
Anders Ericsson

Deliberate Practice

Toward a Science of Exceptional Achievement
Attaining Superior Performance through Deliberate Practice

Principle

Deliberate Practice creates elite performers, not natural talent.

Quote

"The central attribute of deliberate practice is that individuals seek out new challenges that demand concentration and effort as long as they want to keep improving their performance beyond its current level."

So What - Application

If deliberate practice is the underlying difference between average and elite performers, then we must be able to incrementally improve anything we set our minds to.

The key seems to be breaking down the skills behind the skills. If I want to become a better teacher I need to learn to ask open ended questions, let the silence sit, handle odd replies, handle people who talk too much, and know how to create psychological safety. And that's just for creating better discussions. There's a whole separate set of skills for explaining things, creating exams, etc.

Everything we want to learn or improve can be broken down into discreet learnable skills. And deliberately practicing each of those skills requires a willingness to experience discomfort.

The Research Story

Three researchers from Florida State University argue for the idea that elite performance comes from deliberate practice "without recourse to innate talent—excepting the innate determinants of body size." So anyone with the grit and training can become an elite athlete, chess master, or musician.

Ericsson first found that intense practice increased memory of digits from 7 to over 80 in ordinary students and pushups from 20 to over 6,000. Learning a new skill starts out with rapid improvement, followed by a plateau. This "every day" skill level becomes automatic after about 50 hours of practice. However, experts use deliberate practice to go beyond this plateau.

To systematically develop elite performers, you have to find an expert, tease out how their performance differs, and train those pieces. But it's not easy. You can't rely on reputation. Rigorous scientific experimentation is required.

Experts often have better mental frameworks, anticipation skills, and specific motor actions. How do elite athletes develop these identifiable skills? Deliberate practice. Deliberate practice includes well-defined goals, feedback, and ample opportunity for repetitions. It's not just about swimming more laps. It's about concentrating on improving specific performance skills.

Number of games does not predict skill, but the number of different kinds of practice you do predicts comptetive levels from amateur to international.

All improvement can be explained by improvement of specific skills and abilities. You can often measure the changes in brain and body. For example, Olympic athletes develop larger hearts from extended intense practice. After they retire, the heart returns to normal size. A few skills can only develop in childhood, like the way ballet dancers turn their feet,

Just because your body hasn't changed for a decade doesn't mean it can't. It's a process of pushing beyond your comfort zone, where your body triggers changes (in genes, bloodstream chemicals, etc.) to adapt. Once you plateau at the new height, it's a process of again pushing past your comfort zone.

Even aging isn't the problem we think it is. Chess players peak at age 40, but their decline afterward is quite small. Aging elite performers often maintain their practiced skills, even while other ordinary skills decline.

Ericsson, K. A., Nandagopal, K., & Roring, R. W. (2009). Toward a Science of Exceptional Achievement. Annals of the New York Academy of Sciences, 1172(1), 199–217. https://doi.org/10.1196/annals.1393.001

Life Changing Principles