

## #brainbooster

### To err is fruitful Making deliberate mistakes is a surprising but effective way to improve your performance in many unexpected areas of life, writes **David Robson**



David Robson is the author of *The Expectation Effect: How your mindset can transform your life*. You can follow him on Twitter @d\_a\_robson

#### David's week

##### What I'm reading

*The Conformist* by Alberto Moravia, a suspenseful psychological drama about a fascist spy in Mussolini's Italy.

##### What I'm watching

*Most of my TV consumption is now dominated by the news cycle, I'm afraid.*

##### What I'm working on

A feature exploring "sexpeaction effects" – the influence of mindsets on our intimate relationships.

Up next week:  
Chanda Prescod-Weinstein

**A** man of genius makes no mistakes," James Joyce wrote 100 years ago. "His errors are volitional and portals to discovery."

Most people with good sense would accept that we can and should learn from accidental failures. It would be impossible to progress in anything, after all, without taking the odd misstep, and by understanding how we tripped up, we can avoid stumbling in the future.

Few would advocate making intentional mistakes, however. Yet a pair of fascinating new studies have shown that this may be the best way to learn new information. Consciously blundering, even when you know better, can promote deeper understanding and better recall, so you are better able to apply your knowledge later on. The phenomenon is known as the derring effect – derived from "deliberate erring" – and when applied astutely, it may bring benefits in many unexpected areas of life.

The discovery joins a small but growing body of literature on the ways that enforced failure can be a fast track to later success. In the late 2000s, for example, a group of researchers in the US asked participants to learn a series of facts from Oliver Sacks's book *An Anthropologist on Mars*. Some of the participants were given a full 10 minutes to read the text; others had to spend the first couple of minutes taking a "pretest" on the knowledge to be learned, before they read the text.

As you would expect, their answers on the pretest were mostly wrong. But the initial errors had somehow primed the participants to remember the correct answers during their subsequent study, boosting their recall on the final test by about

a third, compared with those who hadn't taken the pretest.

Sarah Shi Hui Wong and Stephen Wee Hun Lim at the National University of Singapore have now taken this idea one step further, by asking people to make deliberate errors when they already know the right answer. In one experiment, participants were tasked with learning concepts from a popular textbook on neuroscience. For some terms, they simply copied out the correct definition; for others, they were asked to first insert an error in their description of the term (such as giving the opposite

#### **"This memory boost is far superior to other learning strategies that have previously proven to be effective"**

meaning) before correcting the mistake.

Intuitively, you would expect the insertion of the errors to have added unwanted confusion – the last thing you want right before an exam. Yet the exact opposite was true: the participants who made deliberate errors learned about twice as much as the people who simply copied out the correct definitions.

Subsequent experiments revealed that this memory boost was far superior to that of other learning strategies that have previously proven to be effective. Making up a mistake generated stronger memories than finding a concrete example to accompany each definition, for example. Wong and Lim have also shown that deliberately erring improves knowledge transfer, so that we can apply what we have learned in new and novel situations.

Given these promising results, I couldn't help wondering whether the derring effect could be applied across other disciplines, so I asked Wong for her thoughts. As a pianist and violinist, she is particularly interested to see if it could help music tuition. Not only might the insertion of deliberate errors help a student remember the right sequences, she suspects that such a playful approach could fuel their creativity for improvisation and composition, if the student looks for ways to resolve and develop those wrong notes into something more attractive. "It is empowering to discover that by intentionally embracing our errors and wisely placing ourselves in the way of being wrong, we can in fact overcome weaknesses and rise stronger," she says.

It is easy to imagine how the derring effect could be useful for many other challenges too. If you enjoy cooking, for example, you may religiously follow a recipe without even questioning the reasons for the instructions. But why not try to break away from those habits and deliberately do the "wrong" thing for a change, and see where your deliberate erring takes you? If you are painting, meanwhile, you could relax one of the constraints that you usually put on your work and see what you produce.

At worst, you will have refreshed and deepened your knowledge of the rules you normally apply, so that you can be even more effective next time. At best, you may just find that you have discovered something completely new and unexpected, through a flash of inspiration that you would have missed with perfectionism. Either way, your apparent missteps will have moved you a little closer to true mastery. ■