



Expert Performance:

Apologies to Dr. Ericsson, But it is Not 10,000 Hours of Deliberate Practice

By Aubrey C. Daniels

Dr. Anders Ericsson's research on expertise has finally received some good attention in Malcolm Gladwell's book, *Outliers* and Geoff Colvin's book, *Talent Is Overrated*. These books place a new emphasis on behavior and designing in deliberate practice to get to extraordinary performance. Ericsson (1990)¹ says that it takes 10,000 hours (20 hours for 50 weeks a year for ten years = 10,000) of deliberate practice to become an expert in almost anything.

...It is the conditions that surround both ["deliberate" and "practice"] that provide the real boost for turning average performers into world class performers.

– Aubrey Daniels

I appreciate the emphasis that Dr. Ericsson's research has brought to the importance of experience in the development of expertise as opposed to some innate intelligence or talent that is often assumed to be beyond 'training'. In fact, however, it cannot be hours or years of practice that makes the difference.

Practice, yes; hours of practice, no. While there is a high correlation between hours of practice and activity during practice, it is not perfect. While some readers may consider this a trivial point, I think it is an important one. The two words 'deliberate' and "practice" are in fact essential, but it is the conditions that surround both of these words that provide the real boost for turning average performers into world class performers. The current infatuation with 10,000 hours is no guarantee of world-class expertise.

There are a great many factors involved in skill acquisition. For a simple example, consider the activity of two basketball players practicing free throws for one hour. Player A shoots 200 practice shots, Player B shoots 50. The Player B retrieves his own shots, dribbles leisurely and takes several breaks to talk to friends. Player A has a colleague who retrieves the ball after each attempt. The colleague keeps a record of shots made. If the shot is missed the colleague records whether the miss was short, long, left or right and the shooter reviews the results after every 10 minutes of practice. To characterize their hour of practice as equal would hardly be accurate. Assuming this is typical of their practice routine and they are equally skilled at the start, which would you predict would be the better shooter after only 100 hours of practice?

When you understand the behavioral concept of shaping, you know that no habits or skills can be developed without many repetitions of the behavior or behaviors that make



up that habit or skill. In addition and most critically, the behavior that you want to occur again, must be positively reinforced during the building of habits. Repetition alone, outside of a deliberate plan by which consequences are applied, is not sufficient. It is the conditions that surround that repetitive practice that will begin to answer the question of how long it takes to get to habit strength.

I have heard several people in the behavior-based safety arena say things like, "Do something 30 times and it is yours." They mean that it takes only 30 repetitions to develop a safe behavior as habit. I'm sorry but 30 repetitions do not create a habit. Not even close. Ten times that number is closer, but with some skills, it is much more. Most coaches know that in order to develop athletic skill it is repetitions, or "reps" are important. Few seem to know just how many are required.

Christina (1990)² in a study on improving the skills of a defensive back in football showed an improvement in accuracy of responding to offensive sets from 25 to 95% but their training involved 640 trials! In a study at ADI in training customer service reps, training time was reduced from 44 days to 29 days and on the job training was reduced from 26

weeks to 3 weeks. Trainees were outperforming seasoned employees by week two of the training. The difference was that in the prior training students had about 50 problems to solve. We developed over 800.

To reiterate, it is not the repetitions alone that make the difference. I have known rabid golfers who have practiced for over 30 years, and they are no better today than they were 30 years ago. All that practice did not lead to anything even close to expert status. What is important is the feedback and the reinforcement for improvement associated with the repetitions that make the difference. Under these conditions students become addicted to information that helps them improve.

I have heard many times that a given performer needs more time in a job before he/she will be ready for a promotion. It is not time; it is not experience. Benjamin Franklin said: "Experience is a dear school and fools will learn in no other." It is a special kind of experience that is important. What we know is

that it requires lots of repetitions where correct behaviors are specified, where information on results are readily available and where small improvements are positively reinforced.

Business has to get away from time-based performance criteria and begin to focus on rate and accuracy of behavior as the criteria for workplace recognition and reward. Thousands of studies have demonstrated the superiority of ratio-based performance schedules of reinforcement over time-based schedules. In spite of what is known about how to accelerate performance, business, industry and government continue to pay for time, not performance. I am confident that world economic conditions will ultimately force a change from paying for time to paying for performance. The bottom-line difference is too great to be ignored. Whether in training or in daily work activity, it is performance not time that should be reinforced, recognized and rewarded.

I was talking to an old fella once and I told him I was going to do a particular thing I had always wanted to do when I got the time. He responded, "Son, you got all the time there is. There ain't no more." It is not the time, but what you do with it that counts.

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REFERENCES

¹Ericsson, K.A., Krampe, R.Th. and Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, pp393-394.

²Christina, R.W., Barresi, J.V., & Shaffner, P. (1990). The development of response selection accuracy in a football linebacker using video training. *The Sport Psychologist*, 4, 11-17.



[About the Author]

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Aubrey is a thought leader and expert on management, leadership, safety and workplace issues. For the past 40 years, he has been dedicated to helping people and organizations apply the laws of human behavior to optimize performance. Aubrey is the author of *Bringing Out the Best in People*, *Oops! 13 Management Practices That Waste Time and Money (and what to do instead)*, *Safe by Accident? Leadership Practices that Build a Sustainable Safety Culture* and three other business books. When Aubrey is not working on changing the way the world works, he enjoys golf and spending time with his family.

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Regardless of your industry or expertise, one thing remains constant: People power your business. Since 1978 Aubrey Daniels International (ADI) has been dedicated to accelerating the business and safety performance of companies worldwide by using positive, practical approaches grounded in the science of behavior and engineered to ensure long-term sustainability. ADI provides clients with the tools and methodologies to help move people toward positive, results-driven accomplishments. Our clients accelerate strategy execution while fostering employee engagement and positive accountability at all levels of their organization.

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