

PROGRESSIONS AND YOUTH SPORTS

Peter Bristotte - August 12, 2020

Progressions, progressions, progressions.

Every single sport uses progressions either when it is being first taught or when high performance is required from top athletes. Every single sport starts simple and as the athlete learns it, gets their reps, accumulates hours of training, even of competing, it gets more complex, more specialized.

Psychology Sciences have already shown several years ago that contrary to what mankind thought until around the XVII century, children are not adults in miniature. History shows that even the arts until the XII century ignored childhood. It was between the XV and the XVII century that a sort of “quarantine” was introduced to young humans before they could join the adults world.

The development of the human body and mind is an intricate and complex process in which the body matures before the mind, in terms of psyche, emotions and cognition. The body does not born mature. The mind does not born mature. Body and mind grow and develop as one gets older. Generally the body ends its maturation process in the first years of adulthood and it looks like the most complex cognitive processes only mature much later in adulthood.

The question that rises for us, sports professionals, is: why do we keep teaching children all techniques and strategies and expect them to play with the same level of complexity we see adults playing? My best guess to answer this question is: WE ARE WRONG!

Picture any sport you want.

In terms of technique (I am talking about sport specific skill, fundamentals), the first thing to ask is what techniques are appropriate for each phase of the body growth and development? Does a beginner at 10 years of age have their body ready to execute that technique and to expect success? My example here comes from volleyball, my sport.

The shoulder is one of the most fragile joints in the body of a volleyball player. It is anatomically unstable, it is surrounded by tiny and weak muscles, it involves a long bone - the humerus growth plate, that will only get fully calcified much later in the end of adolescence, maybe the beginning of adulthood in some cases - and it is heavily involved in two fundamentals that score for a team, there fore critical for the sport: attacking and serving.

Now picture a ten-year-old shoulder trying to overhead serve from a distance of 8, 9 meters when they can barely hit the ball over the net a few feet from it. The overhead serve puts the shoulder in a disadvantageous position as the anatomy of the shoulder does not allow much room overhead to accelerate the upper body limb before it contacts the ball. One has not only to apply

an incredible amount of power (many times one's body is not ready yet!), but it will end involving several other joints to create that power (because the shoulder itself can't - the overload generated to the lower back is something for a whole new article).

What is the solution we found for that ten-year-old shoulder to serve well, then? We hire private lessons, we do anything we can for that shoulder to get more reps! Isn't that brilliant?! We overload even more a body that is not ready to execute that technique with the required performance expectation. "So, Peter, are you against young players to overhead serve?" No, I am not against, I am strongly against it. The only way I see a ten-year-old doing it, is after this athlete puts some muscles around that shoulder and core, and more importantly, masters the underhand serve. Why? Because of a number of reasons: 1) the underhand serve has a mechanics that not only favors the generation of power, but it also saves the little muscles, tendons and ligaments around the joint; 2) because the proper underhand serve technique requires no toss, so one is much more likely to make a proper contact with the elbow completely extended - one is teaching their brain that when the hand hits the ball the elbow is extended, thus creating not only muscle memory but also developing the famous eye-ball coordination (how far is the ball from my eyes when I hit it), which will make the transition into attacking and overhead serving (with the ball moving in the air) much easier, and 3) because of 1) and 2), chances of succeeding at serving are much greater, which makes the game more fun, that action a lot more fun, less traumatizing. Yet, because at the higher levels we only see overhead serves and its variations, we want our little ones to start doing it as early as possible because "they have to learn it as soon as possible, they have to accumulate the reps".

My humble suggestion is that techniques to be introduced as the athletes grow. Simple techniques first, more complex techniques later, especially those that require a more mature and developed body. However, I also understand that some techniques are critical to the identity of some sports and not having those techniques in the game, even in younger age groups would make the game to lose its identity, it would be something else. What to do then? Well, maybe change the rules, change the dimensions of the playing area. Lowering the net in volleyball, the hoop in basketball, pinching from a closer distance in baseball, maybe a lighter bat (I don't even know if these examples already happen, so forgive me if I am being redundant). The idea here is if a technique is critical to the sport identity, but it is complex for younger players, adapt something else in the game (rules, dimensions of the playing area, limit strategy options, etc) and do not expect adult outcomes. Progress those adaptations as the years pass and the players bodies get closer to what is expected from a mature and developed body.

The other side of this coin is tactical topics. The human mind is not fully developed at ten years of age. The complexity of cognitive tasks progress as one grows and so should it be in sports. A basic strategy or playing system that progress with the players as they grow not only will widen and deepen their understanding of the game, but also will help them to develop a solid generalist background. The reason? Usually, in team sports, simple strategies and playing systems are related to little specialization of functions. Everyone does everything. As the years pass position specialization is progressively introduced on top of a solid generalist background. How is that

better than early position specialization? I can give you two reasons and maybe there are more: 1) the more specialized a player is the greater the tendency of favoring a group of techniques in their practice and neglecting other techniques that are not characteristic of that specific position. In volleyball, for example, a middle will not practice back row skills because another specialist will play back row for them; a setter doesn't practice hitting because hitting is the third contact and the setter is specialized in the second contact. The list goes on. The problem with that is that later on, at higher levels, several of the critical actions of the game will be specific skills being performed by a player of a different function: a middle has to set, a setter has to hit an overpass, a right side has to receive the service, an outside hitter has to bump set a ball out of system. Guess what will happen to an early specialized outside hitter that has to bump set a ball out of system in the championship game, match point, and they do not have that generalist background? If your answer is "the player will miss the set and probably the team will lose", I won't say you are correct (the game is unpredictable), but I would say the odds are with you, you are probably right. The reason 2) resides in the fact that a generalist background increases one's ability of reading the game and act in advance and furthermore, it helps one to make the right decisions faster. A specialist who was raised a specialist will have issues dealing with situations outside their scope of practice, with something that is not trivial to their position. Specialists with a solid generalist background adapt faster and better, and usually are smarter players.

What to do to progress strategy then? Well, the easier thing to do is not with the children, but with the adults. We must stop to train children and to expect them to perform like adults. In the case of volleyball, we have to stop having our U12 playing a 5x1, i.e.. We have to ease. To progress their way into the more complex game strategies. It is a process, and processes take time to be implemented, understood and to take effect. If the majority of adults understand this, we can deal with children screaming and making a tantrum because they want to play like adults, that is not the problem. The problem is when children AND parents AND coaches are tantrum experts. Another possibility is again to adapt the rules of the game and limit game systems within each age group (at least for team sports). Younger teams would be allowed to play only certain systems and as they grow older more complex/specialized systems would be allowed in a thoughtful progression. One of the rule changes that could make a huge impact in volleyball, i.e., is the number of substitutions. International rules state that only 6 substitutions can be made per team per set and only two players can play that position. Player A is the starter, then player B plays for A. In that set, if A comes back on the court, A can only go back in for B and A won't be allowed to leave the floor for the rest of the set (and obviously B won't be able to play that set anymore). In club volleyball, high school volleyball and even collegiate volleyball, you have at least 12 substitutions per team per set and multiple players can play the same position. This is great to create opportunity for more players to play each set and again, it is awesome in the short term, because more people can play volleyball. Right? Apparently. In the long run, the elevated amount of substitutions create the possibility of having two rosters within the roster: players that are specialized in playing front row (the ones that will attack and block at the net, the tall ones) and players that are specialized in playing back row (the ones that will specialize in serve reception and defense, usually the shorter ones). Even though this increases immensely the possibilities in the game (which is great for collegiate level and up), it also impairs immensely

the player development, especially the tall ones, who will never practice serve reception or defense, or even if they practice, in critical moments of the game they will be pulled out for a specialized back row player (because at the end of the day it is a business and teams have to win). The tall players will never have to struggle and hustle in the back row. They will not learn to deal with the frustration of shanking the last reception of the game or overpassing a free ball that would give them the victory (and at the end of the day we know that the taller players will have the greatest opportunities in the best college programs and pro leagues). Why not, then, to change the rules to 6 substitutions per set per team, and the next set to have mandatory substitutions and new players have to play that entire set? We are giving the same opportunity to players in the same match, we'd be increasing the possibilities of the game because coaches would have to play chess to have different line ups within every set and players would have to play more "all around". It is great for the "game show", it would be great for players because now they would actually play, considering playing as playing both front row and back row. This could be an option for youth volleyball, and I am pretty sure you can think of other examples for your sport. We have to find ways to give opportunity and not to harm the children's growth within the sport both physically, cognitively and emotionally at the same time to help them get a basic and solid generalist background.

Ask Karch Kiraly or John Speraw, the US National Teams Head Coaches (women's and men's) what are their thoughts of the latest generations of athletes raising to the national teams. Then ask if their coaching staff is 100% happy with the motor repertoire their players have. Ask any collegiate coach if the majority of their players have good control of every single fundamental (not saying to be brilliant at everything, I am saying reasonably good - at the end of the day the collegiate volleyball is the highest level one can play in the US), if they could reasonably play at any position (not saying being nominated NCAA player of the year, but could they practice at any position and at least not compromise the whole practice dynamics?). That's right. I personally don't know them, but I think their answer would probably be a sound no. Those players, although great players, will lack something basic, something that might be the difference between the Olympic gold or silver medal, the difference between going to conference finals or not. The difference between winning or losing a scrimmage. And if you think that because they are at the highest level it is their job to fix it, I am sorry, but no. Those players are fully mature and developed, their motor schemes are solid in their cerebral cortex (meaning it is almost impossible to change any of their mechanics) and because of that they will have issues if they are put in any other position to experience it because they simply can't do it. At that level, coaches will have to "work with what they have". They will look where to "put the bandaid", because the basics are lost.

We could go on and discuss conditioning for youth, mental preparation for youth, emotional stress in youth, other psychological aspects in youth sports and we would always come back to the same. Children and adolescents are not adults in miniature. PROGRESSION IS NEEDED! PROGRESSION IS VITAL!