Curiosity in the Practice Room, The Playroom

Skill Acquisition • Learning to Learn

By Babette Lightner

Target Practice

Dr. Leon Thurman articulates a useful image of the nature of learning based on neuroscience research. He refers to learning as a matter of taking target practice. When learning a skill, you have to go off target to learn the coordination, (make synaptic connections and develop efficient neural pathways) that let you learn the skill or hit the target.

When we get our target there is usually a good feeling ‘yay’ ‘I did it’. The pleasure of achieving what we wanted. When we don’t get what we want these is usually a sense of frustration, ‘darn’ ‘ oh no, shoot’ etc. What a brilliant property of your system. Both sensations guide us toward learning. They are the feelings/sensattion of learning.

Mistake is a human construct often surrounded by negative connotations. *Don’t make a mistake. Mistakes are bad.* It is a misconstruing of the frustrating side of learning. Worse yet: *I’m bad because I made a mistake*. It isn't a small thing when a person becomes afraid of making a mistake. It is the beginning of turning learning away from an innate joyful activity to a shameful/prideful activity of success and failure. It becomes comparative rather than personal.

A miss-take is what your system has to do to find the target; you have to go off-target to learn where the target is. When your system registers, *Ah that dart went slightly to the left*, then your system adjusts, and it learns what isn’t the target. Your job isn’t to say, *Now I’ll move my hand to the right*. You just need to keep your eye on the bull’s eye and allow your system to learn how to throw the dart and hit it. Your system learns to throw the dart and hit the bull’s eye by taking target practice, by going off target. Like many other actions in our system, learning happens in the other-than-conscious processes.

You can create an easy learning atmosphere by saying things like, *Let's do some target practice now.*

Respond to your frustration of not getting the desired outcome, 'making a mistake' by saying, *Okay that is some useful target practice*.

When you get your goal: *That target practice worked. Keep on going to see how often you get your target in the next few minutes.*

Engage your continued learning once you have developed more consistent success at reaching your goal by asking: *What helps you get your target and what gets in the way*.

These are alternatives to talking about mistakes as problematic. They are frustrating, sure. But they aren't wrong for learning. Target Practice ideas also help avoid over-emphasizing getting the goal. Yes, we want the goal. If the goal is clear, our system will guide us through frustration and excitement that we are getting less or more of what we want. The important response is in you, not in the teacher. If the educator constantly gives right and wrong feedback, it changes the focus from the student learning in themselves to pleasing the teacher (extrinsic reward rather than intrinsic reward).

Curiosity in Practice • Learning to Learn

The following process has helped people get unstuck in the practice room and make a new relationship with mistakes. It is a way to bring curiosity back into the learning process. It seems to be a tool for unraveling perfectionism.

Explore the following process for learning a skill.

Intention: Have a clear intention of what you want to do – choose a target or bull's eye.

(When you leave a lesson, be sure you know what your target or experiment is for your work on your own. Many lessons are left in a vague area in which you did what the teacher wanted; they praise you. You aren't clear what you did. It was good. You enter a practice room trying to play well but with no clear target or experiment.)

Do: Take action, throw the dart. Go for your intention. You do.

Happens: Something happens.

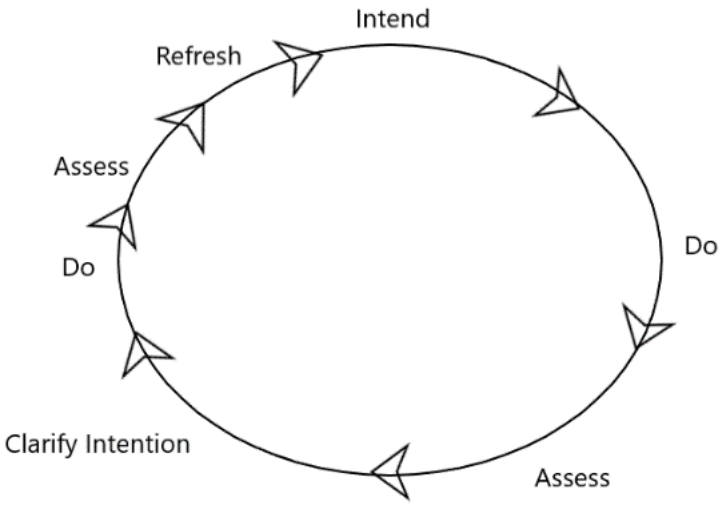
Assess: Assess what happened or locate where you are in relationship to the bull's eye: *Is what happened what I wanted to happen?*

If yes then you, simply carry on. If no, then you get specific, you clarify!

How close did I come to my target, my intention?
Specifically, what didn't I like and what do I want?

Clarify: Specify the new, revised intention and repeat the process with this new intention.

THE LEARNING CYCLE



Put another way:

You choose a target.
You aim and shoot.
You identify where you are in relationship to the target. (This often happens automatically in the moment you register you didn't get what you wanted.)
Refresh your target.

This cycle gives your system time and freedom to learn the conditions and coordination necessary for the desired task. It lets you make appropriate and efficient neural networks for the skill.

Assessing: Pitfalls, Mistakes, Trauma, Learning

Some pitfalls to be aware of:

Step three of the cycle, assessing what happened, is the moment when it is easy to get off the learning cycle. Realizing that what happened, wasn't what you wanted, is a necessary aspect of learning. It often feels like frustration. If something happens that isn't on target but you don't realize it is off target, you'll just keep doing the off-target thing and never learn the coordination for hitting my target. No Learning.

If you can recognize that you didn't hit your target and simply refresh and clarify your intention - you learn.

That feeling of frustration that you didn't get what you want, shows you what you want, *not that*. Sometimes you may have trouble learning or developing a skill because you haven't clarified the target. Surprisingly you can use frustration to help you identify what you want.

Frustration in a learning situation is usually a signal there's something to learn. Assessment-judgment is NOT the problem. Misunderstanding what the assessment means, and what that bad feeling means, is the problem. You have to assess to learn.

It is crucial in learning to be able to assess whether or not you did or didn't hit the target. The uncomfortable gut-wrench feeling commonly associated with missing the target is not a feeling to avoid. If it is very strong and terrifying it is important to understand this feeling. Fear and anger make perfect sense if your system learned that missing the target meant being wrong and being wrong meant being a less worthy person, (or some variation of this common interpretation of mistake). In this case, your gut wrench should be outright terror, because your system has associated making a mistake with being worthless.

Put another way, your system had the experience that taught you that learning can be dangerous: a mistake equals a pouncing tiger. You may not believe this intellectually but if making a mistake and a gut-wrenching feeling go together, there is some negative association with not hitting the target.

If you can stop at the moment and identify you are in one of these learning moments, you can clarify: *This gut wrench is just telling me I have something to learn here;* then try to reinterpret the instantaneous detection of "off" target as a learning moment rather than a wrong moment or something relating to self-worth.

You are practicing seeing a miss-take sensation as a healthy alert signal, like a smoke alarm saying, *hey there's something to here to learn.*

THIS IS THE FEELING OF A LEARNING MOMENT. It is time to slow down and assess what just happened, clarify your intention, and give it another go.

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As you engage in this virtuous circle, you can transform the fear of being wrong into the joy of learning. As you meet that moment with clarity and reinterpret the sensation, the sensation will change and ease up. It won't be a gut wrench but a sensation of dissatisfaction or simply: *This is not what I wanted. What now?*

Another potential trap in learning is wanting to be right or good. Goals of being right or playing well don't work well. They are vague targets. There isn't anything specific the system can coordinate or intend. We need to attach specific criteria to *playing well* if we want a clear intention to aim for and assess. If I say I want to hit the bull's-eye then I have a clear intention. I can assess the result. *I want to sing in tune, or with feeling, or at a particular tempo*. These are clear intentions that can be assessed.

I have received more than one letter of gratitude from people for this handout – *Curiosity in Practice*, about how it finally gave them something to do that addressed their straight-jacket experience of what they named their perfectionism in learning.

Learning by Playing • Whole Music Playing

I invite you to do an experiment that a violinist friend made with this kind of learning process. You can apply this to any subject not just music:

- She wanted to see if she could learn a new and challenging piece with this intend-do-assess process.
- She chose a piece to learn, (one she had been putting off because it seemed too daunting)
- She played it through from beginning to end keeping her intention clearly on the music.
- She registered when she didn't like what she was hearing. She didn't attempt to change the playing directly. She played through the mess of the not-yet-learned music. She accepted the fact of the quality of her playing whatever it was at that moment, pleasant or unpleasant.
- She didn't try to play better than she was playing or wish she were playing better (a misconception that often got in her way of playing).
- She returned her attention as often as possible to the music.
- She did this over some time without any expectation of how long it would take her to learn the piece.

She wasn't clear she could even learn a piece in this simple manner. She was astounded by how quickly she was playing the piece reasonably well. She had been trained to work in small sections and control all kinds of details. Instead, this process was asking:

If my goal is to play the music and be free to focus on the music, what would happen if I practice that intention from the start?

The key, and hardest part, for her was to accept the off-target sounds, to not play well, and to allow herself to play badly compared to her goal. She let herself play exactly the way she was playing, to the degree she knew the music at that moment, and allowed her system to improve in the time it takes to learn.

She let herself take the time it takes to learn.

To her surprise, getting to a point of playing the piece reasonably well was much faster than she expected. She has been doing this approach with her students for several years now and getting similar results. Of course, there are times to work on small sections and in detail. But this whole-music-learning approach wasn't even an option before. Now it is a foundational tool for learning and practice.

The experiment is quite useful for anyone, but particularly for people who tend to want it to be perfect before they even know the piece or for people who have strong reactions to making miss-takes.

In essence, it is an exercise in accepting exactly what is happening as it is happening, not enjoying it, but not getting caught in useless resistance. It is also about getting a feeling for the whole of the piece, for coming back to the details only after the details have been felt in the context of the whole.

The Implication for Education

Much education begins with the details, getting details right without any context for them. The meaning, the story, the expression, and the wholeness of the music or subject is often left to last. Wholeness in Motion proposes that if we work with the purpose early on, the whole of the piece/subject, including the details will come much more easily. A crescendo makes sense because there is a powerful point to make. A high note soars because it is exactly the note necessary to tell that moment in the story. The rhythm is a triplet because that is how the message feels. Some educators have said taking time to read the poetry and discuss the meaning or to move to the music and feel how it moves you takes too much time in the often-rushed environment of performance. Knowing why this math or science or history is relevant to the learner is much like finding the expressive purpose in the arts.

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We propose that this expressive foundation, based on the understanding of how intention and feeling facilitates and coordinates skill, develops musicianship and leads to excellence and efficiency in the long run. Students finding relevance in their study awakens their curiosity. Curiosity drives autonomous learning.