

"Practice Variability: a Framework for Coaches"

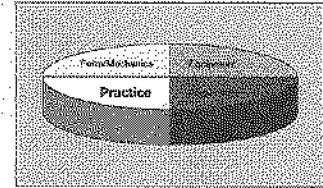
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The Sports Performance Pie

• Methods to improve performance

- Form & Mechanics
 - Posture
 - Release Point
 - Running Form
- Equipment
 - Markers
 - Cameras
- Psychology
 - Be confident
 - Believe in yourself
- Practice
 - Variability
 - Practice Drills (Evidence Based)



The Missing Piece

- What is the best way to practice?

Traditional Approach:

"Practice Makes Perfect"
"Repetition, Repetition, Repetition"

Evidence Based Approach – developed through motor learning research:

"Proper Practice Makes Perfect"



Goals

Overall Goal: movement memory

- 1) Identify the importance of practice variability in repeating desired movements
- 2) Provide specific (evidence-based) practice drills
- 3) Provide you with a practice plan or guide to increase one's ability to produce desired movements



Practice Variability: What is it?

General definition – a practice or training session where athletes practice different movements, sport contexts, and situations

Example:

VARIABLE PRACTICE:

- Varying take off positions
- before the board
 - on the board
 - behind the board

CONSTANT PRACTICE:

- 1 position
- on the board



Practice Variability

Motor learning research using laboratory and sports based skills show:

Variable practice is better for learning than constant practice

Why does it help to practice taking off from different positions around the board?



Practice Variability: Aspects to Vary

Aspects of practice you can vary:

- 1) Movements:
 - Release Points
 - Posture
 - Running Mechanics
- 2) Sport Context:
 - Windy/wet conditions
 - Bar height
 - Soft/Hard runway
- 3) Situation:
 - First or Last Attempt
 - Jump to qualify for next round



Practice Drills: Organizing the Variability

What are different ways can you organize practice variability?

There are several practice drills you can use to organize variability in your practice

- Random Practice
- Serial Practice
- Block Practice
- Result Dependent Practice
- Increasing Practice
- Self-controlled Practice
- Mini Blocked Practice



Practice Drills

Long Jump Take-Off: front, board, past (based on number of attempts or time)

Block Practice:

fffff bbbbbb pppppp

Mini Blocked Practice

fff bbb ppp fff bbb ppp

Serial Practice

f b p f b p f b p f b p f b p

Random Practice

f p b p f b f b p p f p f b f b p

Increasing Practice

ffffbbppp fbpfbbpfbp fbppfbfbp

Self-controlled Practice: Athlete chooses take-off position

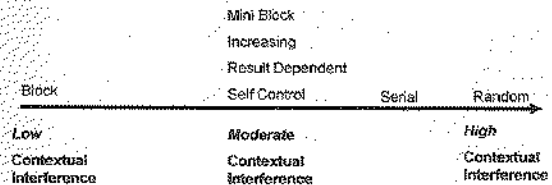
Result Dependent Practice: Determined by quality of performance



Practice Drills

Each practice drill creates a different amount of contextual interference

Contextual Interference: created when organizing variable practice through various types of practice drills



Practice Variability

- You can vary many aspects of practice and create practice drills that create different amounts of contextual interference.

- How do you know what to vary?

The answer: Be goal driven with your practice variability

- Target the aspect of performance you want to improve

- Take-off position?
- Running mechanics?
- Release Mechanics?



A Framework for Practice

- There are many practice possibilities that can be created when you organize your practice variability

Example

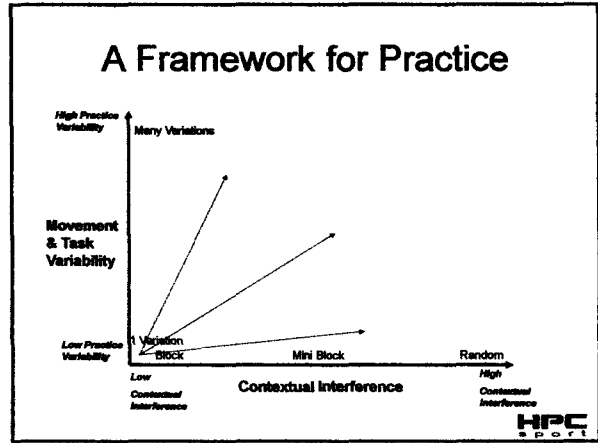
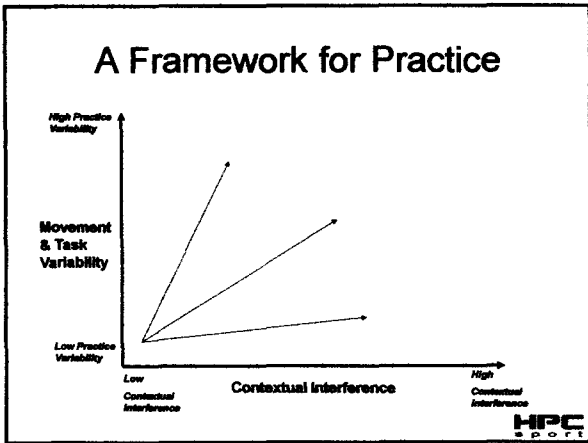
Weakness - accuracy to the board

Possibilities of practice:

- 1) Practice various take-off positions separately (Block Practice)
- 2) Practice various take-off positions together (Random Practice)

- How do you know how much to vary and when?



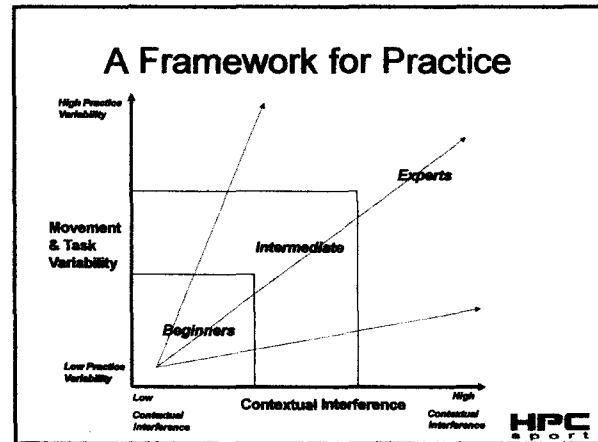


A Framework for Variation

Practice Considerations:

- Level of Expertise and the Framework of Variability
- How do you know which practice drill to use?
 - Expert or Beginner?

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An Important Point to Consider

- Practice performance
 - Low Variability/CI Drills → Few Errors
 - High Variability/CI Drills → Many Errors
- Tournament Performance
 - Low Variability/CI Drills → Many Errors
 - High Variability/CI Drills → Few Errors

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Wrap Up

- Be goal driven when instituting variability
- Practice drills create different amounts of contextual interference
- Instituting variation & contextual interference will competition performance
 - Things to be varied:
 - 1) Movements
 - 2) Task Characteristics
 - 3) Situation
- Framework for Practice
 - Provides a guide for:
 - how much variability to include
 - organizing variability
 - how you can progress or increase variability

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