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Study: You Really Can 'Work Smarter, Not Harder'

By Nanette Fondas

Two weeks ago, my oldest son taught my youngest son how to perform a corner kick during half time of my middle son's soccer game. He demonstrated the correct way to swing the leg, angle the foot, and launch the ball toward the goal. When the referee blew his whistle, resuming the game, we moved to a spot of grass nearby. There, my little boy began to explain how to do the corner kick, recounting every detail absorbed during his older brother's half-time tutorial. I nudged him to practice what he had learned, rather than talking about it—after all, he was at a soccer field, with a mother willing to fetch errant balls. But he preferred to articulate each key point he had just learned and teach me how to do it. I thought we were wasting time, but new research says his approach beats mine.

Learning is more effective if a lesson or experience is deliberately coupled with time spent thinking about what was just presented, a new study shows. In "Learning by Thinking: How Reflection Aids Performance," a team of researchers from HEC Paris, Harvard Business School, and the University of North Carolina [describe](#) what they call the first empirical test of the effect of reflection on learning. By "reflection," they mean taking time after a lesson to synthesize, abstract, or articulate the important points.

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In the lab portion of the study, participants completed a math brain teaser under time pressure and wrote about what strategy they used or might use in the future to solve the problem. This group did 18 percent better in a second-round test than their control-group counterparts, who were not given time

to reflect. In the field study, groups of newly-hired customer-service agents undergoing job training were compared. Some were given 15 minutes at the end of each training day to reflect on the main things they had learned and write about at least two lessons. Those given time to think and reflect scored 23 percent better on their end-of-training assessment than those who were not. And these improvements weren't temporary—they lasted over time, researchers found.

The study also tested the adage that the best way to learn something is to teach it. The research team expected that the process of sharing or teaching newly acquired skills or subject matter would deepen understanding and produce better task performance. But the experiments revealed no significant difference between reflecting upon new knowledge alone and teaching or sharing it with someone else—both boosted performance.

For younger students, teaching someone else is a good way to practice synthesizing content after a lesson. For older students, other methods suffice: writing themes in journals, summarizing main ideas on note cards, or dictating takeaways into a phone. The authors emphasize that reflection is what matters for learning, whether it's about management skills, school subjects, or sports trivia. It truly is possible, they conclude, to learn “smarter, not harder”—teachers, trainers, and tutors just have to add a little reflection to their lessons.

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