Between 1 and 10,000

It's curious: On the one hand, cognitive theorists suggest that 10,000 hours of deliberate practice may be needed to achieve mastery in a range of performance realms; on the other, the traditional apprentice approach to teaching medical practice—especially bedside procedures—is encapsulated in six little words: "see one, do one, teach one.

How can there be such a wide range? Which is true? Which is best for learning particular skills? And how could these broad guidelines apply to learning communication skills?

Thank you for joining this exploration of some of the nuances, caveats and remaining unexplored questions to each approach. We welcome your thoughts and comments on our LinkedIn page.

Warmly,

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"See one, do one, teach one"

This time-honored approach to teaching medical procedures emphasizes the value for physicians-in-training of seeing real-life examples of medical care, in all its complexities. Assuming the mentor is skilled at doing and at explaining, trainees can gain early appreciation for the multifaceted demands they will need to meet. Teaching a skill to someone else can be a powerful tool for consolidating one's own skill and confidence.

Certainly, the order of "see one, do one, teach one" is correct, but... one? In an emergency, there may be no other option than to be treated by someone who has minimal experience; given a choice, however, it is hard to imagine scenarios where that would be acceptable to patients or to clinicians.

The patient safety issues of "see one, do one, teach one" are real. (1) The notion that actual patients, especially those with few options for care, may serve as guinea pigs for clinicians-in-training is no longer generally acceptable. Medical education is turning increasingly to a variety of simulation learning experiences, reserving actual patient care for trainees who have demonstrated mastery of basic skills. Simulation technologies now permit a revised adage, "see one, practice safely, do one, teach one" for many different medical procedures. (2)

Some skills are easy to acquire, others are difficult, and learners vary with respect to their pace of learning different skills. For this reason, it is critical to be able to define mastery, measure it and deconstruct its subcomponents for any given complex skill so that expert teachers and observers can provide meaningful guidance to learners.

Seeing an experienced practitioner provide medical care is good as far as it goes, but a far more powerful learning experience comes from seeing and reflecting on what one is seeing, and discussing one's reflections with a skilled mentor. We hope that the clinicians involved in training other clinicians not only model exemplary skills but are also skilled at explaining what they are doing and why. Explaining,
reflecting and talking are time-consuming and expensive and thus, subject to intense pressures from organizations seeking to stay afloat financially in these times of constantly-eroding healthcare reimbursements. Learners tell us that **IHC programs provide uniquely valuable opportunities to practice and reflect, under the guidance of expert teachers.**

A possible hazard of the "see one, do one, teach one" approach is that clinicians-in-training will observe experienced but unevenly skilled practitioners, thereby learning and reinforcing bad habits. IHC course leaders **model effective communication skills**—another teaching tool that supports learners in their practice and in future training they may do.

**Becoming expert**

Psychologist K. Anders Ericsson first published his observation that a distinguishing feature of experts versus novices is an average 10,000 hours of deliberate practice. His observation held up across a number of domains involving complex skills. This idea, codified into an informal "rule," was popularized by Malcolm Gladwell in his book, *Outliers*. This rule has been applied to learning musical instruments, sports, chess, aviation and many other skills; it has also been widely debunked.

Revisiting the "10,000 hour rule," Ericsson is quoted saying, "You don't get benefits from mechanical repetition, but by adjusting your execution over and over to get closer to your goal. You have to tweak the system by pushing," he adds, "allowing for more errors at first as you increase your limits." As Maria Popova comments in her review of Daniel Goleman's book, *Focus*:

> The secret to continued improvement, it turns out, isn't the amount of time invested but the quality of that time. ... Goleman identifies a second necessary element: a feedback loop that allows you to spot errors as they occur and correct them, much like ballet dancers use mirrors during practice." (3)

More recent research suggests the amount of time devoted to deliberate practice that yields mastery varies with the domain. Clearly, there are many complexities and variables not well accounted for in the single figure of 10,000 hours.

**Feedback is key**

An essential educational tool is feedback. It plays a role in formal and informal learning, across all domains. It is different from advice, praise, criticism or evaluation. (4) It is, in essence, information. To be optimally effective, feedback should be:

- Descriptive
- Timely
- Specific
- Focused on the behavior, not the person
- Actionable

The way feedback is delivered is important, too, as is the **interpersonal climate** in which it is delivered. (5), (6) Properly done, feedback is **supportive and constructive**. As participants in IHC workshops can attest, all IHC programs include careful attention to an established process for sharing feedback. An important prelude to feedback sessions that are part of all IHC training programs is having each learner articulate his or her **goals**. The range of behaviors for which feedback is useful is vast. For example, a clinician may wish to work on seizing more opportunities to express empathy; a participant in a train-the-trainer faculty course may want to banish "ums" from a presentation; or a healthcare team may want to explore the benefits of active listening.
The first step in providing feedback is to invite self-reflection, "How do you think that went? How did that feel?" Whether it is clinicians trying out new patient communication skills or learners practicing giving IHC workshops, most people appreciate the opportunity to share their struggles and triumphs.

The next step in structured feedback is to describe all of the specific behaviors that met the learner's goals. Learners are sometimes sharply focused on things they felt were problematic and that did not go well, and people giving feedback--facilitators and peers in small groups--work hard to emphasize the specific behaviors they observed that were clear and effective.

After the learner has heard and acknowledged all of the observations of what went well, observers then outline specific behaviors that they believe could have been even better yet. There is no judgment, no criticism: just specific observations.

Where there is time, learners can practice specific behaviors, with additional feedback. Many IHC programs use trained actors for simulated encounters. Thus, in addition to feedback from course leaders, small group facilitators and peers, learners can also receive feedback from actors.

So how many repetitions does it take for practice to make perfect? Alas, we have no definitive answer for this. We do know that each repetition, with opportunities for reflection and feedback, contributes powerfully to enhanced skills. We know it is somewhere between 1 and 10,000, and we endeavor to make every practice opportunity rewarding for learners.

Notes


Upcoming IHC program

Crisis, trauma and stress...How can healthcare team members rapidly establish rapport with patients and families they do not know? IHC's Strangers in Crisis: Emergency and Hospital-Based Clinicians train-the-trainer faculty course prepares faculty to build vital communication skills among emergency room, urgent care and hospital healthcare team members.

This 3-day program will be held Dec. 2-4, 2014 in Glastonbury, Conn. Further information and an application are available online.

Additional upcoming courses are listed on the IHC website.

IHC is nationally accredited to provide continuing medical education and continuing nursing education by three major accreditation agencies (ACCME, AAFP, and ANCC). IHC takes responsibility for the content, quality and scientific integrity of all its CME/CE activities.

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