



(8 Things Top Practicers Do Differently)

8 Things Top Practicers Do Differently

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As my kids were (begrudgingly) practicing their Tae Kwon Do patterns the other night, I caught myself telling my oldest that he had to do his pattern five times before returning to his video game.

My goal, of course, was not for him to be able to go through the motions of his pattern five times like a pouty zombie, but to do it one time with good form and authority. But the parent in me finds it very reassuring to know that a certain number of repetitions or time has gone into something. Beyond the (erroneous) assumption that this will automagically solidify his skills somehow, it feels like a path to greater discipline, and a way to instill within my kids some sort of work ethic that will serve them well in the future.

Some degree of time and repetition is necessary to develop and hone our skills, of course. But we also know on some intuitive level that to maximize gains, we ought to practice “smarter, not harder.”

But what the heck does that really mean anyway? What *exactly* do top practicers do differently?

Pianists learning Shostakovich

A group of researchers led by [Robert Duke](http://www.music.utexas.edu/directory/details.aspx?id=36) of The University of Texas at Austin conducted a [study](https://cml.music.utexas.edu/assets/pdf/DukeEtAl2.pdf) several years ago to see if they could tease out the specific practice behaviors that distinguish the best players and most effective learners.

Seventeen piano and piano pedagogy majors agreed to learn a 3-measure passage from [Shostakovich's Piano Concerto No. 1](https://www.youtube.com/watch?v=4MzZs6RD5pE?t=54s&width=640&height=360). The passage had some tricky elements, making it too difficult to sight read well, but not so challenging that it couldn't be

learned in a single practice session.

The setup

The students were given two minutes to warm up, and then provided with the 3-measure excerpt, a metronome, and a pencil.

Participants were allowed to practice as long as they wanted, and were free to leave whenever they felt they were finished. Practice time varied quite a bit, ranging from 8 1/2 minutes to just under 57 minutes.

To ensure that the next day's test would be fair, they were specifically told that they may NOT practice this passage, even from memory, in the next 24 hours.

24 hours later...

When participants returned the following day for their test, they were given 2 minutes to warm up, and then asked to perform the complete 3-measure passage in its entirety without stopping, 15 times (with pauses between attempts, of course).

Each of the pianists' performances were then evaluated on two levels. Getting the right notes with the right rhythm was the primary criteria, but the researchers also ranked each of the pianists' performances from best to worst, based on tone, character, and expressiveness.

That led to a few interesting findings:

1. Practicing longer didn't lead to higher rankings.
2. Getting in more repetitions had no impact on their ranking either.
3. The number of times they played it correctly in practice also had no bearing on their ranking.

What *did* matter was:

1. How many times they played it *incorrectly*. The more times they played it incorrectly, the worse their ranking tended to be.
2. The *percentage* of correct practice trials did seem to matter. The greater the proportion of correct trials in their practice session, the higher their ranking tended to be.

The top 8 strategies

Three pianists' performances stood out from the rest, and were described as having "more consistently even tone, greater rhythmic precision, greater musical character (purposeful dynamic and rhythmic inflection), and a more fluid execution."

Upon taking a closer look at the practice session videos, the researchers identified 8 distinct practice strategies that were common to the top pianists, but occurred less frequently in the practice sessions of the others:

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1. Playing was hands-together early in practice.
2. Practice was with inflection early on; the initial conceptualization of the music was with inflection.
3. Practice was thoughtful, as evidenced by silent pauses while looking at the music, singing/humming, making notes on the page, or expressing verbal "ah-ha"s.
4. Errors were preempted by stopping in anticipation of mistakes.
5. Errors were addressed immediately when they appeared.
6. The precise location and source of each error was identified accurately, rehearsed, and corrected.
7. Tempo of individual performance trials was varied systematically; logically understandable changes in tempo occurred between trials (e.g. slowed things down to get tricky sections correct).
8. Target passages were repeated until the error was corrected and the passage was stabilized, as evidenced by the error's absence in subsequent trials.

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The top 3 strategies

Of the eight strategies above, there were three that were used by *all three* top pianists, but rarely utilized by the others. In fact, only two other pianists (ranked #4 and #6) used more than one:

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6. The precise location and source of each error was identified accurately, rehearsed, and corrected.

7. Tempo of individual performance trials was varied systematically; logically understandable changes in tempo occurred between trials (e.g. slowed things down to get tricky sections correct; or speeded things up to test themselves, but not too much).

8. Target passages were repeated until the error was corrected and the passage was stabilized, as evidenced by the error's absence in subsequent trials.

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What's the common thread that ties these together?

The researchers note that the most striking difference between the top three pianists and the rest, was *how they handled mistakes*. It's not that the top pianists made fewer mistakes in the beginning and simply had an easier time learning the passage.

The top pianists made mistakes too, but they managed to correct their errors in such a way that helped them avoid making the same mistakes over and over, leading to a higher *proportion* of correct trials overall.

And one to rule them all

The top performers utilized a variety of error-correction methods, such as playing with one hand alone, or playing just part of the excerpt, but there was one strategy that seemed to be the most impactful.

Slowing things down.

After making a mistake, the top performers would play the passage again, but slow down or hesitate – without stopping – right before the place where they made a mistake the previous time.

This seemed to allow them to play the challenging section more accurately, and presumably coordinate the correct motor movements at a tempo they could handle, rather than continuing to make mistakes and failing to identify the precise nature of the mistake, the underlying technical problem, and what they ought to do differently in the next trial.

And if this sounds vaguely familiar, you might recall that a [basketball study](http://www.bulletproofmusician.com/two-things-experts-do-differently-than-non-experts-when-practicing/) found something very similar in the practice habits of top free throw shooters...

Take action

What is your number one takeaway? How might you integrate these findings not just in your own practicing, but in the practice habits of your students?

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Further Reading:

1. **Two Things Experts Do Differently Than Non-Experts When Practicing** (*Two Things Experts Do Differently Than Non-Experts When Practicing*)
2. **The Learning-Performance Distinction and Why Gains in the Practice Room Don't Always Stick** (*The Learning-Performance Distinction and Why Gains in the Practice Room Don't Always Stick*)
3. **Here's an Easy Way to Help Your Brain Learn Faster** (*Here's an Easy Way to Help Your Brain Learn Faster*)
4. **Top 10 Posts of 2013** (*Top 10 Posts of 2013*)
5. **A Practice Strategy That Will Help You Play More Accurately When It Counts** (*A Practice Strategy That Will Help You Play More Accurately When It Counts*)

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[wp_cta_redirect_9835=http://www.bulletproofmusician.com/beyond-practicing/?wp-cta-v=3&wpl_id=yOQVvelsEMGPM2QJHKFn2atUC6gZCm47utd&l_type=wpluid](http://www.bulletproofmusician.com/beyond-practicing/?wp-cta-v=3&wpl_id=yOQVvelsEMGPM2QJHKFn2atUC6gZCm47utd&l_type=wpluid) How do great artists perform with such apparent ease in front of packed houses? How do some musicians maintain their composure and consistently advance in even the toughest auditions?

Hard work and talent are important, of course. But once you get to a level where everyone is talented and everyone has done the work, it all comes down to a different set of skills. *Mental* skills like energy regulation, confidence-building, and focus that can be the difference between a sub-par performance, and one that you feel really good about.

Like any other skills, these too can be learned.

CLICK TO LEARN MORE ABOUT THE 7 SKILLS...http://www.bulletproofmusician.com/?wp-cta_redirect_9835=http://www.bulletproofmusician.com/beyond-practicing/?wp-cta-v=3&wpl_id=yOQVvelsEMGPM2QJHKFn2atUC6gZCm47utd&l_type=wpluid



About Dr. Noa Kageyama

Performance psychologist and Juilliard alumnus & faculty member

Dr. Noa Kageyama <http://www.bulletproofmusician.com/about/>

teaches musicians how to play their best under pressure through live classes, coachings <http://www.bulletproofmusician.com/coaching/>, and an online

course<<http://my.bulletproofmusician.com/beyond-practicing-2/>>. Based in NYC, he is married to a terrific pianist, has two hilarious kids, and is a wee bit obsessed with technology and all things Apple.

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