

# Achieving EXPERTISE

By Alexis Artwohl, Ph.D.

Who doesn't want to be an expert, someone who is tops in their field? Of course, many people think they are experts when they are not. Egocentric bias leads many of us to the delusion that we are better than we actually are. Denial can allow us to avoid facing the difficulties of the task or our own failures. The shelves are full of self-help books that claim they can turn you into a superhuman brimming with self-esteem if you just follow their program. Many of them have little basis in reality and appeal to our desire to become great without a whole lot of work. On the other hand, we can also do a whole lot of work trying to become great and fail because we're going at it the wrong way. That's why keeping on top of the latest research in achieving expertise is important. For instance, many committed athletes train as hard as they can so they can become winning competitors. However, research shows this can lead them to train too much, which will actually slow down their progress. So it's not enough to just train hard; you have to train smart, and you should be basing your training strategies on what research has shown actually works.

The information in this article is based on research done by Dr. Gary Klein, who has

studied decision-making under stress. It also looks at the work of Ericsson, Prietula and Cokely on what makes someone an expert. I will outline general principles they found to be influential in defining and achieving expertise. Different types of activities will obviously have somewhat different requirements so it will behoove you to seek out information specific to whatever skill you are trying to acquire. However, these general principles can be a good guide to get you started.

## What is expertise?

The first step is to figure out exactly what constitutes expertise for a given task. This can be trickier than it might appear. Klein decided to study firefighters because they demonstrated expertise in being able to make quick, mostly right decisions when faced with rapidly evolving crises. In his book about this research, entitled "Sources of Power," he states, "I'm still amazed at how poorly I designed this study of decision-making." He went in with his own bias about how the firefighters might be doing this, and got frustrated with the reality that the firefighters weren't doing what he expected. And that's what research is all about: testing a hypothesis, readily accept-

ing the results when our (not so) brilliant idea is proven wrong, then continuing on with the search for what's really going on.

Dr. Klein found that the firefighters were doing a different kind of decision-making which he called "recognition-primed" or "intuitive" decision-making. This is a subconscious form of decision-making that people do frequently, often without realizing it. In particular, it is the default option in situations that are time-pressured, dynamic and involve high stakes, inadequate information, unclear goals, poorly defined

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procedures, and require instant pattern recognition, which pretty much defines most emergency services work. Sure, there are procedures and protocols, but the world's biggest manual can't prepare you for every nutty thing that can happen out there, so your mind and body have to be ready to instantly adapt to rapidly evolving circumstances where the exact final outcome remains unknown right up to the end.

Klein found that expert intuitive decision-makers in dynamic situations were able to quickly size up situations with less effort, recognize problems more quickly, have a good sense of what will happen next (this ability to anticipate is critical to staying ahead of the curve and being able to rapidly and correctly respond), avoid getting overloaded with irrelevant data, feel more confident that their first choice is a good one, be calm in the face of pressure and uncertainty, and be ready to improvise, adapt and overcome when plan A has failed.

Ericsson et. al. observed that individual accounts of expertise are unreliable (there's that egocentric bias), and many people are wrongly believed to be experts (all those snow jobs from the self-help "experts" and others who brag about their dubious knowledge and skills). So it's a good idea to always be skeptical about claims of expertise. How can you judge if you or others have actually achieved expertise? They have three recommendations. True expertise 1) must lead to consistently superior results,

2) produces concrete results that can be replicated and measured. Some activities like competitive sports have these readily built in. The better athletes and teams consistently win over and over again, period. Some other activities unfortunately do not, so it can be difficult to define who is actually a genuine expert. Ericsson et. al. point out that simulations during training can be

helpful in predicting success in the field. Well-done scenario training for emergency services personnel can be used to help measure expertise as well as hone it. Situations that don't encourage or even refuse to allow appropriate and valid measurements of expertise do nothing to advance skill development for organizations or individuals. Then there's the whole question of once



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you have defined expertise, how can it be rewarded to encourage better performances for all? Well, that's a whole can of worms far beyond the scope of this article!

Expertise is always evolving as tasks and demands evolve. Any measurement of expertise must be constantly adjusted to the newest demands of the task. Without keeping a sharp eye on how those demands are evolving, we run the risk of resting on our laurels and devolving from an expert into an also-ran or even a loser. History is full of such examples.

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### Achieving expertise

Not surprisingly, Ericsson et. al. found that there's no getting around the fundamental fact that achieving expertise is hard work. In fact, it takes about ten years of hard work to become a highly accomplished, true expert. These true experts are the ten percent of the “stars” in organizations who do exceptionally well in whatever their job demands are. Of course, everyone else will often think they are “experts” too, but some of them are kidding themselves and sometimes others. The relative contribution of inborn talent to achieving expertise remains controversial and probably depends on the task and the individual. However, even the most talented person on the planet still will not achieve real expertise without putting in the hard work to get there. Experts are made, not born.

In addition to committing to the extensive time and work required to become an expert, here are the main strategies that Ericsson et. al. found that allow people to achieve expertise:

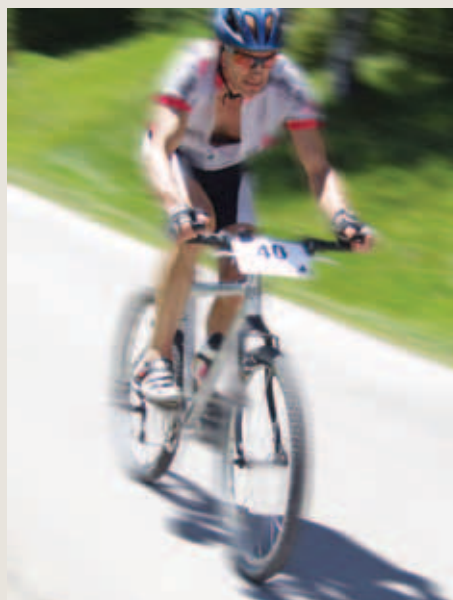
1. *Deliberate, focused practice.* Simply practicing, as in doing something over and over, is not enough. In order to advance your skill level you need to be consciously focusing on what you can't do (or can't do well) and figure out how to do it better. If you want expert performance you need to

be doing expert practice. Just a few repetitions of doing a skill extremely well will yield better results than a hundred repetitions of sloppy practice. Quality trumps quantity. Many expert skills are perishable so once you have achieved expertise you need to do high-quality practice to maintain them.

2. *Your training program must be thoughtful and analytical.* In other words, be smart and rational about it. Study the research, think about how the different components of your expertise can be advanced, measure the performance of trainees and instructors, ditch training strategies that are not working, etc. In a sudden, high stress situation you may not have time to think. But you better be thinking during the training process.

3. *Training should involve high levels of mental and emotional concentration.* Mindlessly going through the motions will get you nowhere fast. We've all seen trainees who show up but their minds are elsewhere. Their skill level will go elsewhere as well.

4. *Coaching, coaching, coaching.* You must be willing to subject yourself to intense scrutiny and feedback. Of course, some coaches are better than others. Find the best coach that you can and ask for total honesty. It should not be abusive but it does need to be the truth. Coaching should not end when formal training is over. Give each other permission to coach among yourselves.





In addition to getting coaching from others you want to learn how to self-coach. This means minimizing self-deception, reigning in egocentric bias and committing to changing behaviors.

5. *The answer is not just a better tool, and data is not knowledge.* Fancier tools and more data are nice, but if you don't have the expertise to put them to good use they aren't worth much.

I once had an officer tell me a story of one of his colleagues who was found shot to death on duty with his unfired gun still in his holster. No one saw what happened but multiple witnesses reported hearing a few rapid shots, a long pause, then one final shot. The officer said that about six months prior to this tragic event the agency had ordered all officers to switch to the latest safety holster, one which required a slightly different action than the old one for the user to unholster the weapon. Many of the officers did not want to switch because they were comfortable with the old safety holster that they had been practicing with for years. But they were given some training, told to practice, and ordered to switch anyway. The officer wondered if, under sudden stress, the murdered veteran officer had reverted to the old unholstering behavior he had practiced for years, resulting in him not getting his pistol out quickly enough to defend himself. In essence, the "new tool" may have actually robbed him of well-practiced expertise with the old tool. No will ever know for sure, but based on principles of learning that have been studied and well-known for many years, it's possible.

When considering switching to new tools, procedures, etc., it's important to do careful, expert analysis of the big picture, weigh the cost-benefit ratio and thoughtfully consider the "law of unintended consequences." Over-reliance on fancy new tools can also lead to false confidence without the expertise to back it up. Data can be similarly misused when not analyzed in context or is assumed to be true without real scientific proof that it is. Data is great, but it's only useful if it leads to knowledge and wisdom.

6. *Intuition is not the answer.* Informed intuition is gained through deliberate practice, reflection and analysis. Some people think intuition automatically has some mystical ability to be the right choice, but they are wrong. Without the knowledge and experience to inform it, intuition can be just as wrong as any other kind of decision-making.

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### **Intuitive decision-making expertise**

Speaking of intuition, Klein analyzed the strategies that can help aspiring experts develop and hone their intuitive decision-making skills. Not surprisingly, they are similar to what Ericsson et. al. found:

1. Identify and understand the decision requirements of your job. The kind of decision-making strategies used by detectives trying to solve a complex case will be somewhat different than a patrol officer suddenly facing an armed suspect in a dark alley.

2. Practice your decision-making in context. Klein calls these DMX, or Decision-Making Exercises. Others call them scenario training. This allows you to practice your skills as well as measure how effectively you are doing them. Scenario training is not just for physical skills. It can apply to any situation where you have to make some kind of decision and demonstrate expertise, be it a use-of-force scenario, dealing with a difficult employee, or solving a complex and puzzling case. Scenario training should be as realistic as possible, simulating all the physical, mental, emotional, environmental and stress-inducing demands of the task as closely as feasible.

3. Review your decision-making effectiveness (self-coaching). Having a valid measurement of effectiveness is obviously important.

4. Get feedback — coaching, coaching, coaching!

5. Actively interpret this feedback for yourself (thoughtful analysis and more self-coaching).

6. Repetitions. Experts are made, not born. There's no getting around putting in the time and effort to get there.

### **Some final thoughts**

Regardless of the skill you are trying to acquire, be it high-risk search warrants, supervising others, or being a better spouse and parent, the guidelines above will go far toward helping you achieve the expertise you want to have. I think it's important to point out that you don't have to be an expert at everything you do. Some self-help gurus preach that you have to strive for excellence in all you do. I think that's silly. In fact, I find the mere thought of that exhausting. There are lots of things in life where "mediocre" is good enough. I'm perfectly happy to be a mediocre cook, be mediocre in my recreational sports, let the windows get dusty and smudgy, and get in and out of grocery store as quickly as possible without getting the best bargains. I just don't care about being an expert in those and lots of other things. We all have limited time and energy so we want to focus our efforts on achieving true expertise in those things that really count or are individually important to us. «

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