

# Learning: Embracing the Struggle

Leaning into struggle means we are leaning into learning, explains Jason Liem



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There is a seeming paradox in our brains when it comes to learning. On one end of the spectrum, the brain is a pattern recognition machine seeking the familiar to instill a sense of stability and security in us. Its happy place is when things are certain, predictable and consistent.

On the other end of the spectrum, a degree of uncertainty also attracts the brain. Our surroundings compel us to explore. It is through this innate drive to explore that we learn, grow, develop and discover.

At the same time, we have all experienced times when there is too much certainty, where we feel a sense of mind-numbing routine and we go through the motions giving very little thought to what we are doing. We are also all too familiar with too much uncertainty; then, we feel overwhelmed and disoriented. We believe we are far out of our depth.

The brain's ideal spot is navigating between exploiting what it knows and

exploring what it doesn't. It is in these moments when we are most receptive to learning.

## Input and Output

Learning requires both an input and an output. Of course, both are important, but we need to emphasise the output more than the input.

We can invest a lot of time reading books, absorbing articles and listening to podcasts and audiobooks. These efforts are essential for learning. The ability to retain new information and knowledge comes down to how we actively apply it. Learning requires us to turn the input into an output.

## Reflection

Reflection requires us to think about how to connect newly acquired knowledge to what we already know. The act of reflection helps the brain create sturdy links that connect any gaps in our understanding.

## Implementation

Implementation translates new knowledge into concrete action. The act of *doing* allows the brain to mark where we fumble and where more practice is needed, allowing us to gain fluency in a skill.

## Teaching

Teaching what we know to others is an excellent way of discovering the gaps between where our knowledge flows and where it gets stuck. These gaps make clear where we can better allocate our attention to work out the kinks.

Output requires more active investment in terms of time and effort, but it is where we gain the greatest return.

The term often used for concentrated focus is 'deep learning', whereby we try to grasp the underlying mechanism and connect it with what we already know.



## The Neurobiology of Learning

Learning a new concept or skill is hardly ever a smooth ride between point A and point B. It is more akin to taking two steps forward and one step back. We progress, but sometimes we stop or even regress. It is in the stopping up or regression where we make mistakes and can feel stuck.

There are times when it is an easy fix and we move on. Other times, we can struggle to crack the code, and when we can't, it often leads to frustration. Many of us turn away from learning when we hit a certain level of frustration. It may seem counterintuitive, but it is the struggle that is the key to learning.

In nature, the struggle is a biological necessity, and in some cases a neurological necessity, to thrive and survive. Thus, when we encounter struggle, the brain interprets it as an error signal and gets to work to rectify the signal.

Once an error signal (i.e., the feeling of struggle) is detected, the brain releases a cascade of neuromodulators. The first is norepinephrine, which is sent to our central nervous system to alert us that something is wrong. Following this, the brain then releases a second neuromodulator named acetylcholine. Its job is to focus on the neural circuits producing the error signal.

At this point, the frustration and struggle have activated the stress F3 response (flight, freeze or fight). If we choose either the flight or freeze response, it means we step away from the frustration and away from the learning.

If we choose the third response, fight, it means we engage with the problem. Therefore, we have consciously decided to embrace the struggle.

The brain rewards our forward momentum action by releasing a third neuromodulator – dopamine. Dopamine fuels our feelings of motivation and anticipation. In addition, it helps us to learn about the consequences of specific actions.

Leaning into struggle means we are leaning into learning.

## Insulating Learning

Myelin is an insulating layer of protein and fatty substances that forms around the brain and spinal cord nerves. This myelin sheath allows electrical impulses to transmit quickly and efficiently along the neural circuits. The way myelin wraps around nerve connections is akin to the rubber insulation that wraps around copper wires. The thicker the covering, the better the insulation. It makes the electrical signal more robust and faster, preventing the electrical impulses from leaking out.

Myelin growth, to a reasonable degree, is dependent on the approach we take to learning. If we actively translate inputs to outputs by reflecting, implementing and teaching what we've learned, myelin responds by wrapping layers of insulation around the neural circuit. We add more skill and speed with each layer, making our thoughts and movements faster and more accurate.

There is one caveat to keep in mind. Myelin growth only happens when we are struggling in specific ways. When we are learning something new, we need to be operating at the edge of our ability to make mistakes. These mistakes are the signals the brain needs (i.e., the struggle and frustration) to dedicate resources to address the error.

These experiences where we are struggling force us to slow down, examine the errors and correct them. The trick is to choose a goal beyond our present ability and to target the struggle. The more we generate error impulses, encountering and overcoming difficulties, the faster we learn.

Why is targeting our struggle so effective in learning? First, the best way to build an exemplary circuit is to fire it, be attentive to mistakes, and then fire again and then repeat. Second, remember, the more myelin wraps the circuits, the faster the signal travels, increasing velocity up to 100 times more than signals sent through an uninsulated circuit.

## Easier Said Than Done

Of course, facing frustration is easier said than done. When we are in a state of frustration, it reflects our thoughts, emotions and actions. Having the

hormones and chemistry associated with frustration swimming through us makes it feel authentic and accurate. If we think something is true, then we will tend to act on that truth. So, if we interpret the state of frustration as real, our general response is to avoid the situation instead of embracing the struggle.

When trapped in an emotional state, we are unlikely to be thinking clearly. We are too close, and we are too caught up in it. We can't recognise that our thoughts and emotional patterns are problematic. We may see our behaviour as entirely rational and fail to realise our decision-making style fuels our overthinking and self-doubt.

Overthinking and self-doubt can lead to analysis paralysis. The problem is not the underlying decision itself, but how we approach it – our mental habits make us more entrenched in indecision. Analysis paralysis can't resolve itself because we can't think our way out of it. Instead, we need to recognise what is happening and intervene.

## Recovery and Discovery

A great strategy I use when learning new material is what I call a recovery and discovery approach.

Recovery is about taking the needed time to reflect on what we have just learned. Discovery is about taking the insights and lessons learned and then committing them to action. It consists of four steps:

1. Gather
2. Reflect
3. Capture
4. Review

Learning is best when done in short bursts. For example, if you have just read a couple of pages about a concept or an idea, move into the recovery phase. Take a moment to gather your awareness around what you just learned by reminding yourself of the critical points.

Then reflect on how to bridge those critical points to what you already know. Take a few minutes to make those connections. To help cement the links, capture your thinking through speaking or writing out your thoughts. The central idea is to transfer your new knowledge into words – written or spoken. It essentially allows you to visualise your thoughts. Writing



brings order out of chaos by putting your brain on paper.

When we write, we activate an area in our brain called the basal ganglia, which allows for cognitive fluency. As a result, the act of writing improves the smoothness and insightfulness of our reasoning, and we start making connections to things we didn't before.

Now that we've invested some time in gathering, reflecting and capturing, it is time to take a short break, and that might be 5 minutes or 15 minutes. The idea is to walk away from the learning and to give your brain a timeout.

When we return from our break, we can review what we've just learned. Again, the short timeout affords us the objective distance to see what we have captured. In this editing step, we can check for

accuracy and discover patterns in our thinking.

If we can understand and make sense of the concept, then we can move forward. If there are gaps or missing bits, this is where we may feel a sense of frustration. But we now understand that frustration is a good thing. The struggle is an indication that we are heading in the right direction. At this juncture, we can invest the time to correct the error and fill in the gaps.

After completing the four steps of the recovery phase, it is now time to move into the discovery phase. This phase is where we take our insights and the lessons learned and put them into action. The discovery phase takes us back to the output we addressed earlier in the article – implement and teach.

## Conclusion

I believe too many of us, when we reach a certain level of competency and knowledge in a particular field, declare we have arrived at our final destination. Unfortunately, if we stick to this mindset, complacency inevitably sets in, and we stagnate. Stagnation is a sign that we may be setting ourselves up to become irrelevant and redundant.

A true expert in a field rarely, if ever, will claim that they are an *expert*. They know that staying relevant means they must be in a continuous state of educating themselves. They are comfortable with the knowledge that there is always more to learn and multiple ways to grow. They are ready to embrace the struggle.



**Jason W Birkevold Liem** helps people to think about their thinking so they are better at managing themselves, others and situations. He achieves this through an informative and engaging process that educates people about the brain, cognitive psychology and interpersonal communication. As a result, clients are better able to face their professional and private challenges with more confidence, certainty and clarity. Through his company,

MINDtalk, he designs and delivers brain-based leadership and personal resilience programs to individuals and to teams. Learn more at [www.MINDtalk.no](http://www.MINDtalk.no).

Jason is also part of our Speaker Bureau. If you are interested in Jason training your Assistants or speaking at your event, either virtually or in person, please visit [executivesupportmagazine.com/speaker-bureau](http://executivesupportmagazine.com/speaker-bureau).