

What is practice, really?

By [Peter Horszowski](#), issued by [Pert Industrials](#)

6 Nov 2017

Roger Federer said, after his surprise practice session on the public tennis courts in Central Park: *if you are not working on something when you practice, you are wasting your time*. That struck me. Roger Federer has won 19 Grand Slams. (To put that into perspective: John McEnroe won 7.) He is probably the greatest Tennis player ever. Maybe even the best sportsman in history. Yet when he practices he works on specific things and genuinely tries to improve his game. I suppose that is what practice really is: arduous, focused and deliberate, with a particular goal. Not always fun. If you have ever coached kids, you will know the easiest thing is the so called *practice game*. The kids enjoy it and it is good for teamwork, fitness and strategy. But it doesn't do very much for their skill level, so it is not really *practice*, is it?







In his book *Bounce*, Matthew Syed, distinguishes deliberate, precise practice from general, regular repetition. I am hovering over an example of this right now. I type approximately three hours a day. Every working day. Yet my typing proficiency has not changed in years. I can tell you from experience, though, that if I typed with a set purpose, using specific drills, for three hours every day, I would become a champion typist. To really improve on any skill, you need focus, rigour and discipline, which means you have to be prepared for some painful, tiny adjustments combined with agonising, painstaking repetition. (For typing, for example, I'd have to work just a few fingers in a specific drill for hours on end.) This is one of the reasons why, at PERT, we have been wary of virtual reality in skills training, particularly vocational skills training. VR is great for the wow effect, for interesting content and maybe some basic orientation. But for skills development we have always preferred real world, hands-on training with actual, physical material. It is not that we haven't tried alternatives. In fact, PERT promoted the very first virtual welding trainer in South Africa over 30 years ago. It used a tiny black and white TV and gave a print out like a till slip. And it was actually quite popular and reasonably effective. But it was too far removed from the real welding process to make a meaningful impact on skill level. After all it is hard to devote serious time and effort to a tiny black and white screen. But things have changed.

I am not sure if you have tried any of the new VR: like the Google Oculus or HTC Vive. This tech has taken a real leap forward, recently. Now it is genuinely immersive (also you don't feel sick after a while, which is a big bonus!) So it is becoming possible to exploit the digital advantage while doing meaningful, effective skills training. When I say *digital advantage*, I am referring to the usual things like learner management, tracking and automated testing and reporting. But mostly I mean material costs. This is the big issue when you need to put in serious practice hours. For example: SimSpray – a virtual reality spray paint training system. You save on setup costs. You don't need a special spray booth, with dedicated ventilation system in an isolated structure- in fact, there is a project underway to install a SimSpray system in the back of a bus. But of course the real material saving is the spray-paint, itself. Similarly for virtual welding and carpentry, both for the work material and also for the tooling. And now the technology has advanced to the precision for proper muscle memory development, you can save on material while still providing genuine skill training, with the necessary feedback that requires. In some packages, like SimSpray, you can even take the feedback beyond the real, to an *augmented reality* that shows the invisible layered errors in spraying: the mistakes which aren't apparent to the naked eye but only show up after some years of wear in the field.

We are never advocating a complete changeover – a training institution will always need to offer the real thing. But hopefully only after many hours in VR training, when the learner already has developed some skill, muscle memory and safety protocol. South African vocational training institutions face real challenges with limited resources, large learner numbers and serious skill deficits. To address this, maybe we have to start thinking *inside the box*: specifically a VR console, with all the possibilities of this wondrous new technology.

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