

TRIED AND TESTED

Mark Surtees

“More articles on teaching methods. Teaching is a separate skill from casting.”

Loop Reader Request to the Editor 1995

The reader was right, teaching *is* a separate skill from casting.

Following recent *Loop* articles on learning and feedback in subsequent FFI Continuing Education (CE) Zoom presentations, it is worth pointing out that much of the content in those programs is not new to casting instruction.

Many of the issues facing instructors more than 25 years ago remain problematic today, particularly for new CIs. Solutions, similar to those suggested in the CE programs, have been presented to the instructor community before. There are clues everywhere in the recommended texts as to how some of these issues could be addressed.

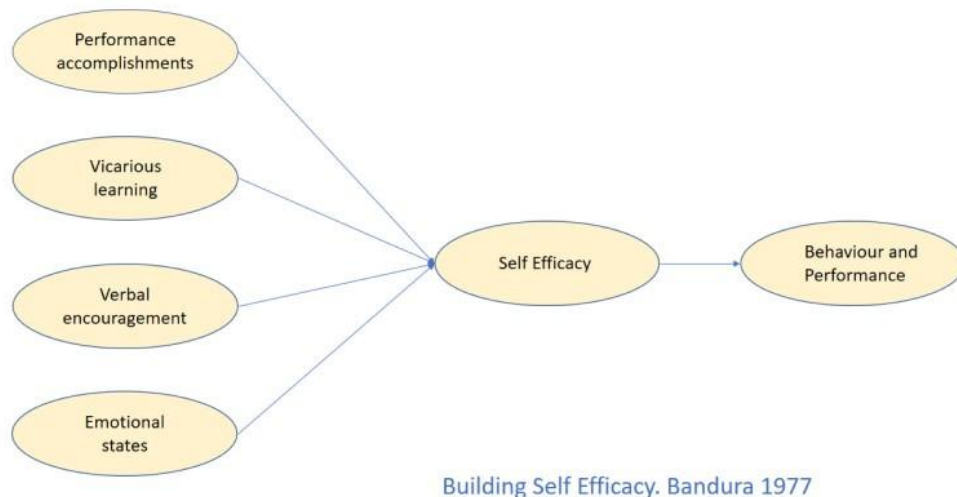
The following includes examples in *The Loop* archive from the two-year period 1995-97. Although some of these concepts lie deeply buried in more mechanics-driven articles, they are, nevertheless, present and consistent with good teaching theory.

Self Efficacyⁱ

Nobody likes to be judged, and we work in an environment where many leisure practitioners are deeply and emotionally connected to their hobby. Often the very first things instructors encounter as we start teaching are tension and anxiety. These are recognised barriers both to learning and initial entry to the sport.

“It looks difficult”, “too complicated”, “too hard”, “can’t do it” are vocal manifestations of a perfectly normal psychological defence mechanism protecting self-esteem. It’s weird, because our casters are usually coming voluntarily for a lesson; they actively want to learn but they nevertheless arrive with pre-packed explanations for failure.

How do we overcome this? How might we promote what is known as “self efficacy”, the belief in our caster that they can do it, rather than that they can’t? This is a diagram of some key elements that we can control



Performance Accomplishments

In his book “Nature of Fly Casting”ⁱⁱ Jason Borger says :

“One thing leads to the next, and each skill in some way builds upon the previous skills...”

Introducing stepped or spirallingⁱⁱⁱ drilling, where a caster experiences sequences of easy, small but observable, performance successes early in a lesson, helps to improve morale, engagement and motivation to learn.

Similarly, learning when to stop, reinforce and start again, means that an instructor can build confidence in the caster that long term changes are not only possible, but actually happening.

Although learning is most likely to take place by incremental stretching of the performance envelope, if a caster is aware of the developmental pathway and they achieve regular success along it, they are more likely to keep going, even when performance plateaus, which it surely will.

This from Leon Chandler in the Loop in 1995.

“.... developing casting skills is a learning process - one step at a time.”

“Because it is easy, it gives them a sense of accomplishment” Leon Chandler 95

It’s that sense of accomplishment that reinforces self-efficacy.

Vicarious learning

In a one-to-one lesson, vicarious learning, the idea that if you see that someone of similar experience can do it, then so can you, is not always available to us. Nevertheless, in group lessons, the concept of pairing and asking one student to teach another is a mechanism for this.

Verbal Encouragement

Exercising control over the atmosphere in a lesson is essentially about positive “framing”, creating a learning experience which is low on direct criticism/correction and high on encouragement and personal development. As Chuck Echer points out below, this may involve positive praise and being non-judgemental. This is a tough skill to develop. For someone like me, it’s a near impossibility.

We are trained to observe and correct, so how do we teach without pointing out faults and suggesting remedies? The answer is that if we focus on the wins, then the faults will very often look after themselves.

So how do we get these wins?Well, we break it all down into bite size pieces and serve with a smile. The words and methods you choose to do this are up to you but there is a guide to some of the more personal aspects here in the next quote. In particular, note the last sentence.

“An effective teacher: is inspiring, adaptable, patient, compassionate, non-judgmental, and has a sense of humor and respect for other people; creates a conducive environment for self-expression; establishes a level of comfort with students...”

“...maintains a focused learning environment avoiding conversational sidetracks; is attuned to students' needs, strengths, and weaknesses; tailors subject vocabulary and information to all levels and understands the learning needs of youth, adults, and senior students; knows that positive praise promotes student confidence.” Chuck Echer The Loop 1995

Emotional States

How do we begin to tackle lesson stress and associated anxious and nervous behaviours?

If we’re not very careful, we can make things worse rather than better. Barriers to learning like this are sometimes intensified by the manner and process of lesson delivery.

This is not a new phenomenon, as observed by Leon Chandler again in 1995.

“I am bothered with the knowledge that a lot of folks out there are not fishing with a fly rod because of the perception that the skills required to cast a fly line are too complex for them to possibly learn. I think this unfortunate atmosphere has been created by well-meaning “experts” who are oftentimes inclined to get carried away with their own expertise and talk and write in a manner that has a way of intimidating the novice beginner.” Leon Chandler, The Loop 1995

He follows.

“As FFF Certified Casting Instructors, oftentimes the first important step is to put the student at ease.” Leon Chandler The Loop 1995

In fact, it is *always* the first important step.

Keeping It Simple.

The simpler the lesson is, the easier it is for a caster to understand.

Simplification formed a significant part of Mel Kreigers teaching ethos. In his book “The Essence of Fly Casting”^{iv} he wrote this:

“Fewer still are the instructors who are good communicators, able to reduce complex concepts to simple solutions and connect with a wide variety of learners. Simplicity is not an easy concept – it is perhaps the most difficult part of instruction.”

In the following passage from the Loop, Larry Iwafuchi identifies the effects when instructors give their caster too much to think about.

“Sooner or later, it happens to every instructor. You are confronted by students who are having multiple problems with their casting strokes..... Being the courageous instructor that you are, you launch into solving these problems. Wishing to prove your mastery of casting and casting instruction, you resolve to correct all of these shortcomings in a single session. Many minutes - or hours later the only result is a frustrated student and instructor glaring at each other over the other’s perceived lack of ability. I know the scenario described above well, having been caught in it myself, both as an instructor and as a student. After one of these sessions, I sat back and thought about what had happened from the student’s perspective. It was then that I realized that I was the one who was at fault. I had totally overwhelmed the students with information, commands, and things to think about. Since then I have changed and simplified my approach.” Larry Iwafuchi 95

Albert Einstein, who may or may not have been a fly angler, explained: -

Make everything as simple as possible, but not simpler.

That’s definitely tricky, but there are some things that might help us along the way.

Firstly and most obvious, the fewer instructions you give, the simpler the lesson will be. Learning to filter content is crucial.

Second, whatever instructions you decide to deliver, do it one at a time.

Third, is to understand that giving somebody information *about* something is not the same as teaching them how to *do* something. You don’t have to explain how an internal combustion engine works in order to teach someone how to drive.

In fact, simplification is not that hard once you get the hang of it. Similar to cleaning the attic, it’s starting to do it that’s hard. Once you get going, you’ll find there’s a lot of junk that can be thrown out.

As you can see, the need to simplify is very important and is driven by another critical concept.

Cognitive Overload

We instructors are passionate enthusiasts, stuffed with valuable knowledge about our sport. We're desperate to gush it all out and to share as much of what we know as possible in the shortest time possible. However much we want to do this, the urge must be resisted. You cannot get years of experience across in an hour, or even a day, The brain's information processing pipeline won't take it.

In a show presentation in Germany many years ago Tim Rajeff explained the principles behind "Millers Magic Rule of 7" (MN7)^v a concept that has been generalized to state the average person can hold only 7 (plus or minus 2) items in working memory at a time.

$$- 2 \quad \text{7} \quad + 2$$

Millers Magic Number Seven, 1956

Miller explained that our bite size pieces, once mastered, can be reassembled ("chunked") to produce a meaningful whole, a cast perhaps. This process fits perfectly with the principles of whole, part, whole teaching and structured skill development described in Jason Borgers quote above.

Overload is a quiet lesson killer because your student will often not tell you that they are confused or that they are trying to process multiple instructions all at the same time. If we are aware that cognitive overload restricts learning, then it will be helpful to casting students to have them focus on things to do rather than additional things that are merely interesting.

Independent Feedback

We have to teach so that a caster can transfer what they learn in our lesson to fishing in the wild. To do this, we need a caster to be able to self-diagnose when we're not there. This means that a lesson must be about helping a caster to independently assess and interpret sensory information and how to react effectively to it.

We use our sensory awareness to determine whether what we intended to do was what we actually did and, if it wasn't, we adjust accordingly and go again. This is what we describe as a "perception/action cycle". Sense, do, check, redo.

The principal source of sensory information when we fish and when we learn to cast, is visual.^{vi} For beginners in particular, and many experienced casters as well, being able to see both ways is a huge advantage when learning to control back and forward loops. Because of the dominance of vision in independent feedback, success here involves teaching your

caster how to look, what to look for and how they might know if they're getting it right or not.

Here is Macauley Lord in 1996:

"If you think the student would benefit from it, you could have him tip the rod over and cast in the horizontal plane and observe both casts as though watching a tennis match from the net. This way the student can, in Joan Wulff's words, "get the whole picture". Macauley Lord 1996

Leon Chandler

"Turn students sideways, tell them to look back at the back cast". Leon Chandler 1995

Bob Krumm

"Since most fly casting problems involve the backcast--the mechanics of the cast or encountering obstacles--one of the surest ways to overcome those problems is to watch your backcast." Bob Krumm 1996.

My favourite on this subject is this, which neatly leads us to the next point.

"I suggest we give our novice students credit for their ability to learn, and expand our instruction to include horizontal and possibly backhand casting. Some instructors already suggest that students come slightly off vertical to see loop formation or to watch their back cast. Why not take things a little farther and teach them the horizontal cast? After I explain that this cast is simply the vertical cast tipped to different angles to one side, my students seem to pick it up quite quickly. With a short line they also become more aware of loop shape and formation, and they more easily notice when their cast is overpowered or underpowered. These things all benefit the vertical cast as well. Most importantly, it starts the students thinking and asking questions. What can we use this for? What fishing situations do these casts apply to? A better dialogue is established between student and instructor. Bob Stehwein 1997

Variation and adaptability

"What can we use all this for? What fishing situations do these casts apply to?" Good questions. These are major motivators for any recreational angler.

When we fish, we do so in an environment rich with valuable information, multiple sources of sensory stimuli. How we process and interpret this information influences what we decide to do next. Where we stand, how far we're going to cast, whether there are obstacles, currents, wind, all these things might influence how we move. It is highly variable, nothing is ever quite the same and, as implied by Bob above, adaptability is a critical skill to learn for any recreational angler.

It is common to find that this capacity to change and adapt is the very thing that casters do not have when they arrive for instruction. There is a fixed pattern of movement. A behaviour primarily caused by the idea that there is an ideal, right way to cast. There is a

common belief that there is a formal, invariant, correct pattern of movement to be reproduced which will work in all circumstances given the appropriate amount of oomph. Clearly this isn't the case, but, once ironed into the mind as "muscle memory", a fixed mono-stroke is very difficult to shift. Bizarrely, this is often the very thing that casters are first taught, and this represents a self-created obstacle for instructors wishing to expand ranges of control and develop adaptability later in a casters angling career.

In 1996 Gary Borger said this:

Trained reflexes (muscle memory is one of them) are not inherent, but rather are learned by repetitive exposure to a stimulus. Gary Borger 1996

It begs the question of course, what happens if we change the stimulus? Changing task constraints or task objectives can help a caster to break a habitual pattern of behaviour.^{vii}

There are recognised techniques that help deal with this.

Mel Krieger again:

..., I commonly have them repeat the fault, casting wrong and then right again. This exercise is especially useful to intermediate and advanced students who through repetition may have "grooved" a fault into their stroke. Mel Krieger 1995

This is a description of a technique called "old way/new way"^{viii}. It is very closely linked to a similar method called "error amplification"^{ix} both of which can be very effective in the process of challenging "muscle memory" or habituated performance error. Both require a caster to exercise control over range, that is, our objective is not to groove in any particular way of delivering an ideal cast but to expand the controlled range of intended movement.

These techniques, linked to a variable, rather than a blocked, practice routine can produce lasting changes and significantly expand the range of control for a caster.^x In this way, not only do they disrupt muscle memory, but they help promote adaptability for when the caster is tucked under a bush on a windy day on the water.

Summary

We have seen that the most basic concepts of managing self efficacy, creating a simple well-structured lesson, promoting independent visual feedback and adopting variable practice routines are all present in *Loop* articles going back decades. Much of the content is supported by academic research and these concepts are extensively exploited in instruction and coaching in other sports.

ⁱ Bandura, A (1977) Self Efficacy: Toward a unifying theory of behavioral change.

ⁱⁱ Borger, J (2001) Nature of Fly Casting: a modular approach

ⁱⁱⁱ Bruner, J (1960) The process of education.

^{iv} Krieger, M (1987) The Essence of Fly Casting

^v Miller, G (1956) The magical number seven, plus or minus two.

^{vi} Gibson, JJ (1979) The ecological approach to visual perception.

^{vii} Newell, K. M. (1986). Constraints on the Development of Coordination.

^{viii} Baxter et al (2004) Less pain, more gain: rapid skill development using Old Way New Way

^{ix} Milanese et al (2008) Amplification of Error: A rapidly effective method for motor performance improvement.

^x Ericsson et al (1993) The Role of deliberate practice in the acquisition of expert performance.