The best way to become good at something might surprise you - David Epstein — 中英對照學習本

TED-Ed（講解：David Epstein）· 5 分 46 秒

中英對照學習本 · 每段約 100 字 · 段落開頭時間碼可點擊跳轉影片

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Many of you here have probably heard of the 10,000 hours rule. It's the idea that to become great in anything takes 10,000 hours of focused practice. So you'd better get started as early as possible. The poster child for this story is Tiger Woods. His father famously gave him a putter when he was seven months old. Fast forward to the age of 21— he's the greatest golfer in the world. Quintessential 10,000 hours story. Another is that of the three Polgar sisters, whose father decided to teach them chess in a very technical manner from a very early age.

> 在座各位大概不少人都聽過「一萬小時定律」：要在任何一件事上成為頂尖高手，就得投入一萬小時的專注練習，所以你最好越早開始越好。這個說法的典型代表是 Tiger Woods——眾所周知，他父親在他七個月大時就送了他一支推桿。時間快轉到二十一歲，他成了世界上最出色的高爾夫球手，標準得不能再標準的一萬小時故事。另一個例子是 Polgar 三姊妹，她們的父親從很小就決定以非常技術導向的方式教她們下西洋棋。

(adj.) **focused**
專注的；全神貫注的

(n.) **poster child**
典型代表；示範例子

(adj.) **Quintessential**
典型的；最道地的

(adj.) **technical**
技術性的；偏重技巧的

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Two of his daughters went on to become grandmaster chess players I got curious: if this 10,000 hours rule is correct, then we should see that elite athletes get a head start in so-called deliberate practice. And in fact, when scientists study elite athletes, they see that they spend more time in deliberate practice. Not a big surprise. When they actually track athletes over the course of their development, the pattern looks like this: the future elites tend to have what scientists call a sampling period, where they try a variety of physical activities. They gain broad general skills and delay specializing until later than peers who plateau at lower levels.

> 其中兩位女兒後來成為國際西洋棋大師。我就好奇起來了：如果一萬小時定律是對的，那麼頂尖運動員應該會比別人更早開始所謂的刻意練習。事實上，科學家研究頂尖運動員時，確實發現他們花在刻意練習上的時間比較多，這並不令人意外。但當科學家真正長期追蹤運動員的成長過程時，看見的卻是另一回

(adj.) **elite**
頂尖的；精英的

(n.) **a head start**
起步優勢；先發優勢

(n.) **deliberate practice**
刻意練習

(n.) **sampling period**
探索期；廣泛嘗試的階段

(n.) **broad general skills**
廣泛而通用的基礎能力

(v.) **plateau**
停滯不前；不再突破

事：未來的頂尖選手大多會經歷科學家所稱的「探索期」——他們試遍各式各樣的體育活動，先累積廣泛而通用的基礎能力，並且比那些較早定型、停在較低水準的同儕更晚才開始專項訓練。

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That doesn't really comport with the 10,000 hours rule, does it? So I started to wonder about other domains that we associate with obligatory early specialization, like music. Turns out the pattern is often similar. The exceptional musicians didn't start spending more time in deliberate practice than the average musicians until their third instrument. They too tended to have a sampling period. Even musicians we think of as famously precocious, like Yo-Yo Ma. So this got me interested in exploring the developmental backgrounds of people whose work I had long admired. Duke Ellington shunned music lessons as a kid to focus on baseball and painting and drawing.

這跟一萬小時定律其實並不相符，對吧？於是我開始想，其他那些我們覺得「必須從小就專精」的領域會怎樣，例如音樂。結果發現，模式往往很相似：傑出的音樂家要到學第三種樂器之後，花在刻意練習的時間才比一般音樂家多；在那之前，他們同樣有一個探索期。就連那些我們印象中才華早熟的人，像 Yo-Yo Ma，也是如此。這就讓我開始有興趣去探究：那些我長期欽佩的人，是怎樣一路走過來的。Duke Ellington 小時候反而躲開音樂課，把心思放在棒球、繪畫和素描上。

(v.) **comport with**
與……相符；符合

(n.) **domains**
領域；範疇

(n.) **obligatory early specialization**
必須從小就開始的專精訓練

(adj.) **exceptional**
傑出的；出眾的

(adj.) **precocious**
早慧的；過早顯露才能的

(adj.) **developmental**
發展的；成長過程的

(v.) **shunned**
避開；迴避

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Mariam Mirzakhani wasn't interested in math as a girl, dreamed of becoming a novelist, and went on to become the first and so far only woman to win the Fields Medal, the most prestigious prize in the world in math. Vincent van Gogh had five different careers before flaming out spectacularly, and, in his late 20s, picked up a book called "The Guide to the ABCs of Drawing." Claude Shannon was an electrical engineer at the University of Michigan who took a philosophy course just to fulfill a requirement. And in it he learned about a near century-old system of logic by which true and false statements could be coded as ones and zeros and solved like math problems.

Mariam Mirzakhani 當年還是女孩時對數學並不感興趣，她夢想當小說家，後來卻成為第一位、也是到目前為止唯一一位獲得菲爾茲獎（Fields Medal）的女性，那是全世界數學界最負盛名的獎項。Vincent van Gogh 在轟然失敗之前做過五份完全不同的職業，快三十歲時才拿起一本名為《The Guide to the ABCs of Drawing》的書。Claude Shannon 原本是密西根大學的電機工

(adj.) **prestigious**
負盛名的；聲譽崇高的

(v.) **flaming out**
轟然失敗；一敗塗地

(n.) **novelist**
小說家

(v.) **fulfill a requirement**
修滿學分要求；滿足條件

(n.) **system of logic**
邏輯系統

(v.) **coded**
編碼；轉換成代碼

程師，只因為要修滿學分才去選了一門哲學課；就在那門課上，他接觸到一套已有近一百年歷史的邏輯系統，可以把真或假的陳述編碼成一和零，再像解數學題一樣運算求解。

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This led to the development of binary code, which underlies all of our digital computers today. Frances Hesselbein took her first professional job at the age of 54, and went on to become the CEO of the Girl Scouts. Here's an athlete I've followed. He tried some tennis, some skiing, wrestling. His mother was actually a tennis coach, but she declined to coach him because he wouldn't return balls normally. And he kept trying more sports: handball, volleyball, soccer, badminton, skateboarding. So who is this dabbler? This is Roger Federer. Every bit as famous as an adult as Tiger Woods.

這套邏輯後來發展成二進位編碼，是今天所有數位電腦的底層基礎。Frances Hesselbein 五十四歲才拿到人生第一份專業工作，之後卻當上了女童軍會的行政總裁。再講一位我一直留意着的運動員：他試過網球、滑雪和摔角，他母親其實是網球教練，卻拒絕指導他，因為他不肯正常把球打回去。他於是繼續試更多項目：手球、排球、足球、羽毛球、滑板。那這個樣樣都玩一玩的人到底是誰？正是 Roger Federer。他長大成人後的名氣，一點也不比 Tiger Woods 遜色。

(n.) **binary code**
二進位編碼

(v.) **underlies**
構成……的基礎；支撐

(v.) **declined**
拒絕；婉拒

(n.) **dabbler**
樣樣皆玩的人；玩票者

(phr.) **every bit as famous**
一點也不比……遜色

▶ 00:02:50 103 words 6 / 10

And yet even tennis enthusiasts don't usually know anything about his developmental story. Why is that? I think it's partly because the Tiger story is very dramatic, but also because it seems like this tidy narrative that we can extrapolate to anything that we want to be good at in our own lives. But it turns out that in many ways, golf is a uniquely horrible model of almost everything that humans want to learn. Golf is the epitome of what the psychologist Robin Hogarth called a kind learning environment. Next steps and goals are clear; rules that are clear and never change.

然而，即使是網球迷，通常也不大知道他的成長故事。為什麼？我想一部分是因為 Tiger Woods 的故事太戲劇化，另一部分則是因為它聽起來像一個整齊漂亮的說法，可以隨手套用到我們自己人生裡任何想學好的事情上。但事實上，在很多方面，高爾夫恰恰是人類想學的絕大多數東西最糟糕的示範。高爾夫正是心理學家 Robin Hogarth 所說的「友善學習環境」的極致例子：下一步該做什麼、目標在哪裡，都很清楚；規則清楚，而且永不改變。

(n.) **enthusiasts**
愛好者；迷

(adj.) **dramatic**
戲劇化的；引人注目的

(n.) **tidy narrative**
整齊漂亮的說法；順暢的故事

(v.) **extrapolate**
外推；套用推論

(n.) **epitome**
典型；極致的例子

(n.) **kind learning environment**
友善的學習環境

▶ 00:03:20 105 words 7 / 10

When you do something, you get feedback that is quick and accurate. Chess, also a kind learning environment. On the other end of the spectrum are wicked learning environments where next steps and goals may not be clear— rules may change. You may or may not get feedback when you do something, it may be delayed, it may be inaccurate. Which one of these sounds like the world we're increasingly living in? So if hyper-specialization isn't always the trick in a wicked world, what is? That can be difficult to talk about, because sometimes it looks like meandering or zigzagging or keeping a broader view.

> 你做完一個動作，很快就能得到準確的回饋。下西洋棋也是「友善學習環境」。但光譜的另一端是「艱難的學習環境」：下一步和目標未必清楚，規則會變，你做完之後不一定有回饋；就算有，也可能來得很遲，或者不夠準確。聽起來哪一種才像我們正在身處的世界？那麼，在一個越來越艱難的世界裡，如果高度專項化不再是萬靈丹，答案又是什麼？這件事不太好談，因為它看起來往往只是遊蕩、迂迴前行，或者只是把視野拉闊一點而已。

(n.) **feedback**
回饋；意見與評價

(n.) **wicked learning environments**
艱難的學習環境

(n.) **hyper-specialization**
過度專精；極端專項化

(n.) **meandering**
漫無目的遊蕩

(n.) **zigzagging**
迂迴前行；之字形前進

(n.) **a broader view**
更廣闊的視野

▶ 00:03:51 100 words 8 / 10

It can look like getting behind. But if we look at research on technological innovation, it shows that increasingly the most impactful patents are authored by teams that include individuals who have worked across a large number of different technology classes and often merge things from different domains. Someone whose work I've admired, who was sort of on the forefront of this, is a Japanese man named Junpei Yokoi. Yokoi didn't score well in his electronics exams at school, so he had to settle for a low-tier job as a machine maintenance worker at a playing card company in Kyoto.

> 這樣看起來好像落後了。但若看科技創新的研究，會發現越來越多具影響力的專利，是由一些團隊共同署名完成的，而這些團隊裡有些人橫跨過多種不同的技術領域，經常把不同領域的東西融合在一起。我一直很欽佩一位走在這條前沿上的人，他是日本人，叫橫井軍平（Junpei Yokoi）。橫井在學校的電子學考試成績很差，只好到京都一家撲克牌公司，做一份低階的機器維修工作。

(n.) **getting behind**
落後；跟不上

(n.) **technological innovation**
科技創新

(adj.) **impactful**
有深遠影響力的

(v.) **merge**
融合；合併

(phr.) **on the forefront of**
走在……的前沿

(adj.) **low-tier**
低階的；次要的

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He combined some well-known technology from the calculator industry, with some well-known technology from the credit card industry, and made handheld games. And it turned this playing card company, which was founded in a wooden storefront in the 19th century, into a toy and

(n.) **magnum opus**
代表作；傑作

(v.) **incentivize**
激勵；給予獎勵

(n.) **ways to succeed**
成功的方法

game operation. You may have heard of it, it's called Nintendo. His magnum opus was the Game Boy. We probably don't make as many of those people as we could, because we don't tend to incentivize anything that doesn't look like a head start or specialization. And naturally, I think there are as many ways to succeed as there are people, but I think we tend only to incentivize and encourage the Tiger path, when increasingly, in a wicked world, we need people who travel the Roger path as well.

> 他把計算機產業裡幾項早就成熟的技術，連同信用卡產業裡同樣知名的技術結合在一起，做出了掌上遊戲機。就這樣，這家在十九世紀以一間木造店面創立的小撲克牌公司，變成了玩具與遊戲的生意。你可能聽過它，它叫 Nintendo。他的傑作是 Game Boy。我們其實沒能培養出足夠多這樣的人才，因為我們向來只願意獎勵那些看起來像「贏在起跑點」或「走專精路線」的做法。自然，成功的方法有多少種，就有多少種人；但我覺得我們只懂得獎勵和鼓勵 Tiger 那一條路，而在越來越艱難的世界裡，我們也需要有人走 Roger 那一條路。

(n.) **operation**
業務；生意

(v.) **founded**
創立；創辦

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Or as the eminent physicist and mathematician and writer Freeman Dyson put it: "For a healthy ecosystem, we need both birds and frogs. Frogs are down in the mud seeing all the granular details. The birds are soaring up above, not seeing those details, but integrating the knowledge of the frogs." And we need both. The problem, Dyson said, is that we're telling everyone to become frogs. And I think in a wicked world, that's increasingly shortsighted.

> 或者用傑出的物理學家、數學家兼作家 Freeman Dyson 的說法：「一個健康的生態系統，鳥和青蛙兩者都需要。青蛙伏在泥裡，看得見所有瑣碎的細節；鳥兒在高空翱翔，看不見那些細節，卻能把青蛙的知識整合起來。」而我們兩種都需要。Dyson 說，問題在於我們正在叫每一個人都去做青蛙。我覺得在一個艱難的世界裡，這樣做越來越短視了。

(adj.) **eminent**
傑出的；德高望重的

(n.) **healthy ecosystem**
健康的生態系統

(adj.) **granular**
細碎的；瑣碎的

(v.) **soaring**
翱翔；高高飛起

(v.) **integrating**
整合；融會貫通

(adj.) **shortsighted**
短視的；只看眼前的