

# The Art Of Possibility

*Part One*

## *Making Sense Of Talent In Music Teaching And Learning*

*By Steven Brundage*

Editor's Note: This is the first of a two-part series examining the talent versus expert skill debate.

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In 2010, 30-year-old Dan McLaughlin decided to quit his job as a commercial photographer and become a professional golfer. Though at the time he had little experience playing golf, McLaughlin planned to accumulate 10,000 hours of deliberate practice, eventually win amateur events and someday join the PGA tour.

To develop his skill, McLaughlin created *The Dan Plan*, a methodical regimen of 30-plus hours of weekly practice with professional golf instructors, strength trainers, a chiropractor and a “goal guru.” McLaughlin documents his progress on his website, [thedanplan.com](http://thedanplan.com), recording putting averages, driving accuracy, number of

greens in regulation, recovery performance and scores.

For the first five months, he practiced with only a putter, systematically working further and further away from the hole. Eventually, he began practicing with a wedge and irons. After 12 months, McLaughlin had his first full-swing lesson and by 18 months he began practicing with a driver. By November of 2011, after nearly two years of practice, he finally played his first full game of golf.<sup>1</sup>

As of May 2014, McLaughlin had reached 5,000 hours of practice, but more importantly, his handicap, a measurement of the number of strokes played over par, was down to three, a respectable achievement for any ama-

teur golfer and close to the maximum allowed to compete in the annual PGA tour qualifying event.

McLaughlin realizes he may never reach the PGA tour, but he says *The Dan Plan* is about more than challenging the 10,000-hour rule or becoming a professional golfer, “It’s about inspiring others to start exploring the possibilities life affords them. [And] if it inspires even one person to quit their day job and find happiness in their own plan, then *The Dan Plan* [has been] a success.”<sup>2</sup>

The *Dan Plan* has been featured by CNN, *Golf Digest*, BBC, the PGA Tour Network, ABC *Nightline*, CBS *News This Morning*, Bloomberg *Businessweek*, *Psychology Today*, *Sports Illustrated* and many others, gathering a devoted following of supporters and naysayers alike, everyone watching as the clock ticks closer to 10,000 hours.

*The Dan Plan* raises important questions about talent and expert skill development, such as what role innate giftedness plays in the development of expert skill? Can hours and hours of deliberate practice develop expert skill? And, is talent a defunct concept?

As musicians, our views on talent and expert skill development greatly impact our methodology as teachers and learners. Some believe greatness is destined from birth, held fast by fate and undeterred by circumstance. Others argue that elite skill is developed from hours and hours of deliberate practice. Many consider it the combinatorial result of innate giftedness, deliberate practice, extraordinary opportunity and master coaching.

This article seeks to make sense of talent in music teaching and learning by exploring the latest neuroscience research, examining current and historical monographic and periodic resources and investigating stories of child prodigies and late bloomers throughout history.

Certainly, no one has settled the talent debate nor completely solved the expert skill equation. If they had, there would be greatness emerging from every corner of the globe. But the proliferation of modern research provides a deeper understanding of the science of success, leaving many experts wondering if greatness is the result of unique genetics or unique upbringings, what value there is to the “10,000-Hour Rule,” why we equate genius with precocity, what role innate intelligence plays in the development of expert skill, and ultimately, what is the real key to success?

### The 10,000-Hour Rule

*The theoretical framework presented in this [research] explains expert performance as the end result of individuals’ prolonged efforts to improve performance while negotiating motivational and external constraints. In most domains of expertise, individuals begin in their childhood a regimen of effortful activities (deliberate practice) designed to optimize improvement. Individual differences, even among elite performers, are closely related to assessed amounts of deliberate practice. Many characteristics once believed to reflect innate talent are*

*actually the result of intense practice extended for a minimum of 10 years or 10,000 hours.*<sup>3</sup>

—K. Anders Ericsson, Florida State University Psychologist

In the early 1990s, Florida State University professor and psychologist K. Anders Ericsson conducted what has perhaps become the most influential research on expert skill development in the last quarter-century. Ericsson and his colleagues studied violinists at the Berlin Academy of Music in Germany, seeking to better understand what factors distinguish elite performers from those who are average.

They began by placing violinists from the academy into one of three categories: future professional soloists, future orchestral players and future music teachers. Next, they conducted interviews with the violinists to ascertain biographical information like when they began music studies, when they decided to become professional musicians, their average number of teachers and the approximate number of hours practiced throughout their lifetime.

Ericsson’s research concluded that the majority of violinists in the study had rather similar backgrounds. The average beginning age of music study was 8, the average age at which the violinists decided to become professionals was 14, and the average number of music teachers with whom the violinists had studied throughout their student-career was 4.

There was only one conspicuous correlation among the violinists and their level of achievement. It was number of hours practiced. Ericsson and his colleagues found that by age 20, violinists in the future music-teachers category had only practiced on average 4,000 hours, future orchestral players had practiced on average 8,000 hours, and future international soloists had practiced on average 10,000 hours or 10 years.

# “The elite musicians practiced deliberately, not carelessly.”

Intrigued by the results, Ericsson and his colleagues decided to test their theory with amateur and professional pianists. Similarly, the study found that amateur pianists had practiced on average 2,000 hours by age 20 and the professional pianists, like the elite violinists from the Berlin Academy of Music, had accumulated on average 10,000 hours by the same age.

Among the elite musicians in this research, Ericsson found another pattern—their practice was more qualitative than quantitative in measurement. The elite musicians practiced deliberately, not carelessly. And this made them elite. Ericsson said, “When most people practice, they focus on the things they already know how to do. Deliberate practice is different. It entails considerable, specific and

sustained efforts to do something you can’t do well—or even at all. Research across domains shows that it is only by working at what you can’t do that you turn into the expert you want to become.”<sup>4</sup>

In 1993, Ericsson published his research in the *Psychological Review*, titled, “The Role of Deliberate Practice in the Acquisition of Expert Performance,” and in 2008 it became

famous as the “10,000-hour rule” when author, Malcolm Gladwell, featured it in his *New York Times* bestselling book, *Outliers: The Story of Success*.

## The Great Debate

*The “10,000-hour rule”—that this level of practice holds the secret to great success in any field—has become sacrosanct gospel, echoed on websites and recited as litany in high-performance workshops. The problem: it’s only half true. If you are a duffer at golf, say, and make the same mistakes every time you try a certain swing or putt, 10,000 hours of practicing that error will not improve your game. You’ll still be a duffer, albeit an older one.*<sup>5</sup>

—Daniel Goleman, *Focus: The Hidden Driver of Excellence*

Since *Outliers*, the 10,000-hour rule has become a polarizing force in neuroscience and psychological research, creating a veritable firestorm of constructive and, at times, contentious debate among experts, while creating a hot-button niche within journalism. Many have criticized Gladwell’s theory for being simplistic, void of other potential influences on the development of expert skill such as natural talent, opportunity and coaching.

The talent debate, however, stretches back more than two millennia. Around 380 BC, the Greek philosopher Plato wrote in his epic Socratic dialogue *Republic*, that he believed giftedness was imbued from birth.

In the 17th century, English philosopher John Locke proposed the important idea of *tabula rasa*, meaning “blank slate.” In his book, *An Essay Concerning Human Understanding*, Locke suggested that individuals develop behavioral traits according to nurturing or environmental influences, however, most modern psychologists disregard this viewpoint as being single-sided, asserting that both genetic determinism and environmentalism influence development interactively.<sup>6</sup>

Two centuries later, English polymath Sir Francis Galton conceived the now common notion of “nature versus nurture” in his 1869 book, *Hereditary Genius*, the first attempt to conduct social scientific research into the origins of genius. Galton’s concept compared the significance of innate qualities to personal experiences, but many have critiqued the view for its binary simplification and voidance of potentially combinatorial factors.<sup>7</sup>

In 1971, psychologists Herbert Simon and William Chase published a study on the development of expertise in the *American Scientist*, saying:

There are no instant experts in chess—certainly no instant masters or grandmasters. There appears not to be on record any case (including Bobby Fischer) where a person reached grandmaster level with less than about a decade’s intense preoccupation with the game. We would estimate, very roughly, that a master has spent perhaps 10,000 to 50,000 hours staring at chess positions.<sup>8</sup>

Recently, in the wake of Gladwell’s book, *Outliers*, *New York Times* best-selling author Daniel Coyle suggests a combinatorial equation for achieving expert skill in his highly acclaimed 2010 book, *The Talent Code*. Coyle says expert skill is the result of “deep practice, ignition [motivation], and master coaching.” He explains that “deep” practice (focused practice) produces within the brain a microscopic neural substance called myelin, adding speed and accuracy to thoughts and movement, the very essence of skill development.

Coyle adds that “ignition” (motivation) provides the necessary impetus for the lengthy, sustained hours of practice, necessary to the development of skill. “Ignition,” Coyle says, is derived from primal cues of belonging and deficiency, whereby individuals work to fulfill needs. He uses the example of a young baseball player who, upon observing older and more capable players, identifies his need for improvement and thinks, “better get busy,” thus lighting the fire of intrinsic motivation.

Again in 2010, Olympian and journalist Matthew Syed offered further evidence for the practice theory of expert skill development in his book, *Bounce: Mozart, Federer, Picasso, Beckham, and the Science of Success*.

Syed investigated stories of great performers throughout history whose skill seemingly defied belief, yet upon further examination, it is revealed that they were in fact shining examples of the 10,000-hour rule of expert skill development.

Syed notes that Wolfgang Amadeus Mozart likely accumulated 4,000 hours of practice by his 6th birthday and that his childhood was full of extraordinary opportunities for training with one the greatest pedagogues alive, his father, Leopold. Similar stories of expert skill development include that of golfing legend Tiger Woods,<sup>9</sup> soccer sensation David Beckham,<sup>10</sup> tennis stars Venus and Serena Williams, chess player Bobby Fischer,<sup>11</sup> novelist and poet Charlotte Brontë,<sup>12</sup> painter Pablo Picasso<sup>13</sup> and the famed Italian artist Michelangelo.<sup>14</sup>

Syed says these individuals did not simply stumble upon greatness; rather they worked very diligently and methodically for it. Syed concludes, “The talent theory of expertise is not merely flawed in theory; it is insidious in practice, robbing individuals and institutions of the motivation to change themselves and society.”<sup>15</sup> ☞

#### Notes

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