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Double Loop Learning: Download New Skills and Information into Your Brain

READING TIME: 9 MINUTES

We're taught single loop learning from the time we are in grade school, but there's a better way. Double loop learning is the quickest and most efficient way to learn anything that you want to "stick."

So, you've done [the work necessary to have an opinion](#),

learned the mental models, and considered how you make decisions. But how do you now implement these concepts and figure out which ones work best in your situation? How do you know what's effective and what's not? One solution to this dilemma is double loop learning.

We can think of double loop learning as learning based on Bayesian updating — the modification of goals, rules, or ideas in response to new evidence and experience. It might sound like another piece of corporate jargon, but double loop learning cultivates creativity and innovation for both organizations and individuals.

“Every reaction is a learning process; every significant experience alters your perspective.”

— *Hunter S. Thompson*

Single Loop Learning

The first time we aim for a goal, follow a rule, or make a decision, we are engaging in single loop learning. This is where many people get stuck and keep making the same mistakes. If we question our approaches and make honest self-assessments, we shift into double loop

learning. It's similar to the Orient stage in [John Boyd's OODA loop](#). In this stage, we assess our biases, question our mental models, and look for areas where we can improve. We collect data, seek feedback, and gauge our performance. In short, we can't learn from experience without reflection. Only reflection allows us to distill the experience into something we can learn from.

In [Teaching Smart People How to Learn](#), business theorist Chris Argyris compares single loop learning to a typical thermostat. It operates in a [homeostatic loop](#), always seeking to return the room to the temperature at which the thermostat is set. A thermostat might keep the temperature steady, but it doesn't learn. By contrast, double loop learning would entail the thermostat's becoming more efficient over time. Is the room at the optimum temperature? What's the humidity like today and would a lower temperature be more comfortable? The thermostat would then test each idea and repeat the process. (Sounds a lot like Nest.)

Double Loop Learning

Double loop learning is part of *action science* — the study of how we act in difficult situations. Individuals and organizations need to learn if they want to succeed (or even survive). But few of us pay much attention to exactly how we learn and how we can optimize the process.

Even smart, well-educated people can struggle to learn from experience. We all know someone who's been at

the office for 20 years and claims to have 20 years of experience, but they really have one year repeated 20 times.

Not learning can actually make you worse off. The world is dynamic and always changing. If you're standing still, then you won't adapt. Forget moving ahead; you have to get better just to stay in the same relative spot, and not getting better means you're falling behind.

Many of us are so focused on solving problems as they arise that we don't take the time to reflect on them after we've dealt with them, and this omission dramatically limits our ability to learn from the experiences. Of course, we want to reflect, but we're busy and we have more problems to solve — not to mention that reflecting on our idiocy is painful and we're predisposed to avoid pain and protect our egos.

Reflection, however, is an example of an approach I call first-order negative, second-order positive. It's got very visible short-term costs — it takes time and honest self-assessment about our shortcomings — but pays off in spades in the future. The problem is that the future is not visible today, so slowing down today to go faster at some future point seems like a bad idea to many. Plus with the payoff being so far in the future, it's hard to connect to the reflection today.



The Learning Dilemma: How Success Becomes an Impediment

Argyris wrote that many skilled people excel at single loop learning. It's what we learn in academic situations. But if we are accustomed only to success, double loop learning can ignite defensive behavior. Argyris found this to be the reason learning can be so difficult. It's not because we aren't competent, but because **we resist learning out of a fear of seeming incompetent. Smart people aren't used to failing, so they struggle to learn from their mistakes and often respond by blaming someone else.** As Argyris put it, "their ability to learn shuts down precisely at the moment they need it the most."

micromanaging and making every decision themselves. Their employees have no opportunity to learn, so they become discouraged. They don't even try to make their own decisions. This is a self-perpetuating cycle. For double loop learning to happen, the managers would have to let go a little. Allow someone else to make minor decisions. Offer guidance instead of intervention. Leave room for mistakes. In the long run, everyone would benefit. The same applies to teachers who think their students are going to fail an exam. The teachers become condescending and assign simple work. When the exam rolls around, guess what? Many of the students do badly. The teachers think they were right, so the same thing happens the next semester.

Many of the leaders Argyris studied blamed any problems on “unclear goals, insensitive and unfair leaders, and stupid clients” rather than making useful assessments. **Complaining might be cathartic, but it doesn't let us learn.** Argyris explained that this defensive reasoning happens even when we want to improve. Single loop learning just happens to be a way of minimizing effort. We would go mad if we had to rethink our response every time someone asked how we are, for example. So everyone develops their own “theory of action—a set of rules that individuals use to design and implement their own behavior as well as to understand the behavior of others.” Most of the time, we don't even consider our theory of action. It's only when asked to explain it that the divide between how we act and how we think we act becomes apparent. Identifying the gap between our espoused theory of

action and what we are actually doing is the hard part.

The Key to Double Loop Learning: Push to the Point of Failure

The first step Argyris identified is to stop getting defensive. Justification gets us nowhere. Instead, he advocates collecting and analyzing relevant data. What conclusions can we draw from experience? How can we test them? What evidence do we need to prove a new idea is correct?

The next step is to change our mental models. Break apart paradigms. Question where conventions came from. Pivot and make reassessments if necessary.

Problem-solving isn't a linear process. We can't make one decision and then sit back and await success.

Argyris found that many professionals are skilled at teaching others, yet find it difficult to recognize the problems they themselves cause (see Galilean Relativity). **It's easy to focus on other people; it's much harder to look inward and face complex challenges.** Doing so brings up guilt, embarrassment, and defensiveness. As John Grey put it, "If there is anything unique about the human animal, it is that it has the ability to grow knowledge at an accelerating rate while being chronically incapable of learning from experience."

When we repeat a single loop process, it becomes a

habit. Each repetition requires less and less effort. We stop questioning or reconsidering it, especially if it does the job (or appears to). While habits are essential in many areas of our lives, they don't serve us well if we want to keep improving. For that, we need to push the single loop to the point of failure, to strengthen how we act in the double loop. It's a bit like the [Feynman technique](#) — we have to dismantle what we know to see how solid it truly is.

“Fail early and get it all over with. If you learn to deal with failure... you can have a worthwhile career. You learn to breathe again when you embrace failure as a part of life, not as the determining moment of life.”

— *Rev. William L. Swig*

One example is the typical five-day, 9-to-5 work week. Most organizations stick to it year after year. They don't reconsider the efficacy of a schedule designed for Industrial Revolution factory workers. This is single loop learning. It's just the way things are done, but not necessarily the smartest way to do things.

The decisions made early on in an organization have the greatest long-term impact. Changing them in the months, years, or even decades that follow becomes a non-option.

How to structure the work week is one such initial decision that becomes invisible. As G.K.

Chesterton put it, “The things we see every day are the things we never see at all.” Sure, a 9-to-5 schedule might not be causing any obvious problems. The organization might be perfectly successful. But that doesn’t mean things cannot improve. It’s the equivalent of a child continuing to crawl because it gets them around. Why try walking if crawling does the job? Why look for another option if the current one is working?

A growing number of organizations are realizing that conventional work weeks might not be the most effective way to structure work time. They are using double loop learning to test other structures. Some organizations are trying shorter work days or four-day work weeks or allowing people to set their own schedules. Managers then keep track of how the tested structures affect productivity and profits. Over time, it becomes apparent whether the new schedule is better than the old one.

37Signals is one company using double loop learning to restructure their work week. CEO Jason Fried began experimenting a few years ago. He tried out a four-day, 32-hour work week. He gave employees the whole of June off to explore new ideas. He cut back on meetings and created quiet spaces for focused work. Rather than following conventions, 37Signals became a laboratory

looking for ways of improving. Over time, what worked and what didn't became obvious.

Double loop learning is about data-backed experimentation, not aimless tinkering. If a new idea doesn't work, it's time to try something else.

In an op-ed for *The New York Times*, Camille Sweeney and Josh Gosfield give the example of David Chang. Double loop learning turned his failing noodle bar into an award-winning empire.

After apprenticing as a cook in Japan, Mr. Chang started his own restaurant. Yet his early efforts were ineffective. He found himself overworked and struggling to make money. He knew his cooking was excellent, so how could he make it profitable? Many people would have quit or continued making irrelevant tweaks until the whole endeavor failed. Instead, Mr. Chang shifted from single to double loop learning. A process of making honest self-assessments began. One of his foundational beliefs was that the restaurant should serve only noodles, but he decided to change the menu to reflect his skills. In time, it paid off; "the crowds came, rave reviews piled up, awards followed and unimaginable opportunities presented themselves." This is what double loop learning looks like in action: questioning everything and starting from scratch if necessary.

Josh Waitzkin's approach (as explained in *The Art of Learning*) is similar. After reaching the heights of competitive chess, Waitzkin turned his focus to martial

arts. He began with tai chi chuan. Martial arts and chess are, on the surface, completely different, but Waitzkin used double loop learning for both. He progressed quickly because he was willing to lose matches if doing so meant he could learn. He noticed that other martial arts students had a tendency to repeat their mistakes, letting fruitless habits become ingrained. Like the managers Argyris worked with, students grew defensive when challenged. They wanted to be right, even if it prevented their learning. In contrast, Waitzkin viewed practice as an experiment. Each session was an opportunity to test his beliefs. He mastered several martial arts, earning a black belt in jujitsu and winning a world championship in tai ji tui shou.

Argyris found that organizations learn best when people know how to communicate. (No surprise there.)

Leaders need to listen actively and open up exploratory dialogues so that problematic assumptions and conventions can be revealed. Argyris identified some key questions to consider.

- What is the current theory in use?
- How does it differ from proposed strategies and goals?
- What unspoken rules are being followed, and are they detrimental?
- What could change, and how?
- Forget the details; what's the bigger picture?

Meaningful learning doesn't happen without focused effort. Double loop learning is the key to turning experience into improvements, information into action, and conversations into progress.

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TAGGED: CHRIS ARGYRIS, DECISION MAKING, HABITS, JOHN BOYD, JOSH WAITZKIN



◀ [Smarter, Not Harder: How to Succeed at Work](#)

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