

## John Kessel Motor Learning Train Ugly Interview

<https://trainugly.com/portfolio/specificity-improving-the-learning-process-with/>

- USA Volleyball - reason for success in men's vs women's. Men had been training according to the science on motor learning, and applying this to the training environment. Women had been training like the 'Asian' world which was very coach controlled.
- In USA Volleyball, coaches average a couple hundred contacts (touches of the ball) a practice, but the coach got the most.
- Transfer to a skill is very little if it's not game-like. Specificity is the corner stone. This means how similar practice and the tasks within is to a game.
- You don't learn a skill by watching. You get an idea as to the goal.
- Example of complexity - did your mum hire a bike riding coach? Did she do a bike driving drill? Did you do progressions (e.g. x20 on right, x20 on left).
- Driving analogy. When you start driving, you've watched your parent drive for 16 years. Does that mean you know how to drive? Or do you have to try it first and put your foot on the pedal to start learning? You have to do it!
- For context of motor learning, you have to balance game-like learning with contacts (touches of the ball). Random training is vastly superior to block for problem-solving and more importantly, for retention.
- Are you practicing for practice, or practicing for performance? If the latter, has to be random and not blocked.
- Go for speed first, accuracy second. Tiger Woods - "hit the ball as hard as possible, and find the fairway later."
- "Feed-forward" vs "Feedback." Feedback can be seen as criticism. Feed forward guides them to think about what to do next time. They can control the next play. 76% of John Wooden was giving 'specific feedback' vs non-general.
- Intrinsic learning is vastly superior to extrinsic where I tell you what to do. Idea with demonstrating guided defense - just show the defense first and allow offense to problem solve. Then do a group huddle to determine must successful options if some counters can not be seen.
- Guided discovery = using questions to get the athlete to self-discover.
- The player who knows "why" will always beat the player who knows "how."
- "The man who knows how will always have a job. The man who knows why will always be his boss." - Ralph Emerson. We want our kids to know why, so have to guide the discovery.
- When you tell them what to do, the retention is 10 times less and you have to constantly tell them.
- Could probably teach someone how to dribble really well technically. But when they are put in the chaos of the game, they may not do it at the right place at the right time - this doesn't mean they don't know the technique. It's because they have to see and read better.

- Basketball example of pressure. Reason why I am such a believer in constant pressure is because of the lack of understanding from coaches of these motor skills. Because the majority of practice is spent unopposed, I want to put the opposition in a scenario which they haven't prepared for.
- John avoids using the words "try" and "don't". Try suggests you may not do something and gives them a chance to fail. I would challenge this by suggesting that try opens up room for failure from the athlete during the self-discovery approach, given there will be errors.
- Avoid using the word don't as can't teach a negative. Every cue word is never negative, always positive. What you should be doing instead of what you're doing right now.
- John also avoids the word 'but.' This is because it often 'slams the door on a complement,' which a player needs to hear.
- We don't coach basketball, we coach people. If a coach says they coach basketball, put a basketball on their lap and say show me how you coach basketball!
- Different way to look at 'coaching records.' 4000 vs 210. Not results, but how many kids loved the game and kept playing vs how many kids dropped out!

### **Mini Volley Notes (with my thoughts and interpretations)**

- We must help children love the game. If they love the game, when they inherit a bad coach, they play more easily through that period...if not, we lose them. We want them always to love the game, no matter the circumstances.
- Create a culture of PLAY, where kids do not wait for the adult to begin or direct play, and kids teach kids.
- Step in and show what to do right, as all eyes will be on you. Never show what they are doing wrong.
- Shoot early and often! Every young player in the world is forced to beg for it ("Coach, when can we shoot?"). Do it as their first introduction to the sport at ANY age.
- Teach them to teach themselves. If you have a group of 25 kids and 30 minutes, you can only give about a minute of individual attention to each one. They need to get better during the other 29 minutes you are not paying individual attention to them. The tossers and servers and all should be the players acting as "assistant coaches." Active learning is preferable. To quote a bull riding camp brochure, "Plenty of bulls, lots of riding." Perform practices/drills/plays designed by the players.
- Show them vs tell them. Words have little meaning to beginners. Ask them questions; do not tell them the answers. Guide players to timing and judgment adjustments, not technique only. "I hear, I forget; I see, I remember; I do, I understand" (Chinese proverb). The more you know, the more you try to tell them, and the more you confuse them.
- Create a positive and fun environment. There should be no fear of mistakes. Get excited about players doing it right, and ignore most of their errors. Teach them to make good mistakes rather than bad ones. Coach proactively, not reactively. Be specific and positive in feedback. If it starts with the word "don't," then don't say it. Avoid all sarcasm. Talk only in the positive. Say what they should do, and not the don'ts. If it starts with don't, don't say it. Be consistently positive. Problems are stepping stones, not obstacles. Be enthusiastic. "Nothing great was ever achieved without enthusiasm" - R.W. Emerson.

- Given the choice of a drill or a game, everyone chooses the game. At Mini-Basket, learn to play "games" that are actually drills, and make them gamelike in terms of keeping score. Every "warm up" should be a game.
- Partner passing teaches not to move - so it can never be the first introduction to passing. Players need to learn to READ, ANTICIPATE, JUDGE and TIME the flow of the game and flight of the ball
- The free-throw is an example of a closed motor skill (i.e., the only skill kids do all by themselves).
- Rally score for kids is better than sideout score. Play for five to 10 minutes each game, with the winner whoever is ahead at the buzzer.
- In PE class or club training time, having skill posters to study when there is down time – before practice, during water breaks, etc. is a great way to gain more deliberate practice time. There are many FREE skill posters on the USA Volleyball website's grassroots button, under the posters section.
- Skill posters idea - <http://www.fivb.org/EN/Programmes/educational/moves.asp>
- We will only develop better passers if the coaches and teachers stop spending time passing a ball standing still in pairs, ignoring the defense, and instead start teaching how to read the ball and avoid a defender (s).
- When shooting a free-throw, players may typically wait 5-10 minutes until at the line again, or even longer. Therefore we need to emulate the pattern of shooting a free throw and doing all the other skills for awhile before shooting again, more in our practicing. One block practice session of shooting Free Throws has little, to no, benefit. Players need to focus and concentrate at the line to be great at it, and know how to do this time and time again after using all the other skills seen in basketball for awhile. This could also look like shooting two or three shots after a small sided game/drill ends before going on to the next activity. This teaches this ability to focus hard on those precious few moments at the line.
- Sprinting in and out of space is the best way to maintain spacing in the game. What we see too often is in every session is that coaches let their players 'creep' or perform a kick-out pass and stand still and watch the ball. This is a reason I don't practice much penetrate and kick on-air because it does not encourage them to get back into space as there is no consequence. Add defenders, and there will be a consequence because the defender will eat the space if an offensive player stands still in the key.
- It's about the 'er' not the 'est.' – Citius, Altius, Fortius is the motto of the Olympics, and is a good way to focus at all ages of learning. SwiftER, highER, strongER means every individual works daily to be a bit better in what he/she is doing; there can only be one gold medalist. All other competitors, if they do work on the "Er," can be proud of what they have done, and are doing so along the journey that defines success, not the destination.

- We practice for performance, not for practice – At a recent USOC symposium on motor learning, the question kept being asked back to the coaches: “Are you practicing for practice or for performance?” In reality, we are practicing to perform better at a later time. As a result, even though the chaos of random training looks worse, it is simply going to help all athletes perform better when it matters! Randomly trained players outperform blocked trained players in the days following practice. Schmidt wryly observed in one of his motor learning texts how a golfer hits on the range (same club over and over), compared to how he/she plays (constantly changing clubs and showing a handicap that does not lower much until he/she plays more).
- Tell more stories – Children of all ages are wired to remember stories better than facts or details, so weave the facts and things you want them to learn into stories. Like our ancestors thousands of years ago, we will remember those tales. A Jewish proverb says this well: “What is truer than truth? – the story.” Become a better storyteller.
- Catch them doing it right – Punishment is not necessary in youth basketball. Basketball is fun; the kids want to try hard and learn. So always choose encouragement and praise rather than threat of punishment to inspire and motivate.
- I hear and I forget - I see and I remember - I do and I understand. Kids learn by doing, not listening. When you have a choice between explaining or showing, always show briefly, then get them touching the ball as quickly as possible. Your drills should be games, and intros should be 30 seconds or less—then get the balls in play!
- Feedforward works better than feedback. It’s human nature for all of us to accept a positive, encouraging reminder on what we are about to do willingly. Our job is not to point out the past error, it is to encourage and inspire future success. Speaking to young learners about what they are about to do also teaches them to be their own coach and control their own destiny. FeedForward coaching is collaborative in nature. The athletes can feel that you are on their side to help them succeed rather than being just another grown-up telling them what they did wrong.
- Scream when they succeed, never when they make a mistake! One of the most amazing things Kessel experiences when doing a coaching clinic is to see how many hands go up when he ask how many in the crowd remember a negative experience or even single negative comment from a coach. These people remember this painful stuff even half a century later...for the animation is given when a negative happens, rather than a positive. Since we only remember action, get excited when they do it right, and stay calm when they do things wrong. This calmness goes a long way to helping kids be confident that making a mistake is okay.
- Warm-ups don’t require stretching. Remember how as a kid you sou sat for hours in the classroom, then the school break started. Did any child jog and/or stretch before getting the most out of that 15-minute chance to be active? Did the children come back complaining of pulled muscles? You need to get the body warm if it is cold, but games do that fine.
- Remember the Holidays – It is important for kids that the holidays are celebrated, even in the gym. For very little cost, you can decorate your training courts to celebrate

Halloween, Christmas Valentine's Day, etc. Get some 25-foot holiday "vines" and weave them into the net. Bring out the construction paper and crayons and have the kids make the decorations for the court/gym. In a related way, when you know it is a participant's birthday, celebrate it. Give him/her the "Monarch's Chair" to sit in for a water break, and you deliver a special glass of water. Let him/her go first/lead the games. Finish with a circle talk where everyone says something positive about the birthday child.

- Joan Duda from England studied recent Olympic medalists and found that nearly 80 percent of the medals were won by teams/coaches who focused on the process over the medal, according to the Positive Coach Alliance. Your kids will go round and round and up and down. Enjoy it all, for it is a game and should be fun.
- Blankets can be used for a fun game of "blanket volleyball," where four to six players hold the edges of the blanket and learn to run together to catch a lite ball, or other safe flying object then fling it up in unison over the net/rope/space to their opponents or teammates.
- To increase the number of contacts per session the kids will get:
  - 1. Every time you whistle the group in, THEY RUN, so by the end of a session they have done many wind sprints to you.
  - 2. Every time you talk to them, get them to face a wall or other non-distracting area of your training zone. If moving objects/distractions/ other teams are behind you, they learn slower, since they do not pay attention to you.
- In a 2004 Sports Coach article, Dr. Damian Farrow writes, "Whether a player then becomes a skilled decision maker relates to whether their coach draws their attention to such details. Coaches who provide their players with game-based training opportunities rather than stereotypical drills with minimal decision making requirements are likely to develop more competent decision makers."
- The time in the gym with your kids should be as much as possible, as they get better at basketball and do less movement stations and games, at playing as much basketball as possible. They don't need to run or do footwork at the older levels, the game has plenty of sprints, dashes, and acrobatic moves. Dr. Richard Schmidt from his book on Motor Skill Learning says "Drills and lead-up activities take considerable practice time and do not produce much transfer, so use them sparingly in later practice stages. It is fruitless to try to train fundamental abilities (e.g. quickness, balance) so concentrate on the fundamental skills instead."
- Kids' Games Scoring - Use as the "Scoreboard" these classic games kids know and love. Some kids do not know some of these games, so you are teaching them something else new. On a white board (ship location hidden or on a separate piece of paper for Battleship) or a table (connect 4's), each team gets to pick/place their X after winning the rally. Remember, you set the definition of a rally-winning point.
  - Tic-Tac-Toe (Crosses and Naughts) Hangman
  - Connect 4s
  - Battleship
  - Candyland

- Peer Pressure Goal - Play for one continual minute, with everyone going for the ball hard, and/or everyone staying low, or whatever a main goal is. Should someone not execute the demand, 1) stop drill, 2) announce name, 3) restart drill at zero again.
- Hat Scoring – Put all sorts of scores in a hat, 22-24, 12-14, 12-12, 14-12, 21-21, 10-20, 20-10 etc. A player draws out the score and the training session starts with that score.
- Crazy Foot Tag - Must play tag with foot movement skill (cross over, shuffle only etc.).
- Behind-the-Back Clap - You run along with one hand behind your back and get a point for slapping anyone else's hand.
- Defense Tag - This is a one-on-one tag with a third person (or pair with both arms interlocked) helping defend and shield the one from the one who is "it" (3,4).
- Freeze Tag - Single, pairs or threes holding hands; unfreeze techniques include crawl through their legs/jumping over their backs; those tagged can also be made to crouch on the floor so that the two unfreezing techniques are similar but harder (1,2,3).
- Ball Dribble Tag - Can be continuous or freeze style, unfreezing by bouncing a ball through their legs (1,2).
- Pac Man - Each player hops around with a ball between the knees; only the lines on the gym floor (for any sport) that are within the volleyball court are allowed for movement. One player is an eater signified by outstretched arms that are opening and closing. Once tagged, you become an eater. You may only be eaten when on the same exact line as an eater (1).
- Dragon Tail - Form a chain of three or more players with hands on the hips of the player in front. Place a kneepad or sock in the "tail" person's shorts. The head tries to grab the kneepad of any other "dragon" while protecting his or her own (3,4,6).
- Cling-on Tag - Two are "it," two others "unsafe"; all others are paired up interlocking one arm each with bent elbows. If one of the unsafe players takes refuge on another player's arm, the untouched side becomes unsafe and must get to another refuge. If tagger gets someone, he/she must get to a refuge by clinging on before getting tagged back, as tagbacks are allowed. Another version has two players standing tall palm to palm, creating an arch.
- Wrestler's Tag - Hold each other's left hand, try to tag opponent's right knee while protecting own.
- Player-To-Player - There has to be an odd number of people for this activity to work. The coach stands in the midst of the group and asks everyone else to pick a partner. Explain that you'll give them from two to five commands that they must perform as a pair. The last command is always "layer-to-player" and everyone, including the player giving the commands, will have to scramble to find a new partner. The odd player out gets to go into the middle of the group and provide the next set of commands. The game officially begins with the player in the center giving instructions such as "elbow to

elbow" and the pairs must put an elbow to elbow. The coach can then say, "ear to ear" and the pairs then have to put an ear to an ear, as well as keeping the elbow to elbow. Then the coach says, "player-to-player"; everyone finds a new partner, and you go on to the next player calling out commands.

- Foot Balance - Stand opposite a partner with one foot off the floor; try to push or force opponent to have to touch the other foot to the floor (2).
- So rather than just keep doing something because everyone else does it, I ask you to again use the question a coach should ask of every drill they use and teach in practice – “What if they became the Olympic Gold Medalists at doing this?” What if your players became the world’s best a three man weave what does that mean they are good at? In clinics around the world, coaches say, “Yeah, but this teaches passing.” I believe and can see from watching players that it really teaches you to be great at three man weave.
- Somehow we must stop the tradition of using punishment as a viable way to get our players and others to learn to love the game. It does not match up to the principles of good teaching, nor the laws of learning, as any effective animal trainer, like Buck, can attest to.
- Ralph Waldo Emerson:
  - I have six friends  
That serve me true  
Their names are What, Where, Why, How, When and Who.
- Dr McGown and Dr Bain Study:
  - The random versus blocked practice methods represent a fundamental paradox regarding athletic performance during training and subsequent performance during competition [29, 30]. Based on performance measurements during practice, blocked activities, in which athletes repeatedly rehearse the same task, result in superior performance during the training session [2, 31]. In comparison, performing tasks and skills in random order decreases skill acquisition during training. Consequently, based on measurement of performance effects during practice, many coaches and players believe that blocked practice is superior to random practice [25]. Such a conclusion however, mistakenly assumes a positive correlation between performance in practice and long-term skill retention [32]. The paradox arises from the fact that blocked practice is in fact very ineffective for transfer of learning to competition as performance improvements measured during practice degrade rapidly, and inefficient because retraining on the same skills will be necessary [29, 31, 33]. Conversely, random practice is both effective, transfer to competition is high, and efficient, skill acquisition is relatively permanent. Indeed, the superiority of random practice has been substantiated for a large number of sports skills including volleyball [34, 35], badminton [36, 37], baseball [38, 39], basketball [40], tennis [41], and soccer [42], and its utility and training applications thoroughly reviewed by Schmidt and Lee [2]. Finally, scientific research into the neurological reasons for this superiority have revealed that variable activities increase and strengthen the brain connections that are responsible for learning motor skills whereas simply repeating the same activities exerts no measurable effect on these brain connections [43-45] The neuronal explanation for these effects are perhaps best exemplified by our own observations (Bain and McGown), of inexperienced coaches

training novice players where the instructor(s) become frustrated by the performance variability and lack of successful repetitions of new learners. As a consequence, these inexperienced coaches limit or abandon whole teaching methods for part, and random practice for blocked. Unfortunately, this course of action deprives the learner of the environmental variability and sensory inputs that are essential for the formation of motor maps and implicit behaviors, which are ultimately reflected in the acquisition of functional skills and expert performance [13, 18, 19, 29, 65]. In total, the evidence on this topic is clear; drawing distinctions between training methods based on age or ability is a coaching practice that has no foundation in either motor learning science or in the application of motor learning principles.

### **Ten Commandments for Coaches:**

- Never be a child's last coach
- Never say can't, don't or try
- Focus on potential over limitations
- Focus on effort over outcome
- It is what it is
- Random training promotes superior learning, as does whole skill training
- Shit happens!
- Be demanding but never demeaning
- Always use positive feedforward specificity, never negative feedback / general wording.
- Walk the talk! Elicit passion, confidence, respect skill and dedication by demonstrating the same.