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CONCEPTS OF EFFICIENCY IN THE POLE VAULT

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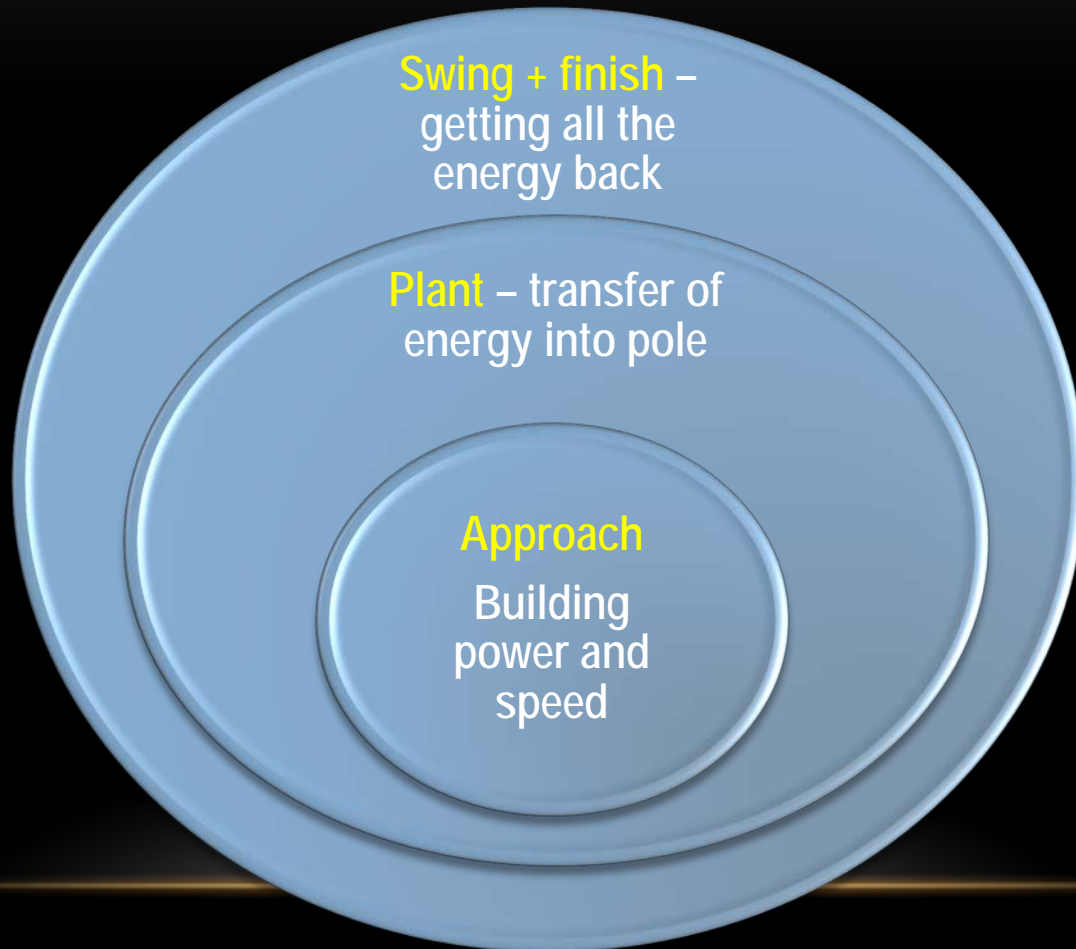
FOCUS OF THIS DISCUSSION

- To determine or at least propose what can be classified by almost all coaches, as common practices. (from a technical perspective)
 - To provide some insight into how I personally apply change within the context of those technical benchmarks.
 - Hopefully generate some thought on the different ways by which we can operate and coach within the accepted concepts while developing different models and approaches that work for each of our athletes individually.
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ULTIMATE CHALLENGE OF THIS DISCUSSION

- To think about how we coach the event from the perspective of what's best for a particular athlete given his/her set of strengths and weaknesses, training age, focus ability and adaptability and what technical changes will benefit them the most even if it may be a departure from your traditional thought process.
- ITALIAN SHOE TIE
- In camp differences with my old training partners.

THE MOST BASIC TECHNICAL ASPECTS OF THE VAULT. MOVING AROUND THE LANTERN.



PROPOSED FUNDAMENTAL PRINCIPLES OF THE APPROACH

- To build maximum / optimal power and speed over the course of the run while maintaining control in an effort to deliver that speed, all while carrying a pole.
- Focus on proper postural positions during the acceleration phase while being mindful of foot placement and shin angles. High ground contact times and powerful drive steps.
- Transition from acceleration to powerful, tall building steps. Big knees, active foot placement and proper attacking posture.
- Continual build of speed to the take off step with proper body alignment and stability.
- To execute all phases of said approach and take off with limited tension or pressure in the shoulders, hands or extremities.
- Be consistent in tempo, timing and on check marks

CUES AT USD WITH RESPECT TO THE APPROACH

- Looking for a little less aggressive 4-6 step push vs when they run without a pole. A little more controlled with a little lift. However all acceleration cues still apply.
- The pole angle to match that of body angle (not always however – next slide)
- Bottom hand position remains close to the chest through acceleration and continuation phases. (not always – next slide)
- Square shoulders at the start.
- Relaxed hands, shoulders and upper torso.
- Fluid pole drop with no pauses or holds
- Hit the Check mark

COMMON THOUGHTS OR "RULES" I TEND TO BREAK REGARDING THE APPROACH

- Right hand placement with respect to the hip, I'm not concerned (within reason)



- Pole angle through acceleration – (rarely)
- Bottom hand placement
- Grip spacing (within reason)



COMMON THOUGHTS OR "RULES" I TEND TO BREAK

- "bended rule" – I sometimes give up some efficiency with regard to known principles in the short term to maintain athlete comfort and confidence. The hope being a gradual progression of the teaching principle without having to throw a wrench into the system.



- I may give up the battle

COMMON THOUGHTS OR "RULES" I TEND TO BREAK



To win the war

COMMON THOUGHTS OR "RULES" I DON'T BREAK REGARDING THE APPROACH

- Determining correct approach length – I don't move back in approach until they demonstrate consistent technical proficiency or I have to because of time constraints.
- Developing consistency in the run
 - ❖ Start
 - ❖ Check step
 - ❖ Mid
 - ❖ Take off step – (not a ton of focus on this)

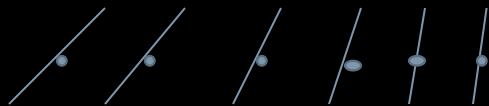
COMMON THOUGHTS OR "RULES" I DON'T BREAK

"Moving through the gears" in run

- ❖ Acceleration push for 4-6 steps (acceleration phase)
- ❖ Knees up for 4-6 steps
- ❖ Constant acceleration throughout the run

Focus has to be on being balanced, under control and at Optimal velocity not maximum velocity at the takeoff

Forward, aggressive body posture should remain throughout the run



But no "diving" at the end. Head and shoulders have to lead the way into the take off

I always start with easy poles and move through gears

COMMON THOUGHTS OR "RULES" I DON'T BREAK

I never want to get out of the athletes comfort zone so much so that they cant execute a jump. Reaching technical proficiency is important but not at the expense of general performance.

PROPOSED FUNDAMENTAL PRINCIPLES OF THE PLANT

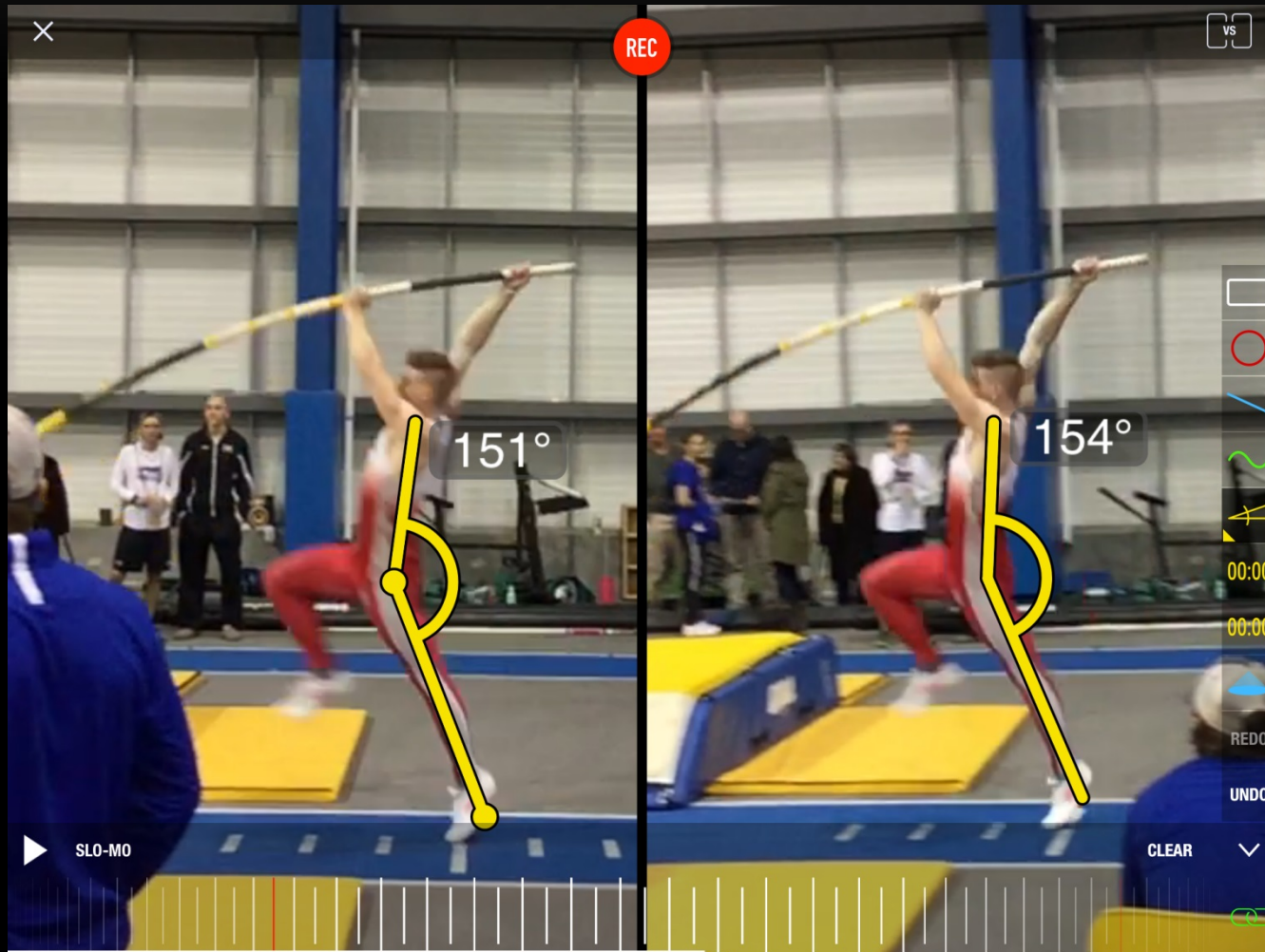
- Properly timed transition of arms over the last 3 steps.
- Top arm fully extended at take off.
- Body posture should be aggressive or at least perpendicular to the ground.
- Limiting of the any break steps over final 2 steps
- Pole strike should be as smooth as possible

CUES AT USD WITH RESPECT TO THE PLANT

- Placement of top arm at pole strike with respect to posture – head never by top arm
- Purposeful drive knee. Primarily for the equal and opposite principle.
- Top arm fully extended at take off – torque extension explored with advanced athletes. (difficult due to the need to re-engage with the pole)
- A 3 step timed plant – hip – ear – to full extension. Where is the pole tip at the start of that plant process.
- **Timing of the pole strike. Does athlete hit the box before the box hits them?**
- **Foot strike over the last 2 steps. / Head and chest at pole strike**

CUES AT USD WITH RESPECT TO THE PLANT

- 3 points of importance at pole strike. (Shoulder-hip-foot) Subtle differences but have large impacts.



COMMON THOUGHTS OR "RULES" I TEND TO BREAK REGARDING THE PLANT

- Plant initiation can be a little late on start of plant step if it moves quickly in the end and times up with the hit. (not very often)
- Not OVERLY concerned with big bottom arms or passive arms.



- Not concerned with free take offs or slightly under take offs but more with what particular position is best suited for each athletes jump style. Markov - TS

COMMON THOUGHTS OR "RULES" I TEND TO BREAK

- Top hand can be off or behind the hip going into the takeoff if it helps shift posture to attack position
- Top hand position not to push forward of the head going into the takeoff.
- How to solve directional problems (veering left or right)
- If applying pressure to bottom hand at pole strike – never outward always upward
- Tend to limit how often I work specific penultimate step tech when jumping. Maybe for more advanced work.

COMMON THOUGHTS OR "RULES" I DON'T BREAK

- Head and chest have to drive through the last step
- Pole strike is smooth. Time the hands accordingly
- Foot strike over penultimate and take off steps need to be aggressive. Are we running to the step or through the step? This is a constant battle of efficiency and its never won.

PROPOSED FUNDAMENTAL PRINCIPLES OF THE SWING AND FINISH

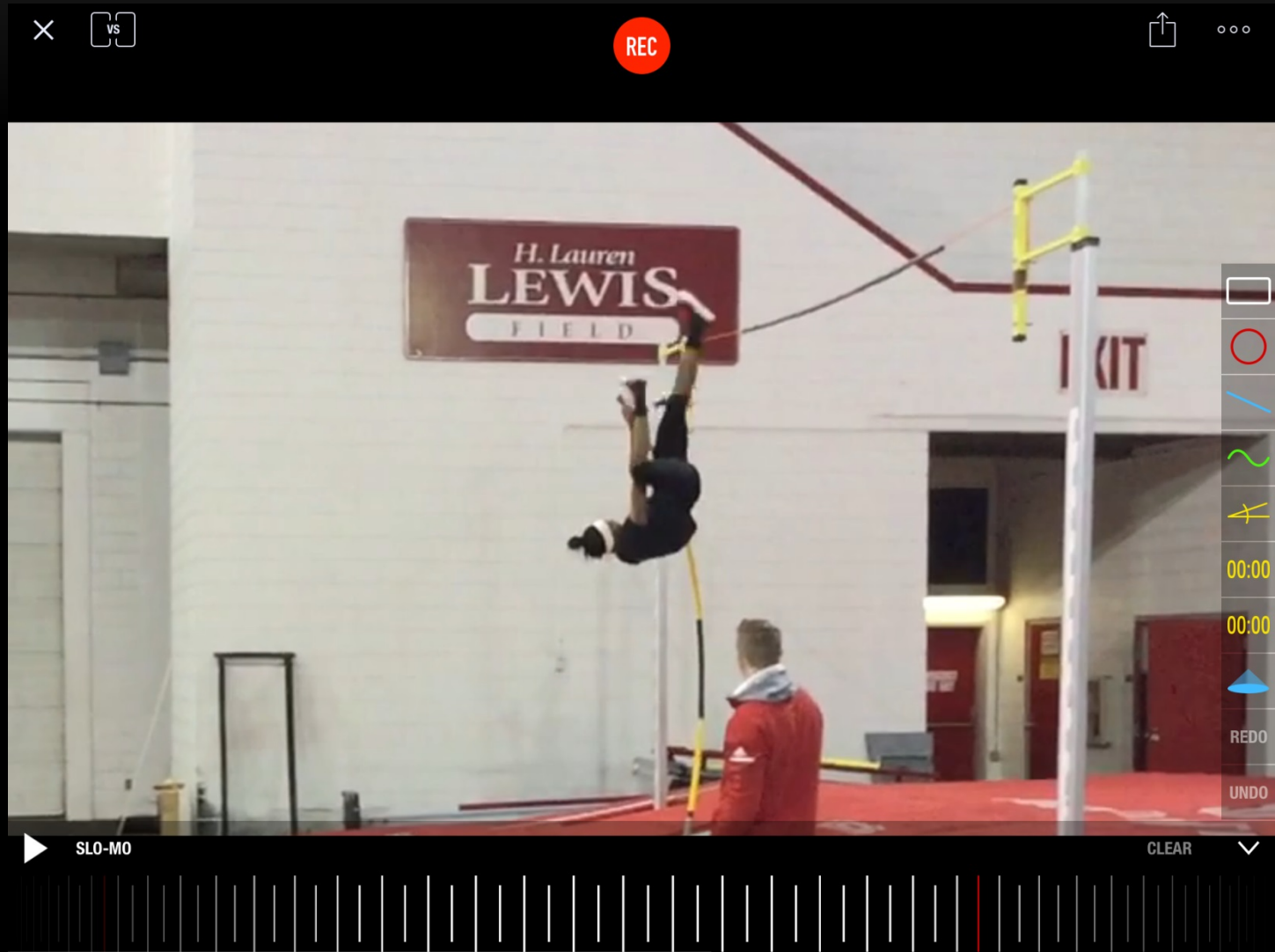
- Fluid with constant movement – no slowing or pausing throughout
- Have your body in a position such that the shoulder does not “give” or is pulled as the pole releases. If pole moves – athlete moves
- Keep center of gravity as close to the pole as possible while the pole releases.
- Pole and athlete should move together – one not beating the other to the finish line. (too high of grip vs too low)

CUES AT USD WITH RESPECT TO THE SWING AND FINISH

- It all starts with the first 2 phases. Majority of swing issues get resolved with correct approach and plant.
- Rubber band theory
- Right and left arm activity
- 2 points of rotation hips and shoulders. Both should be active at different times in the swing and sometimes simultaneously.

- Unless the athlete has a very gymnastic feel or fluid easy swing we usually try to keep center of gravity (hips) as far away from the pole as possible to keep tension on the pole while rotation occurs.
- Look for shoulders to initiate the extension of the hips by dropping as we target the feet past vertical. Goal is to eliminate drop out.

CUES AT USD WITH RESPECT TO THE SWING AND FINISH



COMMON THOUGHTS OR "RULES" I TEND TO BREAK REGARDING THE SWING AND FINISH

- I'm not sure there is a specific way to swing. Natural fluid gymnastic type swings and tuck and shoots have all proven effective at a high level. What works for each particular athlete?
- Don't tend to do pop ups – relatability? exceptions if they feel they really need them.
- Don't hood

FINAL THOUGHTS ON APPLICATION OF ALL THESE PRINCIPLES AT USD

2-3 weeks at 0-4 step drills

2-3 weeks at 4-6 steps (2-3 lefts)

2-3 weeks at 6-8 steps (3-4 lefts)

2-3 weeks at 8-10

2-3 weeks at 10-12

Then back to full approach work (we are currently at 12 steps)

Ultimate objective is to achieve skill acquisition.

Moving to longer runs prior to actualization, tend to diminish motor program changes and reduce long term goals

LOG BOOKS FOR COACH AND ATHLETE

We keep track of the following information

- ❖ Approach numbers, start, check and mid (can watch take off too but not always revealing)
- ❖ Grip height
- ❖ Pole size
- ❖ Standard placement
- ❖ Height jumped that day
- ❖ Thought processes or cues that the athlete used to accomplish technical tasks

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