

Not That Special

(Why learning to cast is like playing the bassoon)

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All organisations involved in casting instruction work hard to produce highly motivated, skilled and knowledgeable people. Assessment curricula direct candidate effort towards being able to explain and demonstrate top quality casting and to analyse and correct casting faults.

Without exception, instructor candidates are committed to becoming better casters and teachers and most start from a position of considerable angling experience. In contrast, for the vast majority, there is little or no experience of instruction. Entirely unavoidably perhaps, all certifying organisations produce expert, well informed casters who are novice instructors.

Of course, a newly qualified instructor has more than enough in the bank to get going but, like so many instructors we have talked to, we do not teach now the way we taught ten years ago. We have all changed since that first assessment...why ?

Every single instructor we have discussed this with describes common features, they all explain less, deliver less information and spend more time encouraging their students to try and think out solutions for themselves. This is in contrast with our early lessons where all we want to do is explain to our students how it all works and solve their problems for them super quick with our ready made text book fixes.

The “information content”, what we teach in the form of facts, concepts and ideas about casting, is not the focus of this piece. Nor are we too closely interested in the outputs or products of our instruction, the casts. That these things are critical in delivery of a lesson is not in question, but, in this series of articles we are going to explore some fundamental concepts of motor skills acquisition that we believe may be of value to new casting instructors.

Neither of us are experts in cognitive psychology but we have tried to explore what we have changed, and why we have changed it, and whether this has made our instruction more, or less, effective.

Most of the research backing these articles is available with a superficial Google search. We have included key academic references where appropriate. In addition, Loop articles by Dayle Mazzarella in 2012 more than adequately cover many key concepts and some of these were re-addressed in PDC guidance issued by the FFI in 2016.

To begin, we have to clarify some basics. The first may come as something of a shock.

1. Teaching Fly casting is not that special.

Please relax. The output, casting in all its variations, is *very* special but, to produce this output, at root, you are teaching people how to move. Thankfully, on this basis, playing the bassoon isn't so special either...neither is golf...so it's not all bad.

Teaching movement is a common multi-disciplinary process and the principles behind how people learn to move are also, pretty much, common. Casters, like bassoon players, or golfers, develop their skills something like this.



From the mid-twentieth century, vast academic resources have been applied to understanding how people learn and move through these developmental stages.

Thousands of research papers have been written on the efficacy (or not) of different approaches to skill acquisition in sport, how to encourage goal-orientated learning and papers that explain why, what we say, when

we say it and how we say it, influences the results of our lessons.

If our objective in instruction is to match, as closely as possible, how we teach to how people learn, all of these researchers assume one thing...learning happens in the brain.

2. The challenges we face as instructors are overwhelmingly psychological not physiological.

Human physiology plays its part of course but, whilst you may occasionally feel like you're talking to somebody's foot, you are principally interacting with the brain. It's rarely a physiological incapacity that holds us back in casting; it's our resisting brains. If you can stimulate someone's brain into believing it's a good idea to do something, the body will usually co-operate...usually.

In doing this it is important that we recognise one well proven fact:-

3. People learn motor skills differently to the way they learn facts, concepts and ideas. ^{1 Bloom et al 1956.}

We know from extensive academic research going back to the 1950s that teaching someone *about* something, giving them information, is not the same as teaching someone how to *do* something.

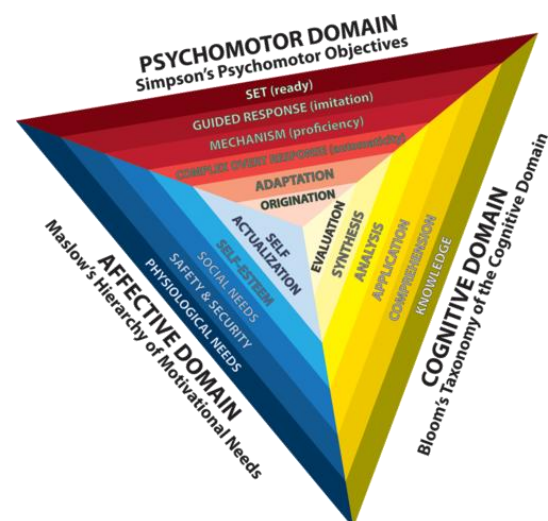
This does not mean that an instructor shouldn't teach people facts, concepts and ideas but only that this kind of content may not have any meaningful effect on how your student ultimately casts.

Some concepts of learning preference, VAK, VARK, etc. have influenced casting instruction. Their value has been, and continues to be, widely disputed in

educational psychology circles.^{2Pashler et al 2008} In the case of casting instruction, their relevance is highly debatable because, in fact, motor skills are learned in only one way.

4. Motor skills are learned by repetitive practice linked to a sensory cue.

Very simple. We can read about it, hear about it, watch as many online tuition videos as we like...they all help in their way but, we're only going to learn by doing it over and over. ^{3. Bloom et al 1956} A cue is a feedback mechanism that gives



us an indication that we may need to modify our behaviour if we want to succeed at something. For fans of VAK, all is not entirely lost because by sensory cue we mean something which we can see, hear, feel, smell or taste. A visual, auditory or kinaesthetic clue by which we can measure success or failure in meeting an objective.

For any skills acquisition, Practice + Sensory Cue = Learning. This means that cue setting becomes a critical skill for instructors to master. It can make life easy, or it can make it more difficult.

This is because:-

5. *Given a particular stimulus, people react to it in generally predictable ways.* ^{4 stimulus response theory}

Almost nobody likes this idea because it implies that we're not unique and important and that our capacity for independent critical thinking is limited.

Of course everything is layered, but serious objectors to this proven concept would have you believe that they are not affected in any way by advertising, political messaging, sudden loud bangs or road traffic signals. This is possibly true if you are an alien, or my mother (not mutually exclusive). For the rest of us, over 100 years of studies by earthbound neuro-psychologists in university kinesiology and cognitive psychology departments says otherwise. Amongst other things, this explains why Heinz tomato sauce is the number one ketchup in the UK, why we stop at red lights and why we don't usually hug snakes.

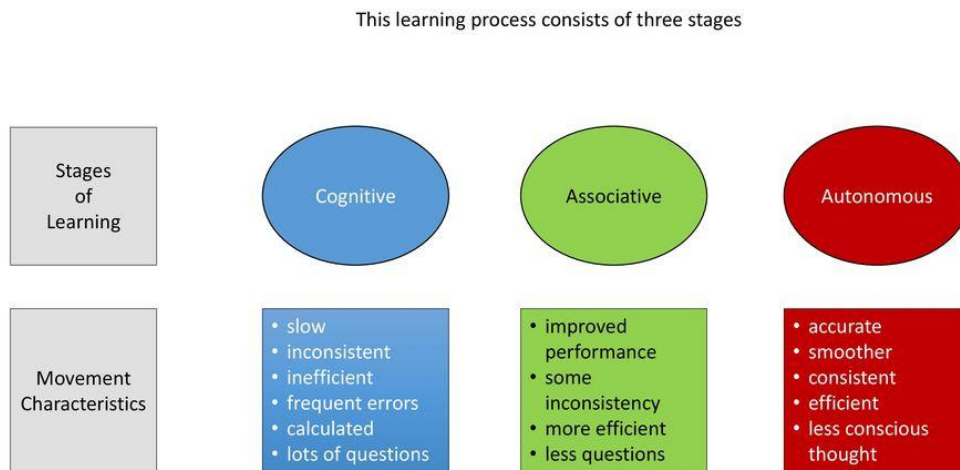
This principle works for instructors because, if we can create the right stimuli, we will get predictable responses and this will help a learner learn quickly. The corollary to this of course is that if we use the wrong stimuli we will also get predictable responses and a learner will learn more slowly.

The stages of learning are also predictable. This is enormously important in the management of expectations for instructors and learners alike. It is highly influential in how much an instructor mixes information content with skills instruction, how much an instructor should actively intervene to promote learning and the differing types of cue or stimulus that a learner will respond to..

6. ***People placed on a continuum of experience learn at different rates.*** ^{5 Fitts and Posner 1967}

In widely accepted models developed by educational psychologists in the 1960s this continuum of skills acquisition was broken down into three basic stages of learning.

Learning Process | Fitts & Posner (1967)



Source : 32 Degrees – Fall 2016; Kristen Quinn

The first two stages roughly fit with the descriptions of “beginner” or “intermediate” students in the CI test so let’s have a look at what it might mean for an instructor.

- a. The Beginner or “Cognitive” stage. This involves a great deal of concentration on the part of a caster but, generally speaking, beginners make large leaps in performance given appropriate prompts. This is a low information, high intervention lesson. It is foundational, where a caster will often achieve positive performance and retained learning very quickly. Both you and they will believe it’s all down to you...you may develop a strut.

Beginners cannot easily “see” the effect of motions as they happen, loops in the air, or tip paths for example. They can, however, easily see the static consequences of motions, leader and line layouts. Techniques that progressively introduce and develop the skill of watching a loop as it

unrolls and learning to look both ways during a casting cycle are important at this stage.

It is worth taking great care with beginners in order to ensure that the things they learn are capable of progressive development at later stages. If the foundations are too rigid, then this could create obstacles to learning in the next stage. If the foundations are built to promote expansion in the next stage, then life down the line, for both instructor, and student, becomes a little sunnier.

- b. The Intermediate or “Associative” stage. Most of your clients will be functioning anglers operating at this level. Because very few anglers start casting under the guidance of an instructor, intermediate casters are like beginners when it comes to cue observation. They are better, however, at associating a change in movement with a change in outcome.

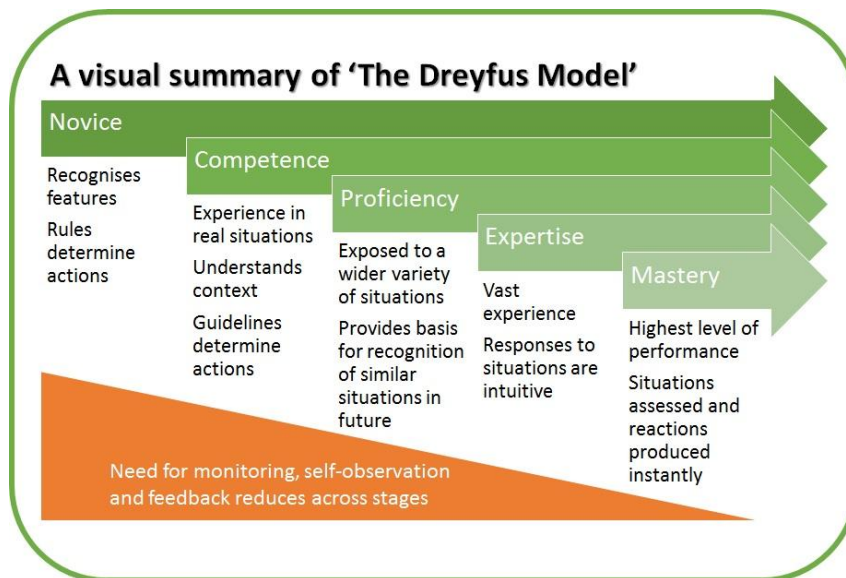
Intermediate casters make smaller steps in performance and commonly plateau between steps. It also involves significant concentration and it's often very hard work for your student.

In this stage instructors are most likely to encounter defensive learning postures. Pre-formed excuses for why they believe they cannot easily change. Stepped instruction, each stage reinforcing the last is important in this phase because it buys you wins. This where you will do your heavy lifting and where the real instructional heroes live.

- c. Experts know it all already...this is the third “Autonomous” stage, you are only there to applaud.

7. Competencies are task specific 6 Dreyfus and Dreyfus1986

Later researchers expanded on this early learning model and added detail to introduce five levels of competence. As shown in the diagram below, the level of instructor feedback required as the caster progresses reduces.



High intervention is necessary at the beginning but poking your nose in at levels four or five is quite likely to earn you a dark beady eyed stare unless it is specifically requested. Nevertheless, an expert encountering a new technique will still go through the stages described in 6. above even though they may not spend too much time in the first two.

Finally:-

8. *Performance under supervision is not evidence of learning.* ⁶ Sonderstrom & Bjork

When you do get someone doing something, they may not be able to do it again a day later...or even in the same lesson. If you were convinced of your own super-instructor awesomeness at the end of lesson one this can come as something of an ego slam when they arrive back for lesson two. Some instructors never admit it ever happens at all. Nevertheless, some regression like this is completely normal. We can do a lot to mitigate it but be reassured it's not a sign of poor teaching, it's just a sign that you haven't finished yet.

In the next section we will look at Cueing, how it works and some of the ways we can use it.