

"I Can Do it in Practice but Not in Competition":

Integrating Motor Learning and Sport Psychology for Performance Improvement

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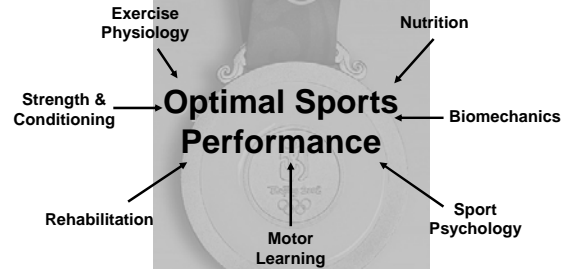
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The Roles of Motor Learning and Sport Psychology



What is Motor Learning?

The process of learning or relearning sports related movements: Accuracy, Movement Memory

This is done by considering:

1) Instructional Factors:

- When to give it?
- How much to give?
- How to provide it?
- What to provide?

2) Practice Related Factors:

- How much to practice?
- How to practice it?



What is Sport Psychology?

- The psychological factors that influence participation and performance in sport, and the psychological effects derived from this participation
- It is in essence helping athletes to "Think Right in Sport"
 - "wrong" thinking can inhibit performance
 - Negative, distracting, inappropriate, and/or self defeating thoughts will all interfere with an athlete's ability to perform effectively



Goals of this Presentation

Answer to question:

"Why can my athlete do it in practice but not in competition?"

We will attempt to answer this by discussing 2 motor learning concepts and 2 sport psychology concepts:

- | | |
|-------------------------|------------------|
| 1) Feedback | 3) Composure |
| 2) Practice Variability | 4) Concentration |



From a psychological perspective, the biggest differences between competition and practice settings are:

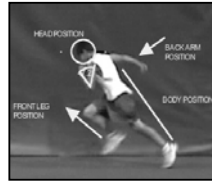
- Pressure (both internal and external)
- Immediacy (which adds to pressure)

**** Both of these are related to the feedback the performer gets, both in practice and in competition settings**



Explanations: Feedback

- What is it?
Information an athlete receives about their performance from sources *external* to him/herself
- Not to be confused with *Sensory Feedback*:
Information an athlete receives from their senses:



- Visual
- Auditory
- Tactile
- Proprioceptive

** On a variety of levels, the feedback a performer receives during competition can (and should) be vastly different from the feedback they receive during practice!

Feedback

2 Types:

- 1) **Knowledge of Results:**
Information about the outcome of a performance
- 2) **Knowledge of Performance:**
Information about the movements of a performance

How Much Do We Give?

2 General Approaches to providing feedback:

- 1) **Traditional Approach:** The more feedback you get, the better for competition performance
- 2) **Research-based Approach:** Less feedback is better for competition performance

** At elite levels of performance, it could be argued that NO additional feedback is needed in competition settings, as the athlete is already getting all the feedback they need.

Feedback

Common questions:

Which type of feedback should you provide?

- Depends on the level of the athlete

How much feedback should you give to your athletes?

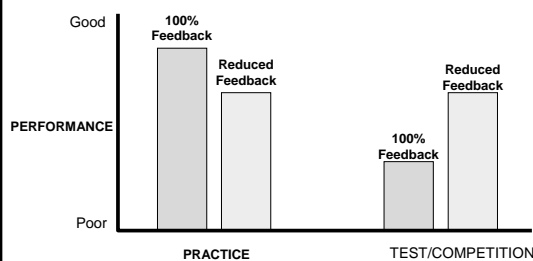
- Less is better than more

How should you provide it?

- Distribution of Information
 - Coaching Knowledge vs. Athlete Knowledge
 - Focus of Attention

is to avoid mental and emotional

What Does the Research Say?



The "Answer": Feedback Conclusions

Major conclusions from feedback studies:

- 1) Improper use of feedback creates a CO-DEPENDENT athlete:
 - Athlete needs some independence in the training process



The "Answer": Feedback Conclusions

2) Point of view

- Athlete should "do the work" to find movement solutions
- Coach should lead athlete in the direction of movement solutions



**** Effective use of feedback will help an athlete develop "Composure"**

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What is "Composure"?

- A performer's ability to control their physiological and emotional arousal levels
 - This is particularly critical during stressful competitive situations
- Introducing progressively more demanding training routines (the overload principle) helps the athlete adapt.
 - Introducing progressively more demanding stressors in training (and providing the necessary skills to help the athlete learn to manage those stressors) will help the athlete develop composure

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Practice Variability Explanations

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What is the Best Way to Practice?

Traditional Approach:

"Practice Makes Perfect"

"Repetition, Repetition, Repetition"

**** Practice Makes Consistent!**

Evidence Based Approach – developed through motor learning research:

"Proper Practice Makes Perfect"

**** This relates strongly to Concentration/Focus** – *"What are you/should you be focused on in practice?"*

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Effective Concentration/Focus

- A performer's ability to control the focus of their attention.
 - Choosing to focus on some things (relevant cues) and avoid focusing on others (distractions and irrelevant cues)
- Effective focus for practice is very different than effective focus for competition!

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What is the Best Way to Practice?

The answer is within the motor learning concept of **Practice Variability**

What is it?

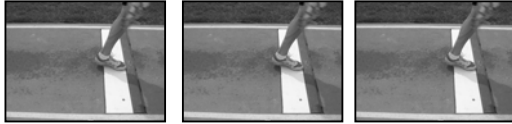
- Training sessions where athletes practice different movements, sport contexts, and situations
- This is related to the sport psychology concept of **"compensate and adjust"**
 - This will assist in enhancing composure as well

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Practice Variability

2 choices when designing skill learning environments:

1) Constant Practice: practicing the same skill repeatedly



This will reinforce consistency and inability to cope with necessary adaptations at the elite level!

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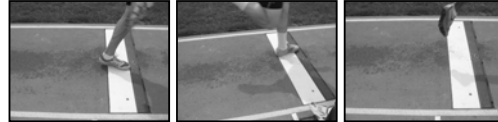
Practice Variability

2) Variable Practice: Practicing variations of a skill

Movements: Release points

Sport Context: Fast runway

Situation: Last/First jump

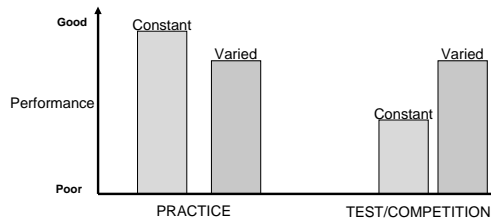


Can also integrate "stress inoculations" for added composure development

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What does the Research Say?

Typical Research Results:



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The Variability "Answer"

Training setting is vastly different from competition

- Variability in skill learning helps athletes adapt to new or changing movement demands during competition
- Variability also helps the athlete develop composure and compensation ability

Allows the performer to explore the "perceptual motor workspace"

- Teaches athletes to better "recognize" the optimal movement pattern
- Enables them to choose the "correct" movement pattern
- Enhances confidence in decision making and problem solving

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Take Home Messages

Variability and Feedback illustrate the importance of the "Training & Competition Distinction"

Developing Composure, Concentration and Confidence in training will enhance competitive performance

What is the difference?


- Meet performances count
 - World Records
 - Olympic Teams
 - High School Championships
 - Collegiate Championships
- Increases Arousal Levels
 - This is directly tied to an athlete's composure, concentration and confidence

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Take Home Messages

- Performance during training doesn't always indicate competition performance
 - Improper training environments can fool us
 - The goal of training is to learn or refine skill
 - The goal of competition is to effectively use the skills we have learned in training under pressure situations
 - Effectiveness of skill learning is best measured during competition not practice
- Training environments should encourage the athlete to be an independent problem solver
 - This enhances confidence!
- Training environments that make the athlete solve movement problems increase skill learning/competition performance
- Training environments that include variability allow the athlete to practice compensation and adjustment, improve concentration skills and develop composure

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Thank You!

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