What is Expertise and How Can You Develop it?

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https://www.globalcognition.org/what-is-expertise/

Everybody’s an expert these days. Pest Control Expert, Plumbing Expert, Weather Expert, and so on.

But what is expertise, really?

A common conception is that experts know more and perform better than those around them.

From this standpoint, expertise refers to the knowledge and skills that distinguish top performers from novices and less proficient people.

There is a sense in which expertise is relative. That’s the key idea that makes the movie Idiocracy so entertaining. In it, an ordinary Joe who is completely average on every measurable dimension is transported to a future where humanity has devolved to the lowest common denominator. Suddenly Joe is the resident expert on everything.

One convenient indicator often used in cognitive field research to decide whether someone is an expert is whether or not other people in their area say they are one.

Other quick and easy signs are: ‘has a lot of knowledge and experience,’ ‘has an advanced degree or certification,’ ‘is always (or almost always) right,’ and ‘can solve very difficult problems.’

These indicators hold up reasonably well in applied studies. However, researchers continue exploring the nature of expertise to unpack it further. An important result of these studies is that there are different kinds of expertise. And this has implications for how to go about building it.

Two Kinds of Expertise

K. Anders Ericsson and Giyoo Hatano are two scientists who study expertise. Their research has led them in slightly diverging directions. As a result, they also give different advice about how you would go about building expertise.

Ericsson is a well-known cognitive psychologist who has studied learning and expertise for decades. His definition focuses on consistency.

In a discussion of the Superior Performance of Experts in Current Directions in Psychological Science, Ericsson and Ward define expertise as the thinking and qualities that lead to consistently superior performance.

This is very much in line with our definition above.
Hatano and Inagaki expanded on this notion of expertise in their studies. These researchers noticed that there seemed to be two kinds of expertise.

First, they described one form of expertise in much the same way as Ericsson and others. They called this routine expertise. The routine experts could consistently solve the problems, but relied on routine procedures they had used many times before.

However, they also found that in groups of recognized experts, some appeared to be even more expert than others.

They discovered that what set these ‘experts among the experts’ apart was their ability to not just solve problems, but solve them in new ways by inventing new procedures and strategies. Hatano and Inagaki called what these experts had adaptive expertise.

According to Hatano you know you have adaptive expertise when you can perform with understanding. You know you have understanding if you can do the following:

- you can explain why certain strategies or procedures work and others don’t
- you can distinguish between appropriate and inappropriate ways to modify strategies
- you can change your strategies in response to changes in the environment

**How do You Get Expertise?**

The two different ways of thinking about expertise lead to different ideas about how to go about building it.

*Practice, Seek Feedback, Analyze*

Thinking about expertise as consistently superior performance has led Ericsson to recommend a training regimen that includes lots and lots of repetitions of tasks and activities. According to Ericsson, you can build expertise through:

- Practice: Your goal when practicing should be to concentrate deeply and perform just a little bit better than last time
- Feedback: When you complete a task or problem, seek feedback about the accuracy.
- Analysis: When you’re not practicing, study past moves or solutions—your own or those of accomplished experts

Following this recipe you should gradually (over the course of 10,000 hours) get to the point where you can perform the skill at a superior level consistently.

*Practice, Explain, Modify*

Hatano and Inagaki recommend a similar approach (lots of practice) but with important modifications.
Practice: Your objective when practicing skills should be to discover what happens when you apply a variety of strategies.

Explain: Each time you apply a strategy and observe an outcome you should try to explain why it worked, or didn’t.

Modify: When practicing the skill again, either change some aspect of the task or problem or your strategy for approaching it.

The key to Hatano’s approach to building expertise is that you continue to seek out new problems that challenge your current state of skills and knowledge.

**Pick Your Poison, I Mean, Practice**

Ericsson’s ideas about how to build expertise seem appropriate for building what Hatano calls *routine expertise*. Especially if you’re trying to build expertise in physical skills, like tennis or ballet, or areas with manageable problem spaces, like chess.

In many domains the problem spaces are much more open and dynamically changing. New diseases, new economic crises, new weather patterns are constantly emerging. To tackle these kinds of problems you need adaptive expertise.

Even though Ericsson and Hatano agree that lots and lots of practice is needed they have different ideas about how you should practice. Both approaches seem like they would help you get better at whatever it is you’re practicing. But, before you start solving endless numbers of calculus problems or examining unending arrays of chest x-rays, you may want to think about what kind of expertise you’re hoping to develop. That way you can adopt a practice strategy that will help you get there.

**References**