

How To Design An Effective Approach In The Horizontal Jumps

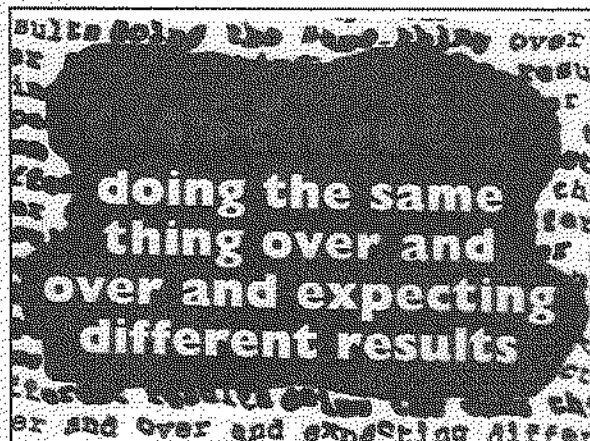
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Docendo Discitur

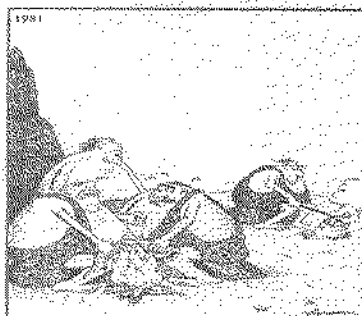
One learns by teaching!

If it ain't broke. Break It!

But, don't tear down the fence
before you understand why it was
built!
Robert Frost



***You can lead,
or be led!***



"Lead! Look what dog do!"

The Eight Stages of an Athletes Career (Istvan Balyi)

- Active Start
- Train for Fun (damentals)
- Learn to Train
- Train to Train
- Train to Compete
- Train to Win
- Retention (as coaches etc.....)
- Healthy for Life

Long Jump/Triple Jump

90% - 95% of jump distance is due to
Horizontal Velocity at takeoff!

What should we train then?

Hmmm! How about speed!

Need to be best 10m sprinters in the world!

Scientific Aspects

By Gideon Ariel

	Powell	Lewis
Official Distance	8.95	8.91
Wind Velocity	+3.0	+2.90
Running Speed (6-1m)	10.94	11.26
CM Horizontal Velocity	9.27	9.11
CM Vertical Velocity	4.26	3.37
CM Angle of Projection	24.60	20.30
CM Maximum Height	2.05	1.84

Four Main Parts of the Long Jump

Approach

Takeoff

Flight

Landing

Seven Phases

Phase I - Walk-in (or some other method of a moving start)(standing start is an option)

Phase II - Drive or initial acceleration (5-7 strides) Sets up rhythm of approach

Phase III - Continued Acceleration
(longest-8 strides)

Phase IV - Attack/Preparation for takeoff (5-7 strides-visual control region)

Phase V - Takeoff

Phase VI - flight

Phase VII - Landing

Rhythm

- 4-3-3
- 3-4-3
- 3-3-3
- 2-3-3
- How many strides in each of these rhythm's?

Three Tasks of the approach as defined by Dr. Jim Hay

- Toe of the Takeoff foot as close as possible to the front edge of the board
- With as much horizontal velocity as can be controlled
- With the body in position (adjust position) to achieve a relatively large vertical velocity; with minimal loss of horizontal velocity during takeoff

Length of Approach

Elite men	18-22 strides
Junior men	16-20 strides
Women	16-20 strides

How does the athlete accomplish an accurate approach?

Practice! Practice! Practice!
Energy Distribution down the runway!

Programming
Adjusting
Accuracy (Visual Control)

Programming

Consistency of Stride Pattern
Accumulation of Errors

The long jump dance. You are on Stage
Choreograph your approach

Adjusting

Adjusting the position of their measured start mark. We need to spend a great deal of time practicing this under a variety of conditions.

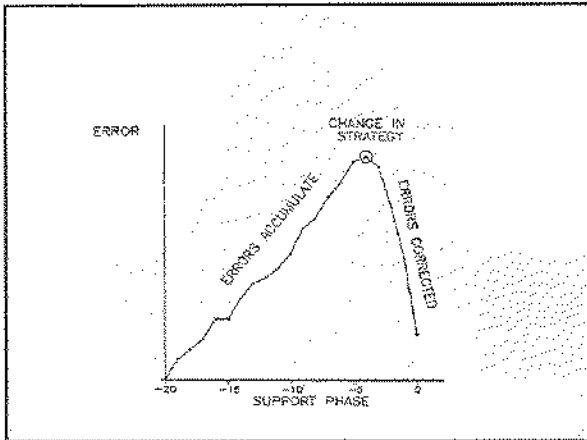
Accuracy (Visual Control) (Steering)

(a) As they approach the board they modify their stride pattern to hit the board accurately

(b) Use of oversize board (different colors) for a time to help the athlete adapt to visual control and overcome the fear of fouling.

This is a subconscious event!

Programming or Rhythm must be done second. The athlete must be taught to sprint properly before anything else is worked on. Accuracy or visual control will be your final concern. note - vision 20% is innate and 80% is learned - we can get better at this.



Drive

Set your body up to accelerate into proper sprint position. Can't be too hard or errors will multiply. Most important section. Usually spend 2 months setting this section. Almost all errors at the board can be tracked to performing this section poorly.

Continued Acceleration

Move into proper sprint position. Transition from the drive is the most difficult part of the approach. Must be in great sprint form at the end of this phase as it is essential to executing the Attack phase well.

At the end of this phase is coaches check mark

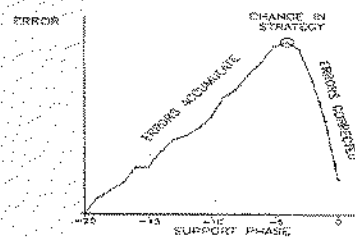
Attack Phase

Conscious acceleration (change in tempo) to board from coaches check mark. We should see an increase in cadence (tempo), but not at the expense of stride length and not a coasting into the takeoff – conscious downward drive of thigh to create reflexive movement and utilize track surface ability to return energy

Check Marks

Check Mark at:
2.3m - 2.0m from front of board for men
2.1m - 1.8m for women and slow short white males

Coaches check mark (mid mark) at 6 strides from board (Why 6 instead of 4?)



- What is the purpose of the mid mark?
- What role does galloping play in the Long Jump?

Last Three Strides

In LJ
Push-Pull-Plant
Push-Flat-Flat

Differs In TJ
How?

- Video of last three strides!
- 1) Push
- 2) Errors in penultimate execution
- 3) Errors in last stride

Review of Common errors

Faults - Look for pushing off of pull into plant.
Look for C of G to continue traveling down instead of up during last stride.
Poor concept of rhythm of last three
Poor sprint mechanics
Anterior hip rotation
Excessive forward or backward lean
Decelerating the last 3 -4 strides (visual control)
High heel recovery of plant foot
No dorsiflexed foot in the pull
Foot contact too far ahead of C of Mass
Passive foot on pull step
Pushing off of pull step (Should have incomplete extension)
Position of take-off leg at full penultimate support

Training for the Long/Triple Jump

- Establish sprint technical model first
- Then condition that model

Force & Power

Shot Put vs. Snatch

	<u>Force</u>	<u>Power</u>
Shot (7.25 Kg 18.19 m)	513 N	5075 W
Snatch (150 Kg)	2000 N	3163 W