

STRATEGIES FOR EFFECTIVE PRACTICING

The pressures of high standards, large repertoire and limited practicing time, make it paramount for performing musicians to have highly effective strategies for practicing. To achieve the most in the shortest possible time, and in an enjoyable manner, is what every musician strives for. The more effective our practicing strategies, the more repertoire we can master and the higher will be the level of our performance, resulting in more professional success. *Practice makes perfect*, the adage goes, but in reality, only intelligent, methodical, productive, and not least of all, imaginative practicing can lead to success. A lot of time and effort can be wasted by practicing in an ineffective manner.

Let us ask then, what is the aim of practicing a musical instrument? Is it simply to improve technically and to learn new repertoire? Or is it more fundamentally to learn and to improve basic skills which underlie one's abilities to improve technique and learn more pieces? What could such fundamental skills be?

Think for a moment what it is that distinguishes an expert from a novice or an amateur. What is it that allows an expert to acquire a powerful and versatile technique, build a large repertoire in a relatively short time and consistently perform at the highest level? I'm convinced that it is basically two things: the ability to make very fine *distinctions*, finer than a lesser performer can make, and the flexibility of having more *options* than a performer who functions at a lower level. The person who makes the finest distinctions, and who has the most behavioral options for achieving an outcome will have the

greatest chance of success. That should be the aim of practicing: to make finer distinctions, technically and musically, and to increase one's options for reaching technical and musical goals.

Ideally, practicing strategies for improving distinctions and increasing options should be based on natural learning processes. So, let's examine what happens when people learn.

HOW DO WE LEARN?

Learning of skills follows a curve going from unconscious incompetence through conscious incompetence and conscious competence to the final stage of unconscious competence where the mental "programs" required for demonstrating a given skill can happen automatically without requiring conscious attention.

An example might be learning to drive a car. First, a person might be ignorant of exactly what needs to be learned to drive a car skillfully and safely. Then, seeing examples of skillful and safe driving, and perhaps hearing or reading explanations of the actions involved, the person forms an idea of what it is that s/he needs to learn to drive a car. Now the person is at the stage of conscious incompetence, since s/he knows what must be learned, but have not yet done so.

The student of driving then proceeds to learn different driving skills stepwise, bit after bit, until enough skills can be combined to drive a car with intense concentration. At this stage the driving can be done only when concentration is sufficient. The student has to concentrate hard, and pay deliberate attention to all actions involved in order to drive correctly and safely.

Eventually, after lots of practicing and experience under different circumstances, the student of driving masters the skills involved to such an extent that the actions of driving can be performed automatically, without conscious attention. The person can now drive a complicated route, performing intricate driving actions and reacting to changing circumstances, while thinking of something else, or having a conversation, or enjoying the scenery along the way.

That is the level of unconscious competence where the conscious mind is also free to pay attention to other aspects relating to, or giving meaning to, the skills being performed. The driver can now pay attention to his/her overall style of driving, or perhaps to the goal or the meaning of the trip.

Likewise, the performing musician wants to reach a level of competence where basic skills happen automatically or unconsciously, so that the mind can pay attention to aesthetic matters. At this level of unconscious competence the performer's mind can be free to occupy itself with giving expression to the aesthetic and emotional meaning of the music. It can become engrossed in the beauty of the music and its conception of how to transmit that beauty to an audience. The unconscious mind, controlling the basic skills, is then the agent for enacting musical or aesthetic goals.

Given the fact that people can consciously attend to only 7 (plus or minus 2) bits of information at any given time, it is essential in learning, as in performing, to reach the stage of unconscious competence, so that mental space is available for new information, and conscious attention is free to focus on content and meaning, rather than process.

What happens during progress through the learning curve, is that the mind becomes familiar with an example or a model of its goal(s), compares its present capabilities to the example

or model, and on the basis of ongoing feedback, makes adjustments or changes until its behavior is sufficiently similar to the example or model. That is the basic structure of mental strategies for achieving outcomes.

The mind subdivides a new skill which it strives to acquire into learnable chunks, which can be mastered stepwise and be gradually combined into larger units, until the complete skill has become unconscious or automatic. For the purposes of this essay, and in line with NLP usage, let's call this process of subdivision and re-assembly *chunking* — chunking *down* for subdivision, and chunking *up* for re-assembly.

So far we have established that the aim of practicing is to make finer *distinctions* and generate more *options*, since these are the hall marks of true expertise. Let's refine it a bit by suggesting, more specifically, that it is *sensory distinctions* and *behavioral options* we are aiming for. Furthermore, we have established that the learning process ideally culminates in a stage of *unconscious competence*, and that the mind needs a *model* of its goal, subdivision (*chunking down*) of its goal into manageable steps, re-assembly (*chunking up*) of those steps into larger and larger units, *comparison* of its present actions to the model, and *changes* based on ongoing sensory *feedback*.

To accomplish all of the above, the most basic, most fundamental, absolute prerequisite is sufficient *awareness*. Distinctions are awareness of difference. Having a model requires awareness. Making comparisons requires awareness. Generating options requires awareness. Feedback requires awareness. Making changes requires awareness. It seems obvious that awareness is the first and most basic requirement, but since people tend to get lost in symbolic, abstract thinking, they all too often forget to be really aware with open sensory

channels. It bears repetition: *sensory awareness* is critical and essential to learning in any context.

Based on the foregoing, it can now be suggested that effective strategies for practicing should include at least four categories:

- examples or models
- awareness
- chunking
- options/flexibility

Examples Or Models

The mind needs to have full sensory representations of the best possible examples of the skills it wishes to learn. As many senses as possible must be involved in experiencing an example. The better the example, and the more complete the mind's sensory representation of it, the higher will be the quality of learning. Minds learn on two levels, conscious and unconscious. Since more of the brain (physical area) and more of the mind (stored sense impressions, memories) are involved in unconscious than in conscious learning, and since verbal (instructional) learning is once removed from, more limited and slower, than primary, sensory experience, it follows that for optimal unconscious learning full sensory impressions are essential. The conscious mind tends toward the verbal, while the unconscious mind tends toward the sensory.

Awareness

Watch and listen to great artists performing. Imagine what it will *sound* like and *look* like if you have the same skills. Imagine what such skills *feel* like. Be fully *aware* of excellent examples and of how your current skills compare, not in terms of “good” or “bad”, “better” or “worse”, but in terms of sensory

differences. “Good” and “bad” are symbolic, abstract distractions of mind, as Timothy Gallwey of the Inner Game approach so strikingly points out. It hinders full sensory awareness, produces anxiety, and creates unnecessary tension, psychological as well as physical. One needs to be aware, nonjudgmentally, of what *is*, in order for changes to take place in an organic, ecological way. The unconscious mind, being the storehouse of rich sensory experience, has an innate wisdom far surpassing that of the analytical, judgmental, verbal conscious mind. Trust it, and provide it with unbiased, unadulterated sensory data. It is like an immense computer, dwarfing the conscious mind by comparison. It thrives on awareness.

When practicing, be aware of sensory information, of differences, of changes, of patterns (both musical and technical). A useful principle to keep in mind when doing awareness exercises is that the smaller the sensory stimulus experienced, the finer are the distinctions which the brain can make. (Conversely, the greater the sensory stimulus experienced, the greater differences must be for the brain to perceive them at all.)

For example, if one is carrying a heavy load, like a piano (high stimulus), the difference introduced by a fly alighting on it (small difference) cannot be felt. A much larger weight would have to be added for the difference to be noticed. However, should you instead hold a feather in your hand (low stimulus) you would surely feel the difference in weight when the same fly alighted on it. The same principle applies to all senses, visual, auditory, kinesthetic, olfactory and gustatory.

Therefore, as a first step when trying to make finer distinctions (notice differences), lower the stimulus that you are producing. During the learning process, when you want to make finer auditory distinctions, play softer, so that you can listen

better; when you want to make finer kinesthetic distinctions, apply less pressure or tension, so that you can feel smaller differences. This is also a form of chunking down: decreasing, making smaller, lesser.

Similarly, tempo can be chunked down. If an event happens too fast for the brain to make the necessary distinctions, slow down the tempo, so that the brain can notice what it needs to notice for learning.

Another useful strategy for focusing awareness to make finer distinctions, is to make deliberate comparisons. Make a list of all the factors involved in playing your instrument, like pressure, weight, speed, distance, balance, vibration, angles, texture, tension, temperature, contour, posture (all of which can be experienced kinesthetically); loudness, timbre, pitch, intensity, duration, silence, noise (all of which can be experienced auditorily); and distance, form, speed, posture (all of which can be experienced visually). One would expect and welcome many overlaps of senses, since synesthesias are essential for skills as complex as performing music. Compare repetitions of the same actions, focusing on each of the factors you have identified. Notice whether it is lower or higher than the previous example, slower or faster, louder or softer, more or less relaxed, and so on. Quantify the differences you detect and strive to notice smaller and smaller differences. An imaginary scale can be used to quantify differences. On a scale of zero to ten, where are you now, compared to the previous example? Remember to lower your stimulus (auditory, kinesthetic, tempo) as an aid to making finer distinctions.

Chunking

To learn, the brain needs manageable steps which can be mastered one at a time and gradually combined into progressively

larger units. A useful strategy for subdividing or chunking down a problematic new skill, is to use the first trouble spot as a cut-off point. This is a horizontal approach. You play whatever you can perform capably up to the first stumbling block. Once you have mastered that first problem sufficiently for it to have become an unconscious competence, you add to it whatever culminates in the next trouble spot. Master it and combine what you have so far into a larger unit. Continue in like manner.

A vertical approach might be added. If many things happen simultaneously (like harmony and counterpoint), chunk it down to manageable parts. In the case of difficult chords, first play only the lower (or upper) notes, until they can be effortlessly performed. Then practise the notes on the next level in the chords in the same way until each level has been mastered. The next step could be to combine two notes in each of a series of chords, then three, then four, and so on, until it has all become one smooth and comfortable unit. Again, lower the stimuli and slow down the tempo as needed, since both are forms of chunking down.

Options/Flexibility

The person who has the most flexibility and the greatest number of options has the greatest chance of success in a variety of circumstances. The performer who can produce the same tone in the most ways, and who can produce the most different tones, is the most skillful. The one who has the most variety in his/her playing, both technical and musical, will be the most successful. To put it in another way, given the same goal, the person with variable means for achieving it will have the greatest chance of doing so.

Musical performers have to cope with many different circumstances. Venues are different in appearance, ambiance and acoustics; Pianists have to play on different pianos; Instruments respond differently under changing circumstances, as factors like temperature and humidity have their effects; Mood and clothing can make for significant differences in a performing experience; Spontaneous musical and aesthetic insights and decisions while performing can make for change; Fellow performers in an ensemble have their influence on the circumstances of a performance; The artist's level of energy and well-being can make a tremendous difference.

In order to develop optimal flexibility, increase options and have the most encompassing skill, a performer needs to practise everything in a great variety of ways. Doing so provides a multidimensional understanding of whatever is played. It is like the making of a hologram. The outstanding characteristic of a hologram is that information of its three dimensional image is contained in the whole hologram, the effect of which is that when it is subdivided the complete image is maintained in each resulting part. Every piece contains the whole original image. A hologram is made by reflecting light produced by lasers from different angles off an object and recording it on a photographic film. Analogously, the contents of the mind can be thought of as holographic, resulting from multidimensional perspectives of experiences. The more perspectives are experienced, the more complete will be the result. It also ensures that more areas of the brain are involved, enhancing memory.

A performer can develop a multiple description, or holographic representation, of a new skill, by playing in a great variety of ways. A passage can be played with different rhythms, at different tempi, with different timbres and different volumes

(loudness). It can be played in reverse, end to beginning, which incidentally might change the psychological meaning it has acquired. We know from information theory that the order in which information is arranged determines the meaning it has. Changing the order of the same bits of information, changes the meaning. *The of the changes same order meaning information changing bits the of.* Like the previous sentence. A passage which has become scary, might lose some of its power to frighten, if it is practiced backwards, apart from the fact that practicing it in a different way adds to the technical perspectives the brain has of it, making it easier to play.

A passage can also be played with different tensions, both physical and musical, with different postures, different angles, different weights. A player can change his/her stance, or distance from the instrument, or whatever his/her imagination can come up with. Stand on a chair, or on your head, if it is feasible (Eloise Ristad's wonderful book on performing is titled *A Soprano On Her Head*). Play in the dark — you will hear things that you've never heard before because your awareness isn't divided by visual stimuli.

Expand your repertoire of aesthetic and communicative capabilities by practicing the same phrase in ways that communicate different emotional meanings. Play it as though it represented anger, or tenderness, or sadness, or humor, or whatever different meanings you can imagine. Ask some friends to listen to you and have them tell you what emotion they associate with the way in which you play the phrase or theme. If it is not the emotion that you've chosen to convey at that moment, change the way in which you play, until the meaning you intend and the meaning your listeners perceive are the same. Remember, the meaning of your communication is the response it elicits.

In addition to expanding your communicative capabilities, this exercise gives you a wider range of possibilities to choose from. Having experienced many different ways allows you greater scope to choose what is most appropriate.

Nothing is wasted. The brain is always learning, and even if a new way of doing things isn't in itself useful, it changes the way in which familiar ways are experienced. It gets a player out of ruts that may be stunting growth or hiding options. In the light of new experiences, older ones can never be quite as they were. Growth requires change. Growth *is* change.

It will be obvious by now that none of the principles and strategies described completely stands on its own. The categories offered here are really artificial divisions for the sake of efficient discourse. Awareness strategies apply to all other strategies. Some awareness exercises are also ways of adding perspectives, increasing flexibility and options, and chunking down. Multiple description strategies are also ways to increase awareness. Ways of chunking down are also ways of increasing awareness. It is all part of the same approach, the same way of thinking about learning.

An expert makes fine distinctions and has many options, which should be the aims of practicing. The most fundamental principle of effective learning is sensory awareness. In the process of learning, the brain has an example of its goal, compares itself to it and makes the necessary changes. Learning is most efficient when done in manageable steps which are gradually combined into larger units. Unconscious competence is the final level of the learning curve. Excellent examples, full sensory awareness, chunking of skills, and developing flexibility and options are essential aspects of effective

practicing. There are specific strategies and techniques for developing skills according to these principles.

