

VISION & MISSION STATEMENTS FOR PLAYERS—PART 5

'FUNCTIONAL SHOTS'

Nearly every company and organization has a vision and mission statement. In our programs at NVTC, we have harnessed the power of vision & mission statements to direct our player development. I have created a performance player vision statement and targeted mission statements to help our coaches and players get on the same page about where we are going and how to get there.

This vision statement is my version of some original work by top international coach Louis Cayer:

"A Performer who is an Athlete that Plays Smart with Functional Shots."

On our integrated player diagram to the right, we see when we use the term 'player', we are referring to both the *tactical* and *technical* factors. There is a direct connection between tactics and technique, which harmonize in a package called tactical-technical development.

This article will explore technical development, but since technique only exists to execute a tactic, we will label it 'functional shots'.

Our technical development mission is:



'FUNCTIONAL SHOTS' MISSION (Technical)

*"Help players learn technique that is **adaptable**, **effective**, and **efficient** with no 'Red flags' inhibiting future development."*

So now, we finally get to technique. Not to say it is the least important, but other elements also play a big part in successful competitive play. Good technique is an important goal. However, what does it mean to have 'good technique'?

For stroke-based coaches, it typically means looking a certain way (e.g. Having good 'form', always having a good follow-through, etc.). In contrast, *our* definition is connected to tactics since the main reason technique exists is to execute tactics. In motor learning, this principle is called '**Form follows Function**'. **Technique is second (in function of tactics) but never secondary.** No player can progress to the game's highest levels without functional technique.

PRINCIPLE-BASED TECHNIQUE

For technique to be functional, it must be based on **principles** rather than a 'Stroke Model' to copy. For example, coaches who teach 'form' will get their players to execute the same swing everywhere (which is ineffective). They tend to sacrifice more essential principles (like timing) on the altar of the 'perfect swing'. In contrast, a principle-based coach would prioritize the stroke's most important moment (timing at the appropriate impact point). This priority would mean everything else would be shaped around timing *for the situation*. Their movement, racquet & body preparation, swing size and shape would be adapted for what they are trying to do.

“Methods are many, principles are few, methods may change, principles never do.”

TECHNICAL PRINCIPLES:

Three over-arching principles govern the technical development listed in our Functional Shots Mission:

- **Adaptable:** Tennis is an 'open skill' ([for a detailed article on tennis as an open skill, click here](#)). It should not be taught the same as figure skating and other closed-skill sports, emphasizing robotically repeating the same movements over and over but instead getting repetition on problem-solving. In tennis, the situation is constantly changing. Balls come high & low, right & left, faster, slower, etc. Players must hit from different positions and locations on the court and send the ball with differing speeds and trajectories. They can be in Neutral, Offence or Defense phases within the same point. **Therefore, the #1 capacity for successful technique is adaptability.**
- **Effective:** For a shot to have effectiveness, it means the technique has the desired 'effect'. There are two levels of effect for tennis shot:

- **Level 1: Effect of the ball:** To be effective means to make the ball do what it is supposed to for the appropriate 'effect' on the opponent. (Defined by the 5 ball characteristics of Height, Direction, Distance, Speed & Spin)
- **Level 2: Effect on the Opponent:** The effect on the opponent is related to tactics and how they receive the 5 ball characteristics. For example, challenging an opponent's timing by:
 - Moving/stretching them
 - 'Jamming' them
 - Making them receive the ball higher or lower
 - Sending the ball faster or slower to make them hit earlier or later

Looking 'proper' is useless if it doesn't help you solve the problem of controlling the ball to gain advantage. ***The goal is not to 'look better' but to 'learn better'.***

- **Efficient:** This means the body's mechanics are used well (the appropriate links, in the correct order) to generate/minimize force as required. When appropriate force is generated, it allows for *power without effort*. The advantages include:
 - **Minimizing injury:** No single link (e.g. the shoulder) gets overstressed.
 - **Economy of energy:** You can hit as hard in the final tiebreaker as in the first set. No energy is wasted, which could deplete your reserves.
 - **Power generation:** To win at higher levels, players must be able to challenge opponents at their level and beyond with the speed of the ball.
 - **Timing:** Good efficiency helps timing by having fewer moving parts (or better synchronized parts). Players can time their impact reliably and more regularly, significantly improving consistency & control.

PRACTICE DESIGN PRINCIPLES (How to train it):

Here are two 'radical' ways to design practices that maximize technical training that produce functional shots. Coaches embracing these principles have reported having their coaching world completely transformed.

Multiple studies have shown how designing practice with these principles in mind produces much better long-term retention of skills. Players become adaptable by wrestling with problems and implicitly discovering solutions.

“The goal is not to ‘look better’ but to ‘learn better’.”

Robert Bjork – UCLA Professor of Psychology & Learning expert

1. Increase the amount of 'Variable/Random' Practice

(Called 'Interleaving' in learning research)

Keeping in mind that 'form follows function', how coaches set up practice will either help or hinder developing functional shots.

Firstly, coaches must understand that the definition of a 'skill' is not just the movement itself but reading the situation and making the appropriate decision to apply the movement appropriately. To develop 'skills,' there are three classifications of practice types that coaches need to understand.

- **Blocked practice:** Training that involves predictable, consecutive repetitions of a specific skill. This is the core of traditional tennis training.
- **Variable practice:** Learning variations of the same skill. For example, going through a sequence of Neutral, Offensive and Defensive forehands.
- **Random practice:** Creating changes in the environment to force players to adapt the skill based on the situation. (To include reading & decision-making).

Here is a related video from the Training Ugly group I have found very helpful: [Blocked versus Random Practice](#) (15 min 56 sec)

Repetition without Repetition:

So, if blocked practice is less effective, how do players get the required repetition to master skills? I have found two videos on the motor learning concept of 'Repetition without Repetition' helpful. The concept is critical in training tennis as an open skill by developing adaptation skills.

- ['Repetition without Repetition-White board summary'](#). (2 min.30 sec)
- ['Repetition without Repetition'](#) (10 min. 24 sec)

2. Task-driven Technical Coaching

One way to coach adaptable, effective & efficient technique is to not view strokes as a specific model to mimic but rather, **let the task shape the technique**. For example, rather than teaching 'the forehand', the coach helps the player to learn how to make the ball do what it is supposed to in the various situations they encounter on the forehand side.

Place players in a situation where they will have difficulty achieving the task if they do not adapt and have effective & efficient technique. For example, for learning a wide serve with topspin on the Ad side (right-hander), specify the target area and the bounce height. Then have the player serve from the left singles sideline two steps back from the net. Every 4 serves, take 3 steps back toward the baseline. Once at the baseline, move to the regular serve position. To achieve the task, the technique must be evolved accordingly.

The challenge of the environment can be created by manipulating:

- **Reception** (Ball received Height, Direction, Distance, Speed, Spin and where it is received from)
- **Projection** (Ball sent Height, Direction, Distance, Speed Spin)

Reverse the typical order of information delivery

For example, in traditional coaching, the coach would show the forehand (and everyone would copy) then, try to get them to use the stroke. Instead, throw them into the task first (e.g. push the opponent back deep in a rally), get them to identify the problem to solve and find a solution. ***A well-designed task can be a better technical coach than you.*** Only provide relevant feedback to facilitate them solving the problem or if the technical solution they chose is inefficient or uneconomical or may hinder future success (called a 'Red Flag').

I am not advocating that a coach never takes out the basket and hand or racquet feeds. If a specific technical issue needs a short, focused time of repetition, that is the best time to use the basket. Then, integrate it back into the random environment.

“A well-designed task can be a better technical coach than you’.”

Practical Example

As a 'case study', we had a competitive group of juniors, and, like many coaches, we were unhappy with their ability to use underspin on their groundstrokes (slice) in matches. We could have treated this as a stroke to learn (e.g. their slice BH) with the typical technical demonstration and then 'blocked' repetition drills. The deficiency in that approach is, *which* slice are they learning? There are multiple situations slice can be employed. There are many *different* slices needed in matches.

Instead, we went with the innovative approach of helping them to learn slice as a '**skill**'. Every session (for only about 10-15 minutes), we played a 'slice game'. It started in the service boxes where they would feed in a shot and play out the point. The only rule, all shots had to be hit with underspin (no volleys allowed).

We designed the tasks to shape the learning as they went along during the year. Here are how tasks could be changed to encourage the appropriate tactical outcomes:

- Increased the width of the playing area (e.g. From playing into only one service box to both service boxes, including alleys). This encouraged using short slice angles and using the slice to stay in the point when stretched out of position.
- We allowed volleys. This encouraged transferring the slice skills to volleys.

- Increased the length of the playing area (e.g. to the Orange court baseline or the full court baseline). This encouraged deeper slices and contrasted with shorter drop shots (and to receive shorter and deeper slices).
- Using the lengthened playing area but a ball landing shorter than the service line was considered 'out'. (Evolving to shots shorter than the Orange court baseline were 'out'). This encouraged deep, penetrating rally slices (and to respond to slices, with slices).
- Player started with a low/hard feed. This encouraged defensive slices.
- Used a rope across the net as a height measure, with all slices having to go below the rope and past the service line. This encouraged more power slices (and to receive power slices).
- All groundstrokes had to go above the rope. This encouraged more 'floating' or defensive slices (and to 'intercept' these with volleys allowed under the rope).

The coaches would intervene with relevant technical information (usually in the form of questions) if they were having difficulty making the balls achieve the task (e.g. *"What do you have to do with your racquet path to make it go under the wire? What do you have to do with your racquet speed to make the ball go deeper? etc.*).

Rather than being taught 'a slice stroke', they had learned their 'skill of slicing' in a variety of different situations, in neutral, offensive and defensive phases. The result? We observed them successfully using this skill in all their match play, all with only a 10-minute per training session investment.

Take note of one important subtlety here that can revolutionize your coaching. We didn't 'teach them the slice'; we facilitated them learning the skill of slicing.

Another key point is the coach must let go of how 'ugly' it is to start and take a long-term view. The many mistakes required to learn are difficult to watch but critical for learning.

CONCLUSION

It is critical to develop technique through the application of ***principles*** rather than through conforming players to the 'form' of an ideal stroke model to mimic. Using the science-based practice design principles of variable/random practice and task-driven coaching, technique can be developed with the technical principles of adaptability, effectiveness and efficiency. This creates players with 'Functional shots'.

This article was inspired by the work of Louis Cayer.
If you would like to ask a question, give feedback, or want more information, contact us at:
acecoach.com