

# How adaptive expertise can make or break the COVID-19 response

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Front-line physicians in New York City and other COVID-19 hotspots have faced a seemingly irreconcilable conflict between seeking efficiency in caring for critically ill patients and coming up with novel solutions to emerging challenges, such as shortages in personal protective equipment. But efficiency and innovation are not diametrically opposed. A relatively new learning model—master adaptive learning—demonstrates how the adaptive expert learns to balance these two goals to match any situation at hand.

Following are highlights from “How Does Master Adaptive Learning Advance Expertise Development?,” chapter 2 of *The Master Adaptive Learner*, an instructor-directed textbook designed to produce the habits of mind for lifelong learning in medicine. It is the first book in the AMA MedEd Innovation Series, which provides practical guidance for local implementation of the education innovations tested and refined by the AMA Accelerating Change in Medical Education Consortium.

The AMA and the Centers for Disease Control and Prevention are closely monitoring the COVID-19 pandemic. Learn more at the [AMA COVID-19 resource center](#), and consult the [AMA’s physician guide to COVID-19](#). The AMA’s experts also have created a [medical education COVID-19 resource guide](#).

## An inherent tension

“We’ve built our hospitals to this incredible bottom-line efficiency, which means it’s not efficient to stockpile N95 masks, and it’s not efficient to pay people to mock up disasters, and it’s not efficient to game out pandemics,” said Martin V. Pusic, MD, PhD, a pediatric emergency medicine specialist at Boston Children’s Hospital.

Dr. Pusic co-wrote the Master Adaptive Learner chapter with William B. Cutrer, MD, MEd, associate dean for medical education at Vanderbilt University School of Medicine, and Sally A. Santen, MD, PhD, senior associate dean of evaluation, assessment and scholarship at Virginia Commonwealth University School of Medicine.

Innovation is expensive, after all. But as the COVID-19 pandemic has demonstrated, focusing exclusively on efficiency is not realistic.

“There are an increasing number of complex cases in increasingly complex care environments that require approaches outside the usual wheelhouse of any expert,” the authors wrote before the pandemic. They added that while innovation “has long been the province of clinical researchers and entrepreneurs, what has changed is the increasing need for the active clinician to innovate as well, even if on a smaller scale.”

## Relearning how to learn

To illustrate the adaptive-expert concept, the authors included a simple graph, with efficiency on the x-axis and innovation on the y-axis.

“The point we make in the book is that your clinical effectiveness is how well you combine these two poles,” Dr. Pusic said. “It means that you haven’t become so routinized in your practice that you’re brittle and unable to look at the situation with fresh eyes. In my case, as an emergency doctor during the COVID pandemic, I’ve had to completely rethink how we intubate people.”

The way to teach adaptive expertise is by putting learners into a diagonal middle zone on the graph, from bottom left to top right—what the authors call the “optimal adaptability corridor”—where they have to “rub” innovation against routine approaches.

“And you keep them rubbing one against the other so that they learn the two sides of the coin,” Dr. Pusic said, noting, for example, that this can be accomplished by having learners regularly participate in quality improvement committees or do morbidity and mortality rounds.

By focusing on learning specifically to gain adaptive expertise, physicians will be able to innovate when the time comes.

“Even before the pandemic, I would say you should run disaster-planning scenarios that require learners to work with, you know, bubble gum and a foil antenna so they really have to think about the essentials of the thing you’re asking them to do,” Dr. Pusic said.

## More on master adaptive learning

The chapter also provides examples of how a preceptor might arrange for balanced learning, discusses master adaptive learning as an investment and presents four perspectives on what master adaptive learning can be: a process model, a collection of beneficial traits of an individual, a metacognitive schema and a philosophy.

Other chapters in *The Master Adaptive Learner* include “How Do You Measure the Master Adaptive Learner,” “How Will the Master Adaptive Learner Process Work in the Classroom,” and “How Will the Master Adaptive Learner Process Work at the Bedside?”