly. After all, myelin is living tissue.
- The only way to change habits is to build new habits by repeating new behaviors – by myelinating new circuits.
- There is no cell type that geniuses have that the rest of us do not. That is not to say that a minuscule percentage of people do not possess an innate, obsessive desire to improve – what psychologist Ellen Winner calls “the rage to master.” But these sorts of self-driven deep practicers are rare and are blazingly self-evident.
- Rule one: chunk it
- Skill consists of identifying important elements and grouping them into a meaningful framework (chunking).
- In the talent hotbeds I visited, the chunking takes place in three dimensions. First, the participants look at the task as a whole – as one big chunk, the mega circuit. Second they divide it into its smallest possible. Chunks. Third, they play with time, slowing the action down, then speeding it up, to learn its inner architecture.
- Why does slowing down work so well? The myelin model offers two reasons. First going slow allows you to attend more closely to errors, creating a higher degree of precision with each firing – and when it comes to growing myelin, precision is everything. Second, going slow helps the practice to develop something even more important: a working perception of the skill’s internal blueprints – the shape and rhythm of the interlocking skill circuits.’
- Rule 2: Repeat it
- Causing skill to evaporate requires that you stop a skilled person from systematically firing his or her circuit for a mere thirty days.
- World class experts practice between three and five hours a day, no matter what skill they pursue.
- Deep practice tends to leave people exhausted; they cannot maintain it for more than an hour or two at a sitting.

- Rule Three: Learn to feel it.
- Each day with every note, practicing is the same task, this essential human gesture – reaching out for an idea, for the grandeur of what you desire, and feeling it slip through your fingers.
- Growing skill requires deep practice. But deep practice is not a piece of cake; it requires energy, passion, and commitment. In a word, it requires motivational fuel, the second element of the talent code we call ignition.
- Where deep practice is a cool conscious act, ignition is a hot, mysterious burst, an awakening. Where deep practice is an incremental wrapping, ignition works through lightning flashes of image and emotion, evolution-built neural programs that tap into the mind's vast reserves of energy and attention. Where deep practice is all about staggering baby steps, ignition is about the set of signals and subconscious forces that create our identity; the moments that lead us to say that this is who I want to be.
- If children have a long-term commitment, they progress more quickly than those who practice longer, but have only a short-term commitment.
- We instinctively think of each new student as a blank slate, but the ideas they bring to that first lesson are probably far more important than anything a teacher can do, or any amount of practice. It is all about their perception of self.
- The ignition switch is either on or off. It can be triggered by certain signals, or primal cues. It can be triggered by words.
- In Dweck's studies, affirming the value of effort and slow progress rather than innate talent or intelligence brings about greater progress. Motivation does not increase with increased levels of praise; more often this causes a dip in motivation.
- Hans Jensen, cello teacher in Chicago
- 75% of teachers' comments should be pure information that helps a student improve.
- Teaching = explanation, demonstration, imitation, correction and repetition
- Teacher's virtues: task-specific knowledge, perceptiveness, deliver information with shock effect, theatrical honesty
- Patience is a word we use a lot to describe great teachers at work. But what I saw was not patience. It was more like probing, strategic impatience. The master coaches I met were constantly changing their input. If one method did not work, they tried others.
- Phonics = deep practice; Whole language = ignition
- When something goes wrong, ask why five times