

WHAT WE SAY

MATTERS

# "What We Say Matters"

## The Truth About Cueing

Nick Winkelman, MSc, XPS, CSCS\*D  
Director of Movement and Education  
NFL Combine Development Director

EXOS™



THANK YOU

- Gabriele Wulf
- Athletes/Clients

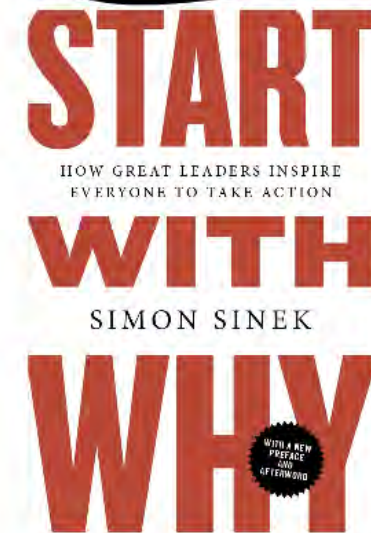


EXOS™



## Why...

- Superior Coaching
  - Optimize Learning
  - Maximize Results



## What...

- Attention...Filter
  - Attention...Focus
  - Attention...Findings

## How...

- Performance Cueing...Strategies
  - Performance Cueing...Amplifiers
  - Performance Cueing...Framework

# ① ATTENTION PLEASE

"The mechanism by which our brain registers information is what we call attention." - Mihaly Csikszentmihalyi



Attention...  
"Limited Capacity Resource"

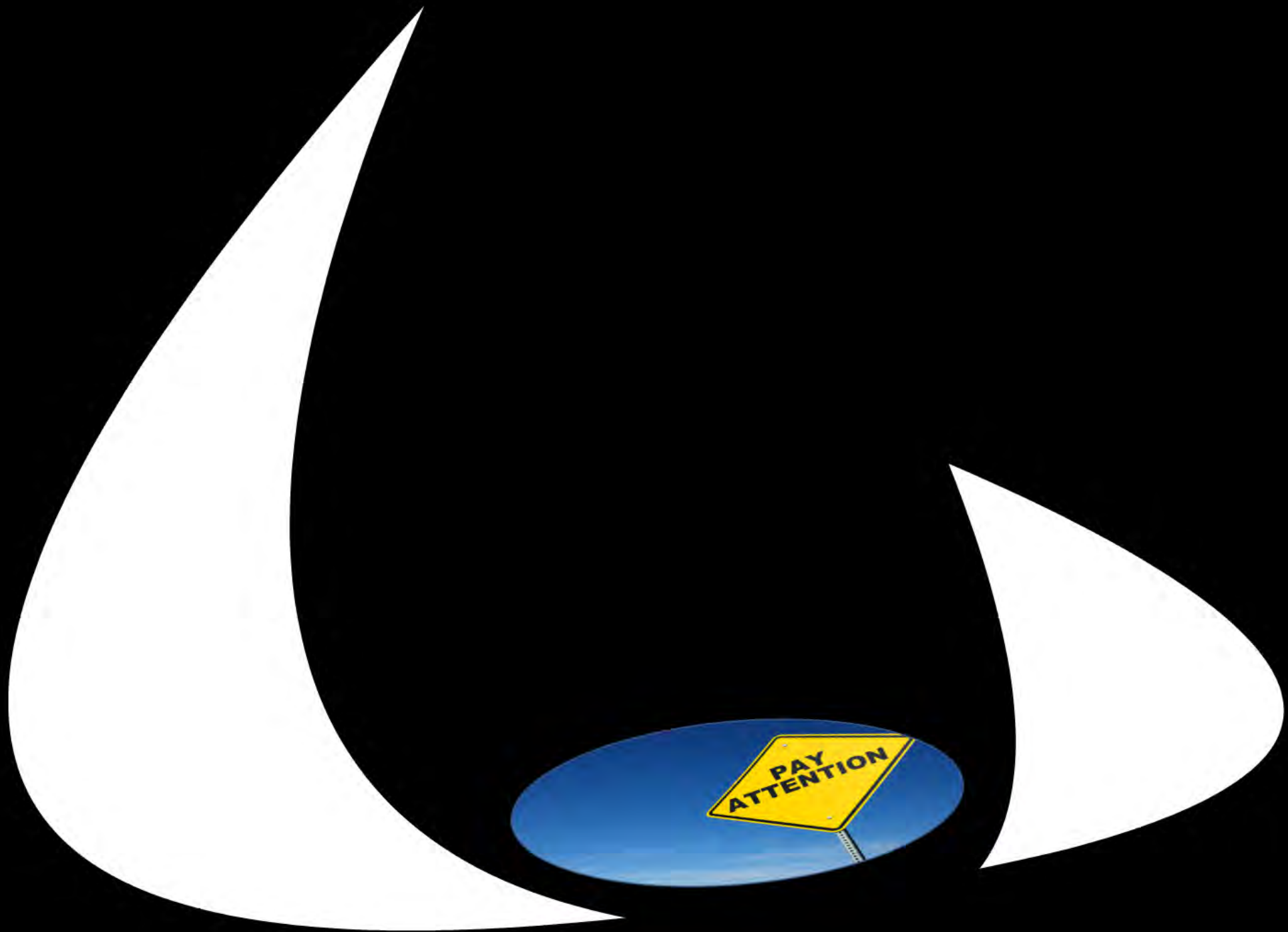
THINKING,  
FAST AND SLOW



DANIEL  
KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

"You dispose of a limited budget of attention that you can allocate to activities, and if you try to go beyond your budget, you will fail."



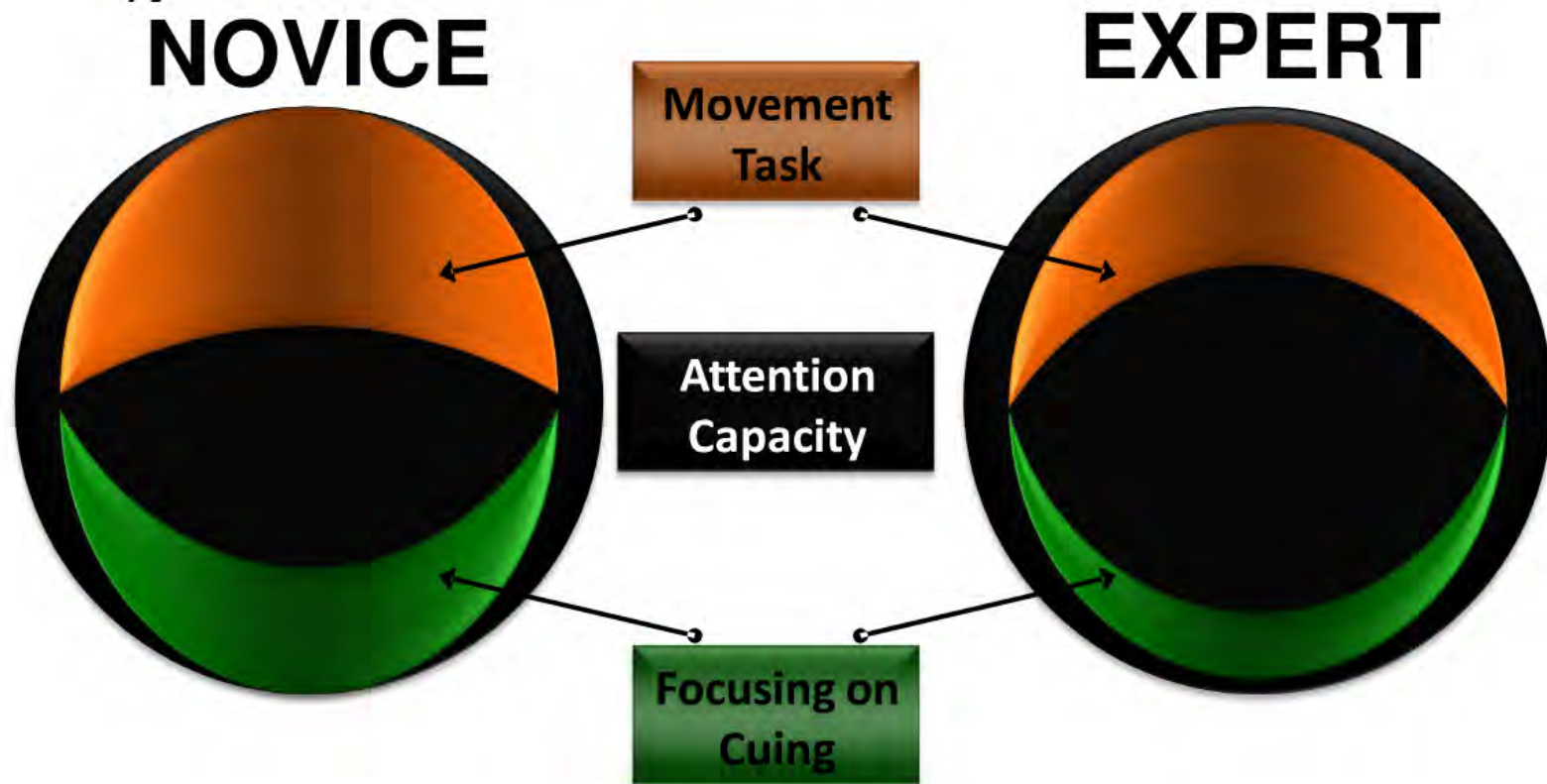
A grid of black circles of varying sizes, with a large silhouette of a gorilla in the center. The circles are arranged in a roughly rectangular pattern, with some missing or smaller in certain areas, particularly around the gorilla silhouette. The gorilla silhouette is a solid black shape, showing its head, ears, and body. The text is centered within the grid.

**When you're looking  
for a gorilla,  
you often miss other  
unexpected events**



**When you're looking  
for a gorilla,  
you often miss other  
unexpected events**

# Attention Applied to Coaching



Adapted From: Magill, R., 2011-  
*Motor Learning and Control- Concepts and Applications 9<sup>th</sup> Edition*

# Memory

## Short-Term Sensory Store:

Peripheral memory system, which holds incoming information until identified (lost after .25-.5s)

## Short-Term (Working) Memory:

Allows retrieval, practice, processing, and transfer of information...Limited Capacity (7 +/- 2 items & lost after 10-20s)

## Long-Term Memory:

Memory system that holds information and life experience...Unlimited Capacity

②Memory

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# Long-Term Memory:

Memory system that holds information and life experience..Unlimited Capacity

"It is not simply the case that the longer a piece of information stays in STM then the more likely it is to go into LTM. Instead, the more significant a stimulus or event is then the greater likelihood it is retained in LTM"

"While LTM stores apparently limitless information (compared to STM), it has been argued that STM and LTM are not separate systems, but rather a unitary phenomenon that spans seconds to years."

# Strategies for coaching?

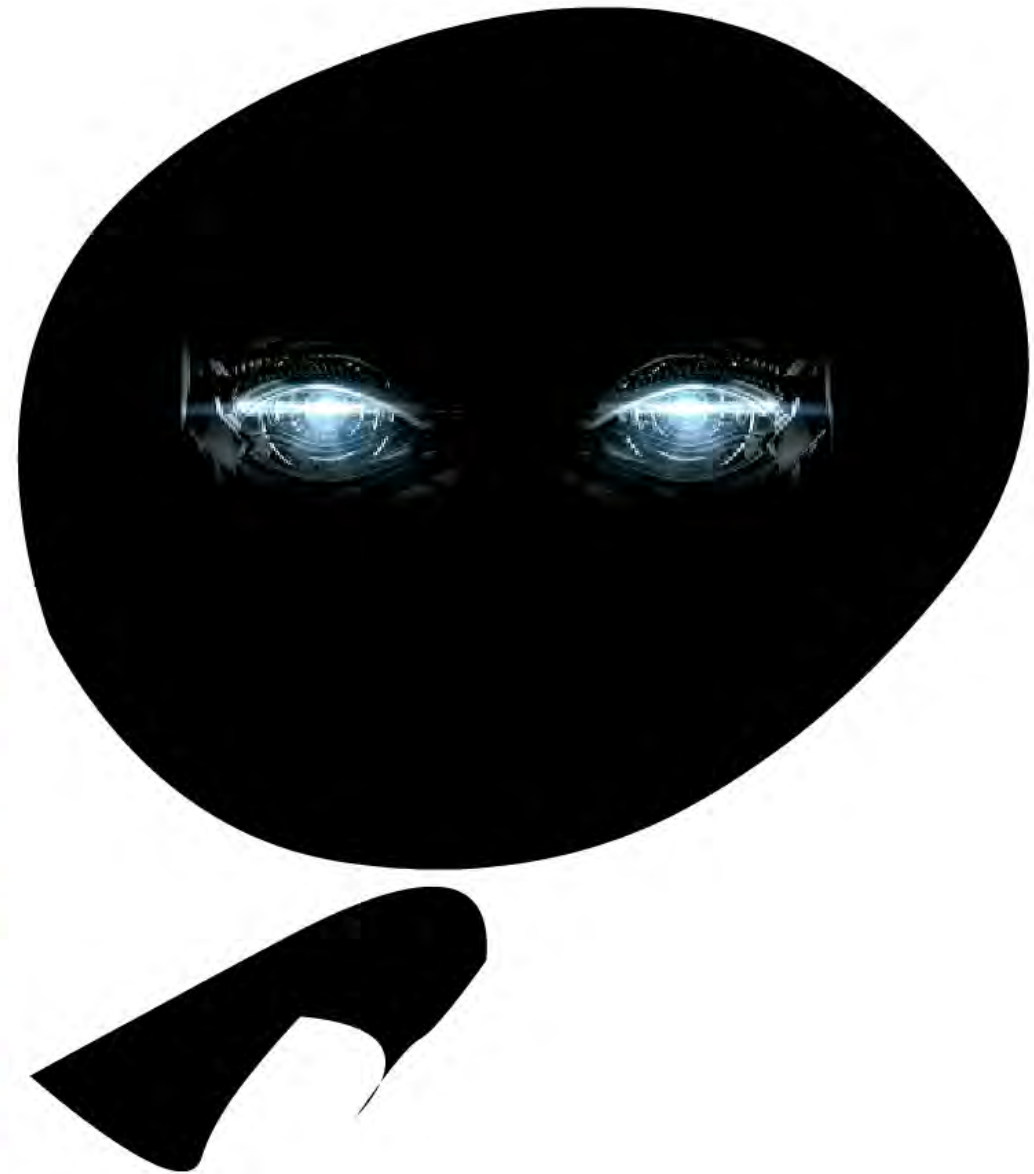
- Be a minimalist
- Create Context
- Make Mental Monsters

A white silhouette of a butterfly is centered on a solid black background. The butterfly's wings are spread, and its body is visible. In the center of the butterfly's body, there is a black rectangular box containing the text "NOW What?!" in a white, handwritten-style font.

*NOW What?!*

### ③ Focus of Attention

The conscious effort of an individual to focus their attention through explicit thoughts and feelings in an effort to execute a task with superior performance



# Categories

## Internal Focus:

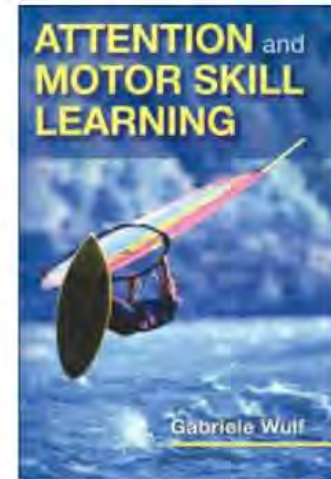
- Primary focus on the body (ex. muscles) and associated movement process (ex. extend hips)

## External Focus:

- Primary focus on movement outcome (ex. jump high) and associated affect on the environment (ex. push the ground)

## Neutral Focus:

- No explicit focus (ex. flow state)







Internal Focus  
"Explode through your hips"

External Focus  
"Explode off the blocks"

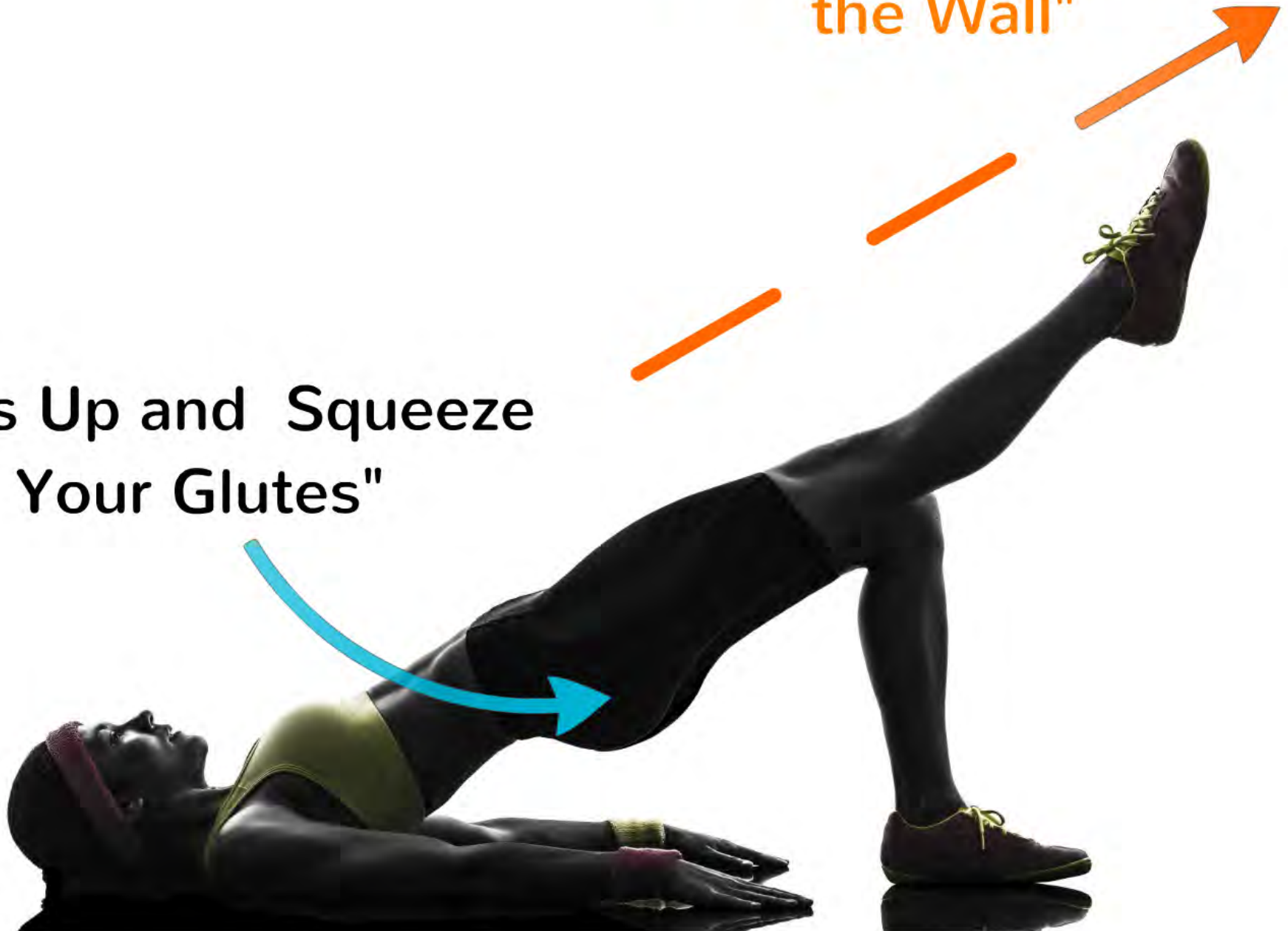


"Focus On Pulling The  
Handles Into Your Pockets"

"Focus on Squeezing Your  
Shoulder Blades and Pulling  
Your Elbows In"

"Get Long and Touch  
the Wall"

"Hips Up and Squeeze  
Your Glutes"



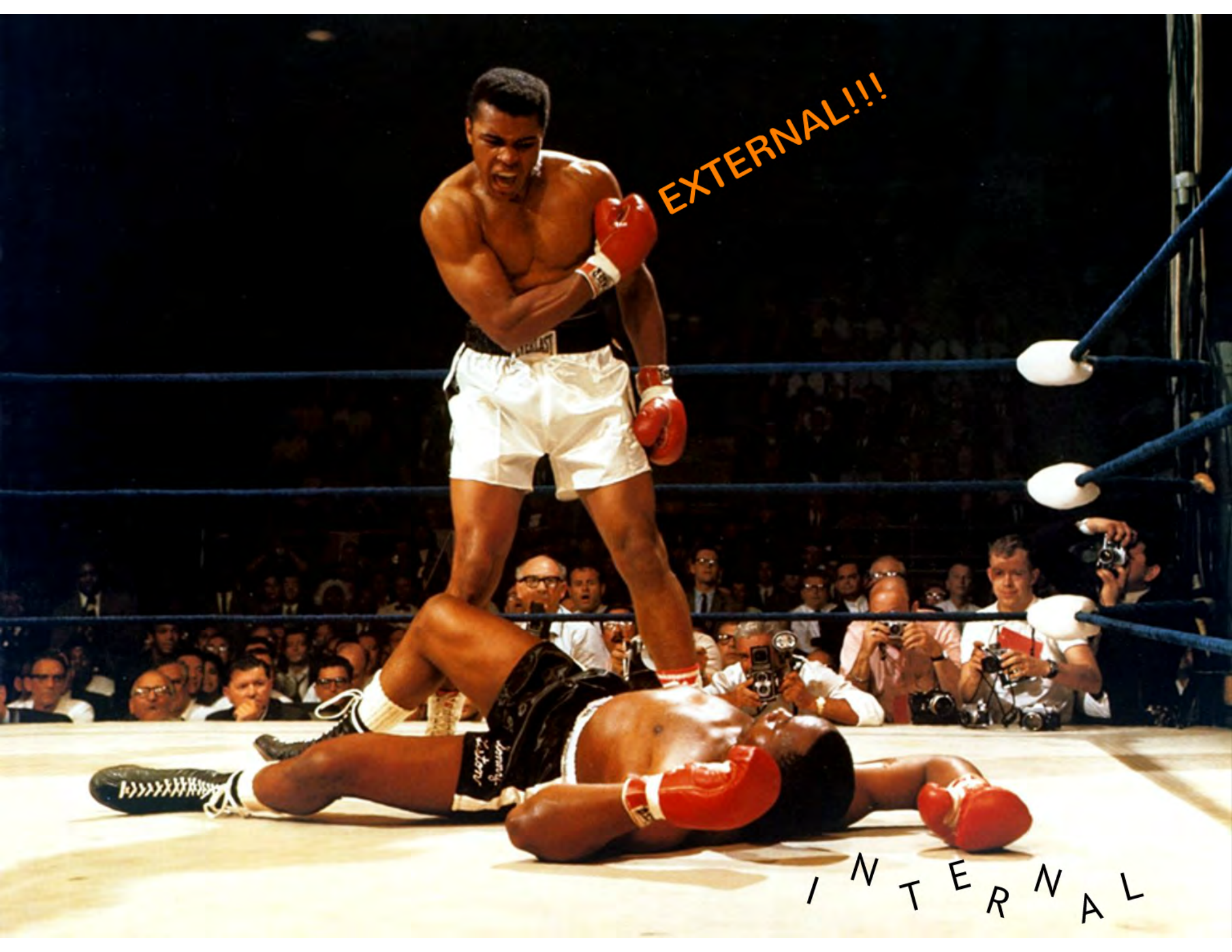


So who are you betting on???





EXTERNAL!!!



I N T E R N A L





# RESEARCH

R  
CEN



## Instructions for Motor Learning: Differential Effects of Internal Versus External Focus of Attention

**Gabriele Wulf**  
Max Planck Institute for Psychological  
Research, Munich

**Markus Hüb**  
University of Munich

**Wolfgang Prinz**  
Max Planck Institute for Psychological  
Research, Munich,  
University of Munich

**ABSTRACT.** The effects of different types of instructions on complex motor skill learning were examined. The instructions were related either to the participant's own body movements (*internal focus*) or to the effects of those movements on the apparatus (*external focus*). The hypothesis tested was that external-focus instructions would be more beneficial for learning than internal-focus instructions. In Experiment 1, the participants ( $N = 33$ ) performed stalom-type movements on a ski-simulator. The instructions referred to the way in which force should be exerted on the platform that the participant was standing on. The instructions given 1 group of participants referred to the performers' feet (*internal focus*), whereas the instructions given another group referred to the wheels of the platform, which were located directly under the feet (*external focus*). The control group was given no focus instructions. All participants practiced the task on 2 consecutive days and performed a retention test on Day 3. Compared with the effects of internal-focus instructions and no instructions, the external-focus instructions enhanced learning. Internal-focus instruction was not more effective than no instructions. In Experiment 2, an attempt was made to replicate the differential effects of external- versus internal-focus instructions with a different task (balancing on a stabilometer). Consistent with Experiment 1, instructing learners ( $N = 16$ ) to focus on 2 markers on the platform of the stabilometer (*external focus*) led to more effective learning than instructing them to focus on their feet (*internal focus*), as measured by a retention test after 2 days of practice. Practical and theoretical implications of those results are discussed.

**Key words:** focus of attention, instructions, motor learning, ski-simulator

In an effort to identify variables that affect the learning of motor skills, researchers have been concerned with various aspects of the learning situation. Those include, for example, the organization of practice (for reviews, see Magill & Hall, 1990; Shapiro & Schmidt, 1982), the frequency or kind of feedback given to the learner (for reviews, see Sal-

moni, Schmidt, & Walter, 1984; Schmidt, 1991), the presentation of a model (for a review, see McCullagh, 1993; McCullagh, Weiss, & Ross, 1989), or the provision of physical guidance (e.g., Winstein, Pohl, & Lewthwaite, 1994; Wulf, Shea, & Whitacre, in press). One factor that has been largely ignored in motor learning research is the instruction given to the learner who is in the process of acquiring a new motor skill. Instructions are given before or during practice and include information as to how to perform the skill. Instructions may be particularly relevant for the learning of complex skills—for example, in sports—in which, often, several movement sequences have to be coordinated or many degrees of freedom must be controlled. In such cases, it is often important to focus the learner's attention on the relevant aspects of the task because those are not necessarily picked up from the observation of a model, for example. To achieve that focus, researchers often confront the learner with information regarding the correct placement of various body parts, the timing of different submovements, or the overall dynamics of the movement. Little is known about how much or what kind of information should be provided to the learner and at what point in the learning process, however, because those questions have hardly been addressed in the research literature. Yet, if a researcher's goal is to optimize learning, providing the learner with the right information could be critical, and that poses a challenge for the practitioner. To provide practitioners with guidelines for their teaching but also to further our under-

*Correspondence address: Gabriele Wulf, Max Planck Institute for Psychological Research, Leopoldstrasse 24, 80802 Munich, (Germany). E-mail address: wulf@mpipf-muenchen.mpg.de*

## Experiment 1:



Int: "Outer Foot"  
Ext: "Outer Wheels"  
Practice &  
Retention  
(Ext>Int=Control)

## Experiment 2:



Int: "Keep Feet  
Same Height"  
Ext: "Keep Markers  
Same Height"  
Retention (Ext>Int)

# Attentional focus and motor learning: a review of 15 years

Gabriele Wulf\*

*Department of Kinesiology and Nutrition Sciences, University of Nevada, Las Vegas, NV, USA*

*(Received 12 April 2012; final version received 20 August 2012)*

Over the past 15 years, research on focus of attention has consistently demonstrated that an external focus (i.e., on the movement effect) enhances motor performance and learning relative to an internal focus (i.e., on body movements). This article provides a comprehensive review of the extant literature. Findings show that the performance and learning advantages through instructions or feedback inducing an external focus extend across different types of tasks, skill levels, and age groups. Benefits are seen in movement effectiveness (e.g., accuracy, consistency, balance) as well as efficiency (e.g., muscular activity, force production, cardiovascular responses). Methodological issues that have arisen in the literature are discussed. Finally, our current understanding of the underlying mechanisms of the attentional focus effect is outlined, and directions for future research are suggested.

**Keywords:** external focus; instructions; feedback; motor performance; movement effectiveness; movement efficiency



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External focus superior during practice and retention for novice golfers

Wulf et al. (1999)



External focus improves reaction time during balance task (CAH-Support)

Wulf et al. (2001)



External focus increases speed and reduces iEMG during biceps curl

Vance et al. (2004)



External focus increases free throw accuracy and reduces associated iEMG

Zachry et al. (2005)

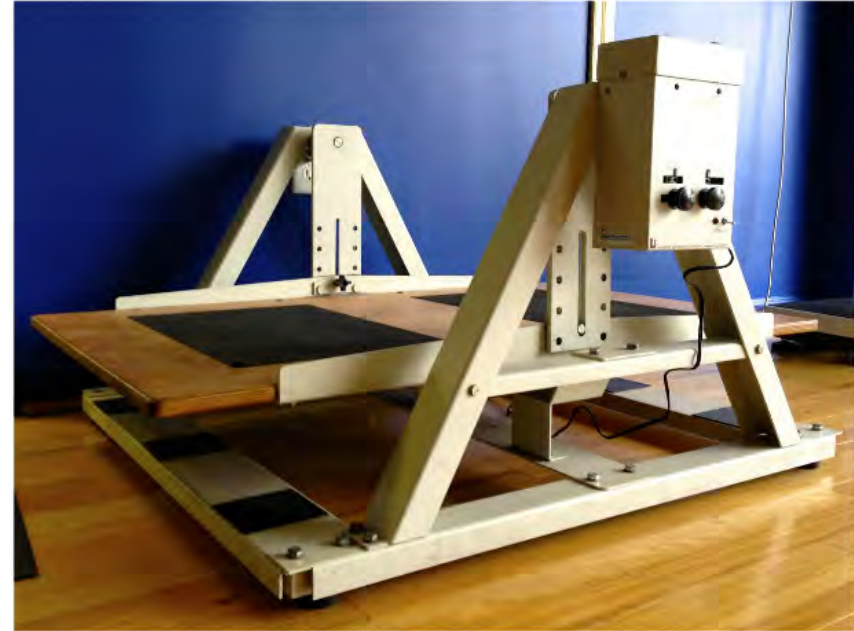
1998



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External focus increases free throw accuracy and reduces associated iEMG

Zachry et al. (2005)



External focus increases shot accuracy  
in expert golfers

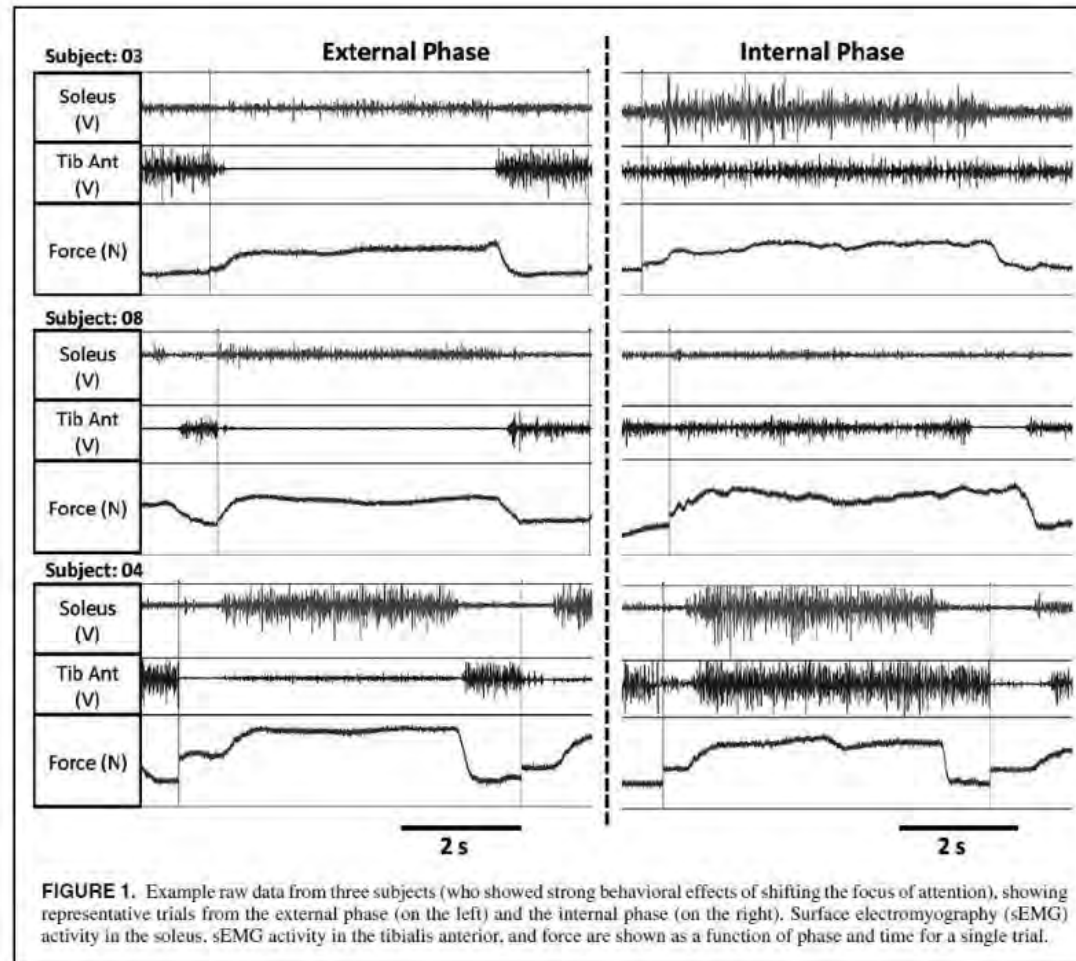
Wulf and Su (2007)





External focus improves balance in those  
with Parkinson's Disease

Wulf et al. (2009)



External focus reduced co-contraction  
during single joint exercise

Lohse et al. (2011)



External focus improved simulated driving performance with higher HRV levels and lower HR compared to Internal focus

Mullen et al. (2012)

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The background consists of large, irregular black shapes on a white background, creating a high-contrast, abstract pattern. The shapes resemble organic forms or stylized figures. Two text elements are overlaid on the image: 'NEURO-SCIENCE' in the top left and 'Constrained Action Hypothesis' in the middle right.

NEURO-  
SCIENCE

Constrained  
Action  
Hypothesis



# CONSTRAINED ACTION HYPOTHESIS

Internal..."Constrains motor system by interfering with automatic control process that would 'normally' regulate the movement"

Wulf et al., 2001

External..."allows the motor system to more naturally self-organize, unconstrained by the interference caused by conscious control attempts"

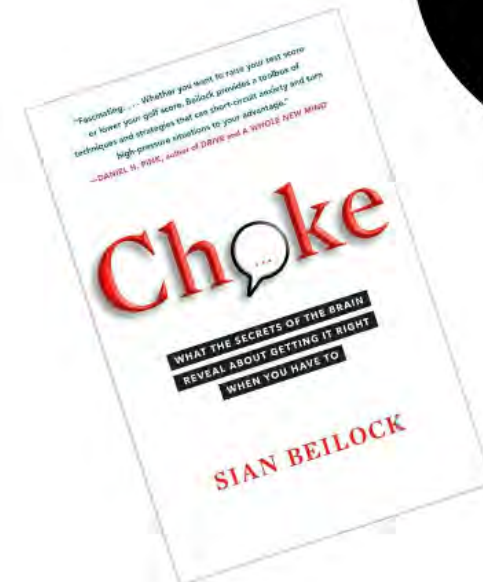
# Constrained Action Hypothesis Cont...

## Internal "focus on SELF"

"This activity may produce what amounts to a series of 'microchoking' episodes with attempts to right thoughts and bring emotions under control."


"Efforts to manage self-related thoughts and emotions may be so demanding that available attentional capacity is exceeded and performance suffers."

Wulf and Lewthwaite, 2010



# Neurophysiology of Motor Learning

## Cognitive Processing



**+** **Frontal Cortex**  
Attention to motor action processing; sensory processing of visual & proprioceptive info

**+** **Associative Striatum**  
Spatial Attention; Spatial Working Memory; and Chunking of motor sequence

**+** **Cerebellum**  
Error detection, prediction, and anticipation of movement

**Primary Motor Cortex**  
Increase in cortical representation and excitation with increased skilled practice

## Automatization

**-** **Frontal Cortex**

**-** **Associative Striatum**

**+** **Sensorimotor Striatum**  
Habit-like behavior; Automatization of motor skills

**+** **Dentate Nucleus of Cerebellum**  
Long-term storage of execution of motor plan

**Novice (Cognitive Stage)**

**Expert (Autonomous)**



Adapted From: Katie Wadden et al. "Motor skill learning and its neurophysiology"

A high-contrast, black and white graphic of a butterfly. The butterfly is white against a black background. In the center of the butterfly's body is a black rectangular speech bubble containing white text. The text is in a bold, italicized, sans-serif font.

***How can I apply  
this to coaching?!***



## ④ Performance Cueing

...Strategies

**“WHAT WE THINK,  
WE BECOME.”**

- BUDDHA

SPEED



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# Directing attention externally enhances agility performance: a qualitative and quantitative analysis of the efficacy of using verbal instructions to focus attention

Jared M. Porter<sup>1\*</sup>, Russell P. Nolan<sup>1</sup>, Erik J. Ostrowski<sup>1</sup> and Gabriele Wulf<sup>2</sup>

<sup>1</sup> Department of Kinesiology, Southern Illinois University Carbondale, Carbondale, IL, USA

<sup>2</sup> Department of Kinesiology and Nutrition Sciences, University of Nevada, Las Vegas, NV, USA

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**\*Correspondence:**

Jared M. Porter, Department of Kinesiology, Southern Illinois University Carbondale, Davies Hall – Mail Code 4310, 1075 South Normal Avenue, Carbondale, IL 62901, USA.  
e-mail: jporter@siu.edu

The primary purpose of this study was to investigate if focusing attention externally produced faster movement times compared to instructions that focused attention internally or a control set of instructions that did not explicitly focus attention when performing an agility task. A second purpose of the study was to measure participants' focus of attention during practice by use of a questionnaire. Participants ( $N = 20$ ) completed 15 trials of an agility "L" run following instructions designed to induce an external (EXT), internal (INT) attentional focus or a control (CON) set of instructions inducing no specific focus of attention. Analysis revealed when participants followed the EXT instructions they had significantly faster movement times compared to when they followed the INT and CON set of instructions; consistent with previous research the INT and CON movement times were not significantly different from each other. Qualitative data showed when participants were in the external condition they focused externally 67% of the time. When they were in the internal condition they focused internally 76% of the time, and when they were in the control condition they did not use an internal or external focus of attention 77% of the time. Qualitative data also revealed participants in the EXT, INT, and CON conditions switched their focus of attention at a frequency of 27, 35, and 51% respectively.

**Keywords:** skill assessment, directions, practice

## Control:

"Run through the course as quickly as you can with maximum effort"

## External:

"Focus on pushing off the ground"

## Internal:

"Focus on planting foot firmly"



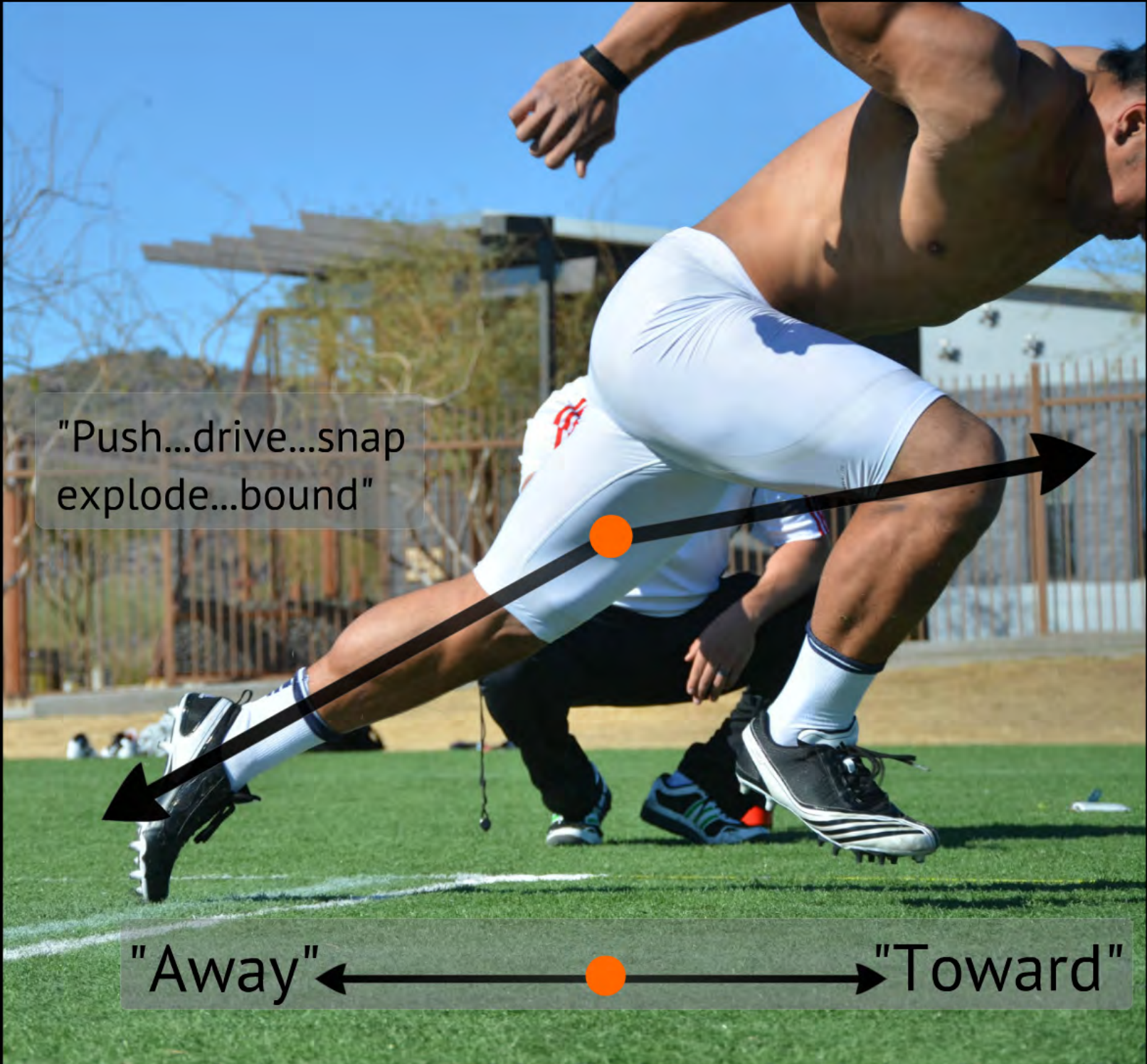
"The line is your enemy"



"Push the line  
(ground) away"

"Angle in...  
Angle out"

"Snap (bounce) off the line (ground)"



"Push...drive...snap  
explode...bound"

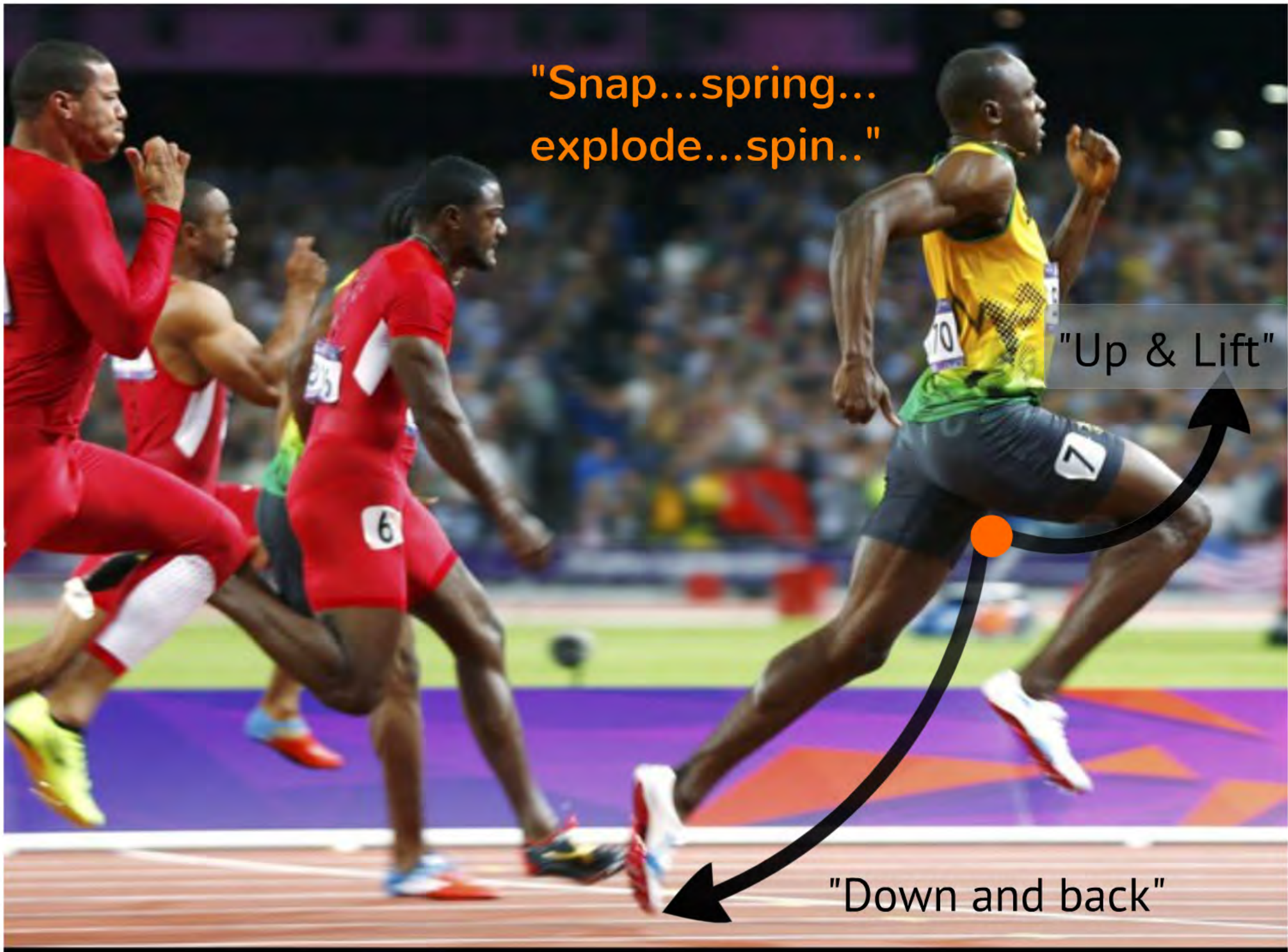
"Away" ← ● → "Toward"



"Snap...spring...  
explode...spin.."

"Up & Lift"

"Down and back"



SPEED



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# Internal Cues...External Cues

"Sit under the roof"

"Bend through your  
hips/knees"

"Lean into the wall"

"Drive the  
ground away"

"Weight on inside leg"

"Drive off outside foot"



# STRENGTH & POWER





# ATTENTIONAL FOCUSING INSTRUCTIONS INFLUENCE FORCE PRODUCTION AND MUSCULAR ACTIVITY DURING ISOKINETIC ELBOW FLEXIONS

DAVID C. MARCHANT,<sup>1</sup> MATT GREIG,<sup>1</sup> AND CATHERINE SCOTT<sup>2</sup>

<sup>1</sup>Department of Sport and Physical Activity, Edge Hill University, Ormskirk, Lancashire, UK; and <sup>2</sup>Department of Sport, Health and Exercise Science, University of Hull, Hull, UK

Journal of Motor Behavior, Vol. 43, No. 2, 2011  
Copyright © Taylor & Francis Group, LLC

## RESEARCH ARTICLE

### Neuromuscular Effects of Shifting the Focus of Attention in a Simple Force Production Task

Keith R. Lohse<sup>1</sup>, David E. Sherwood<sup>2</sup>, Alice F. Healy<sup>1</sup>

<sup>1</sup>Department of Psychology and Neuroscience, University of Colorado, Boulder. <sup>2</sup>Department of Integrative Physiology, University of Colorado, Boulder.

**ABSTRACT.** Research on the focus of attention has begun exploring the physiological changes that underlie the difference between internal and external foci of attention. However, previous electromyography studies have used dynamic tasks, making it difficult to interpret electrophysiological data. The authors analyzed how the focus of attention affects a subject's ability to perform an isometric force production task (focus was directed either at the force platform or the muscles responsible for force production). Subjects received practice without attentional focus instructions and then completed blocks of trials with an external and internal attentional

internally focused subjects (Emanuel, Jarus, & Bart, 2008; Lohse, Sherwood, & Healy, 2010; Marchant, Clough, Crawshaw, & Levy, 2009; Wulf, McNevin, Fuchs, Ritter, & Toole, 2000) and often better than control groups (Marchant, Greig, Scott, & Clough, 2006; Wulf & Su, 2007; Wulf, Zachry, Granados, & Dufek, 2007), suggesting that subjects might spontaneously adopt an internal focus of attention, particularly when the task is novel. One explanation for attentional

frontiers in  
PSYCHOLOGY

REVIEW ARTICLE  
published: 26 January 2011  
doi: 10.3389/fpsyg.2010.00210



## Attentional focusing instructions and force production

David C. Marchant\*

Department of Sport and Physical Activity, Edge Hill University, Ormskirk, Lancashire, UK

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e-mail: david.marchant@edgehill.ac.uk

Research progress assessing the role of attentional focusing instructions on skill acquisition and performance has led researchers to apply this approach to force production tasks. Initial converging evidence indicates that force production tasks are sensitive to verbal instruction; externally focused instructions (onto movement outcomes, or onto the object force is being exerted against) are shown to be more beneficial than internally focused instructions (focusing attention onto the movements being executed). These benefits are observed for maximal and accurate force production, as well as the maintenance of force production in prolonged tasks. A range of mechanisms are identified supporting the proposal that an external focus promotes movement efficiency in line with energy and effort conservation. Future research is required to assess how this developing body of work interacts with the broader understanding of psychological and physiological factors implicated in the effective production, maintenance, and limitation of maximal or sub-maximal forces.

**Keywords:** external focus instructions, internal focus instructions, muscular force, muscular force endurance, movement efficiency

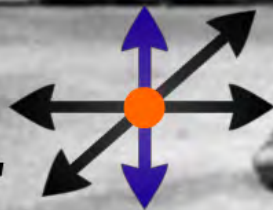
"Specifically, attention should be directed onto the movement of the object being moved and away from the specific bodily movement involved in the action."  
- Marchant et al. 2009

## Focus On:



"Go hard or go home. I didn't get here with high reps and low weight!"

"Stand...jump...punch...  
accelerate to ceiling (sky)"



"Push the ground"

"Pull...snap...throw...  
push...drive the bar"



## Increased Jump Height with an External Focus Due to Enhanced Lower Extremity Joint Kinetics

Gabriele Wulf, Janet S. Dufek  
University of Nevada, Las Vegas.

Human Movement Science 29 (2010) 440–448

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Human Movement Science

journal homepage: [www.elsevier.com/locate/humov](http://www.elsevier.com/locate/humov)



### Increased jump height and reduced EMG activity with an external focus

Gabriele Wulf\*, Janet S. Dufek, Leonardo Lozano, Christina Pettigrew

Department of Kinesiology and Nutrition Sciences, University of Nevada, 4505 Maryland Parkway, Las Vegas, NV 89154-3034, United States

## STANDING LONG-JUMP PERFORMANCE IS ENHANCED WHEN USING AN EXTERNAL FOCUS OF ATTENTION

JARED M. PORTER,<sup>1</sup> ERIK J. OSTROWSKI,<sup>1</sup> RUSSELL P. NOLAN,<sup>1</sup> AND WILL F.W. WU<sup>2</sup>

<sup>1</sup>Department of Kinesiology, Southern Illinois University, Carbondale, Illinois; and <sup>2</sup>Department of Kinesiology, California State University, Long Beach, California

### ABSTRACT

Porter, JM, Ostrowski, EJ, Nolan, RP, and Wu, WFW. Standing long-jump performance is enhanced when using an external focus of attention. *J Strength Cond Res* 24(x): 000–000, 2010—Several experiments have demonstrated that focusing a performer's attention externally (i.e., on the effects of a movement) rather than internally (i.e., on specific parts of the body) enhances performance when the task requires object manip-

### INTRODUCTION

Over the years, the standing long-jump test has been adopted by a variety of sports and organizations, both professional and amateur, to evaluate and predict athletic success. Although physical training regimens have been researched and debated, what has not been considered is the influence of verbal instruction on standing long-jump performance. Although strength and

## EFFECT OF ATTENTIONAL FOCUS STRATEGIES ON PEAK FORCE AND PERFORMANCE IN THE STANDING LONG JUMP

WILL F. W. WU,<sup>1</sup> JARED M. PORTER,<sup>2</sup> AND LEE E. BROWN<sup>3</sup>

<sup>1</sup>Department of Kinesiology, California State University, Long Beach, California; <sup>2</sup>Southern Illinois University, Carbondale, Illinois; and <sup>3</sup>California State University, Fullerton, California

### ABSTRACT

Wu, WFW, Porter, JM, and Brown, LE. Effect of attentional focus strategies on peak force and performance in the standing long jump. *J Strength Cond Res* 26(5): 1226–1231, 2012—Significant benefits in standing long jump performance have been demonstrated when subjects were provided verbal instructions that promoted an external focus of attention compared with an internal focus of attention, suggesting differences in ground reaction forces. The purpose of the present study was to evaluate peak force and jump performance between internal and external focus of attention strategies. Untrained subjects were assigned to both experimental conditions in which verbal instructions were provided to promote either an external or internal focus of attention. All subjects completed a total number of 5 standing long jumps. The results of the study demonstrated that the external focus of attention condition elicited significantly greater jump distance (153.6 ± 38.6 cm) than the internal focus of attention condition

long jump test. The wide acceptance of the standing long jump test can be seen through its incorporation within a variety of sports (e.g., football, basketball, volleyball) and also at various levels of expertise, from high school to the professional ranks (14,15). Although the standing long jump is a widely used test, the impact of verbal instructions on jump performance, for training and testing purposes, has been largely ignored, leading to potentially disparate findings in performance and reliability.

Empirical findings reported in a recent study by Porter et al. (12) demonstrated that standing long jump performance was significantly influenced by the attentional focus promoted through verbal instructions. The authors found providing instructions that encouraged subjects to think about body movements significantly reduced jump performance compared with jumpers who received verbal instructions encouraging them to think about the effects of their movements. The results of the study highlight the importance of using appropriate and consistent verbal instructions when conducting a standing long jump test. The findings also

External focus of attention is associated with improved jump height and distance  
Improved power is associated with a reduction in EMG, increased ground reaction forces and improved joint kinetics (i.e. efficiency)  
(Makaruk et al. 2012)  
showed similar results during a plyometric training program



Focus on rim or  
highest reach point

VERTICAL  
42.3"

@STREETBALL





Focus on line of  
farthest jump point



# Internal Cueing...External Cueing



"Sit into your hips"

"Sit behind  
the bar"

"Push the  
bar back"

"Elbows/Chest Up"

"Knees Out"

"Push into miniband"



**How do I maximize  
my cueing?!**

# ⑤ Performance Cueing...

...Amplifiers



# AMPLIFIERS





Nancy H. McNevin · Charles H. Shea · Gabriele Wulf

## Increasing the distance of an external focus of attention enhances learning

### INCREASING THE DISTANCE OF AN EXTERNAL FOCUS OF ATTENTION ENHANCES STANDING LONG JUMP PERFORMANCE

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#### ABSTRACT

Porter, JM, Anton, PM, and Wu, WFW. Increasing the distance of an external focus of attention enhances standing long jump performance. *J Strength Cond Res* 26(9): 2389–2393, 2012—Numerous studies have demonstrated that using verbal instructions to direct a performer's attention externally (i.e., toward the effect of the movement) significantly enhances motor skill performance. Limited research has also demonstrated that increasing the distance of an external focus relative to the body magnifies the effect of an external focus of attention. The purpose of this study was to investigate the effect of increasing the distance of an external focus of attention on standing long jump performance. Using a counterbalanced within-participant design, recreationally trained male subjects ( $n = 35$ ) performed 2 standing long jumps following 3 different sets of verbal instructions (total of 6 jumps; each separated by 1 minute of seated rest). One set of instructions was designed to focus attention externally near the body (EXN); another set of instructions directed attention externally to a target farther from the body (EXF); the last set of instructions served as a control condition (CON) and did not encourage a specific focus of attention. The results indicated that the EXN and EXF conditions elicited jump distances that were significantly greater than the CON condition. In addition, the subjects in the EXF condition jumped significantly farther than those in the EXN condition. These findings suggest that increasing the distance of an external focus of attention, relative to the body, immediately improves standing long jump performance.

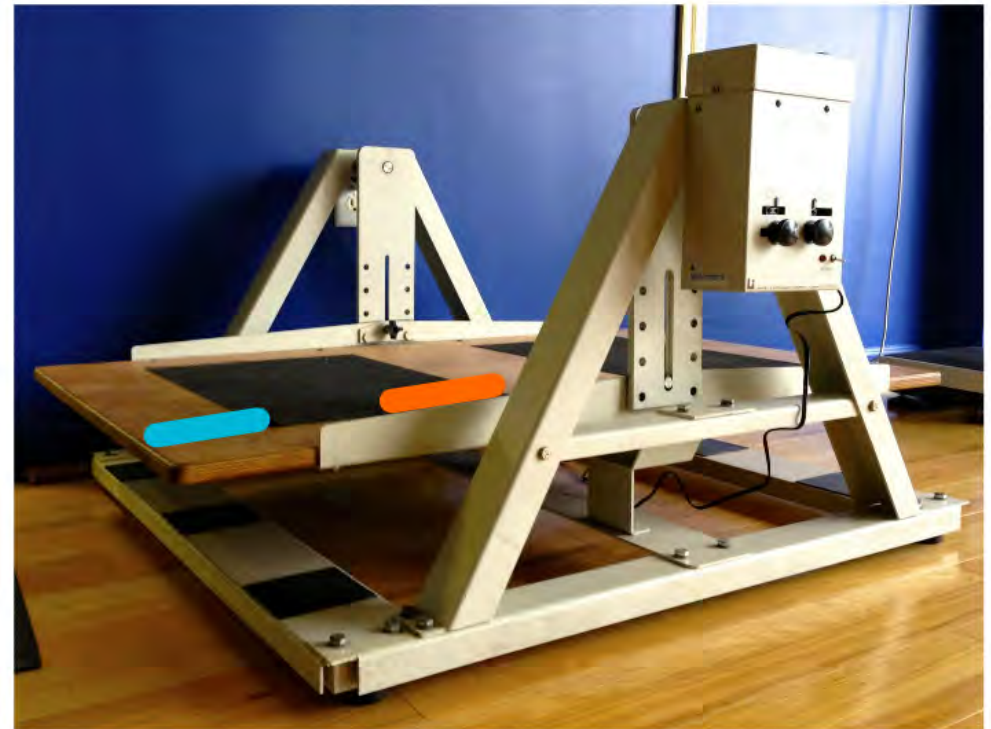
**KEY WORDS** skill assessment, verbal instructions, motor learning, motor control

#### INTRODUCTION

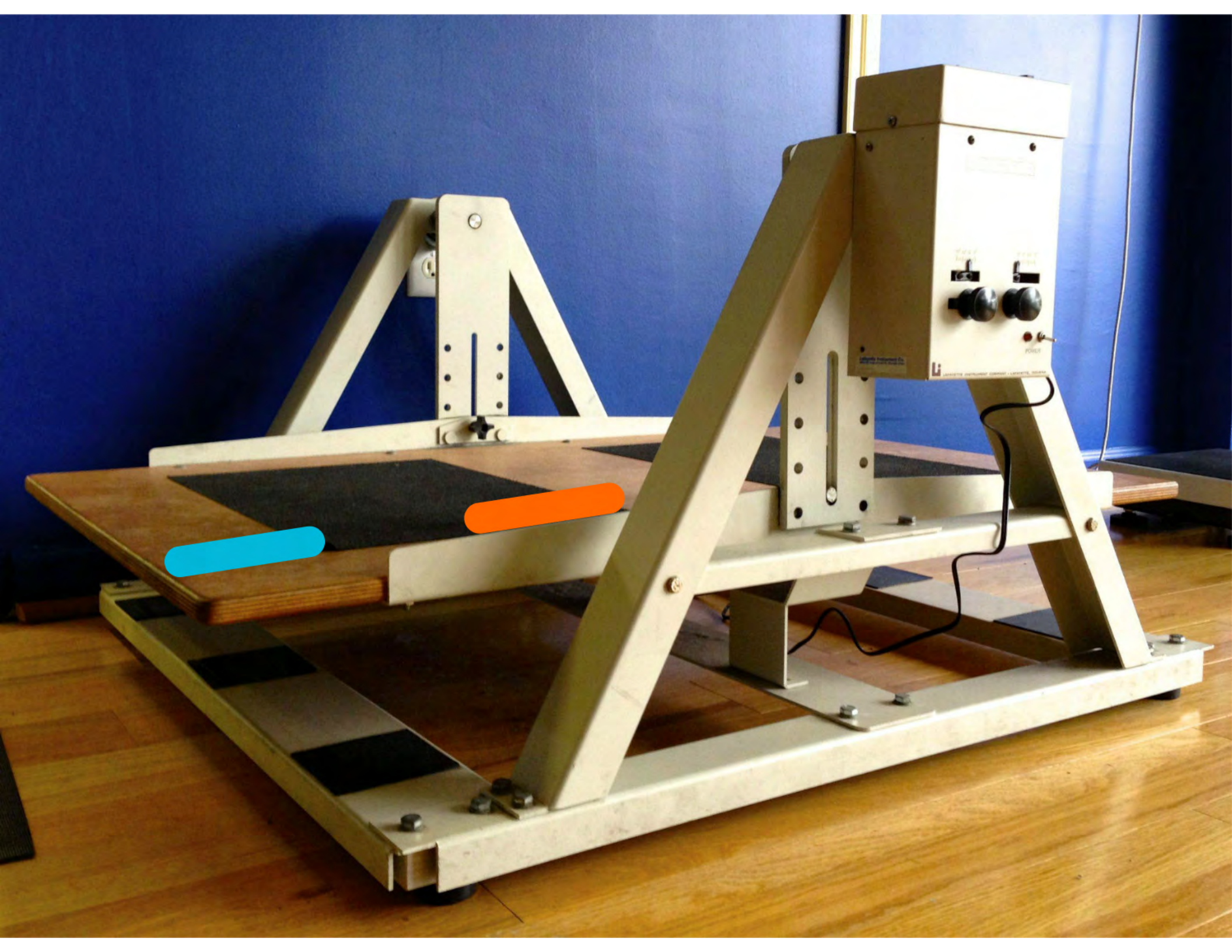
Numerous studies have demonstrated that consciously directing attention externally rather than internally enhances motor skill performance (for a review, see [15]). An external focus of attention is achieved when conscious attentional resources are directed toward the result of a movement or the effect the movement has on the environment (18). Conversely, when an internal focus of attention is used, cognitive resources are consciously directed inward toward the performer's movement. Recent studies have demonstrated that standing long jump (11,14) and vertical jump (16,17) performance are enhanced by directing the performer's attention externally rather than internally during the jumping action. Similar findings have been demonstrated using a variety of tasks (for a review, see [15]), and populations (9,19,21).

The benefits of an external focus of attention are typically explained using the constrained action hypothesis (20). This hypothesis suggests that directing attention externally facilitates nonconscious automatic cognitive processing, which allows the motor control system to produce fast and accurate movements. The automaticity that is facilitated by an external focus of attention promotes efficient neuromuscular activation (5), optimal movement patterns and deviated force generation (16), and enhanced agility performance (10). In contrast, when attention is directed internally, automatic processing is interrupted. This interruption "constrains" the motor control system, negatively influencing motor skill execution. Numerous studies have been conducted to validate the predictions made by the constrained action hypothesis (e.g., see [15]).

McNevin et al. (6) demonstrated that the manipulation of the external focus distance relative to the body resulted in an amplification of motor skill learning and performance. In their study, the participants performed a balance task on













# Towards vs. Away



Focus Direction

# Use action words that create images

Quick



Spin



Snap



Drive



Sharp



Explode



Bounce



Fluid



Focus Description

tool

# Words for the Wise

To make your message heard, it's best to paint a verbal picture.

Why do some CEOs inspire their people to outstanding performance, while

Delaware—used two hallmarks of leadership as proxies: charisma and great-



ILLUSTRATION BY KATHERINE MAHONEY

### Images Versus Concepts

Image-Based Words	Concept-Based Words
sweat	work
hand	help
root	source
heart	commitment
explore	inquire
rock	dependable
grow	produce
journey	endeavor
frontier	limit
path	alternative
clamor	request
sweet	agreeable
tranquil	moderate
dream	idea
imagine	think
listen	consider
see	understand

Source: Martindale's Regressive Imagery Dictionary

the stars, conquer the desert, eradicate disease, tap the ocean depths, and encourage the arts and commerce." Compare that with Jimmy Carter's 1977 address: "Let our recent mistakes bring a resurgent commitment to the basic principles of our nation, for we know that if we despise our own government, we have no future." The differences are striking. Kennedy's speech evokes vivid pictures – close your eyes and you can see the night sky, a barren sandscape, the murky waters. Carter's, however, prompts no such images and fades quickly from memory.

What does that mean for executives? "Business leaders," explains Emrich, "tend to think in terms of bottom-line goals, like boosting revenues or profits. But they need to speak about their goals in terms of how they will make a posi-

tive difference in the world." Few people will be inspired by a rallying cry to increase profits substantially, for instance, but they will be energized by a vision of changing the way people stay in touch or the way children are taught. "If you can see a goal—if you can touch, feel, and smell it—it seems more doable," she says.

So before speaking, leaders should ask themselves, What difference will it make if we're successful in reaching our bottom-line goal? If they can communicate that difference with a clear, vivid image, they'll be much more likely to capture the hearts and minds of their followers.

Eileen Roche

Reprint F0101C

# Focus Description



## Images *Versus* Concepts

<i>Image-Based Words</i>	<i>Concept-Based Words</i>
sweat	work
hand	help
root	source
heart	commitment
explore	inquire
rock	dependable
grow	produce
journey	endeavor
frontier	limit
path	alternative
clamor	request
sweet	agreeable
tranquil	moderate
dream	idea
imagine	think
listen	consider
see	understand

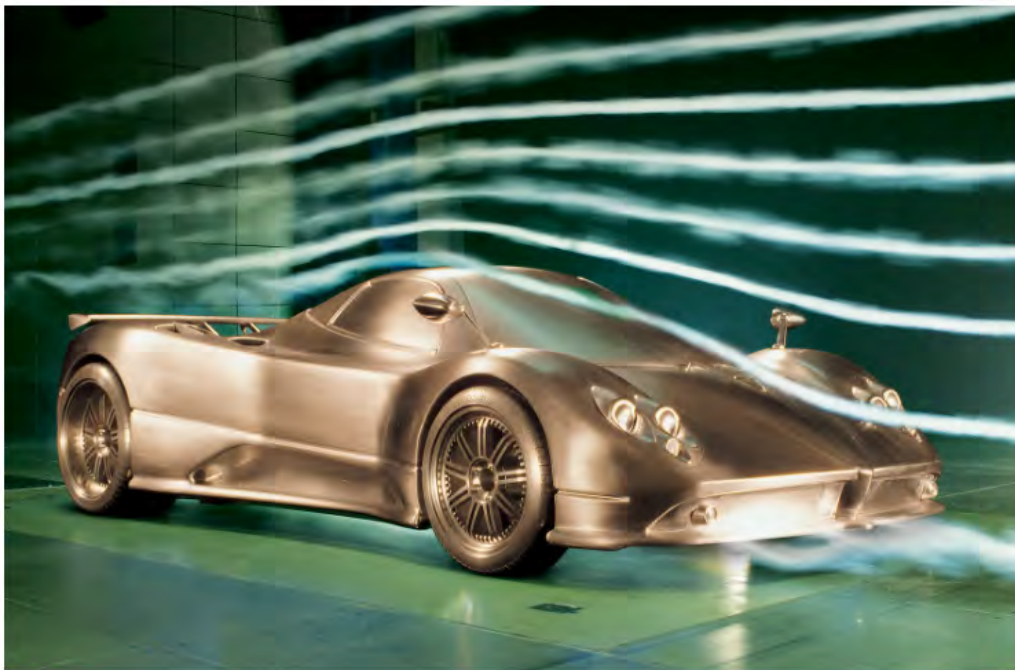
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# Analogy Learning

Feel like...



Be like...



Focus Description



# AMPLIFIERS





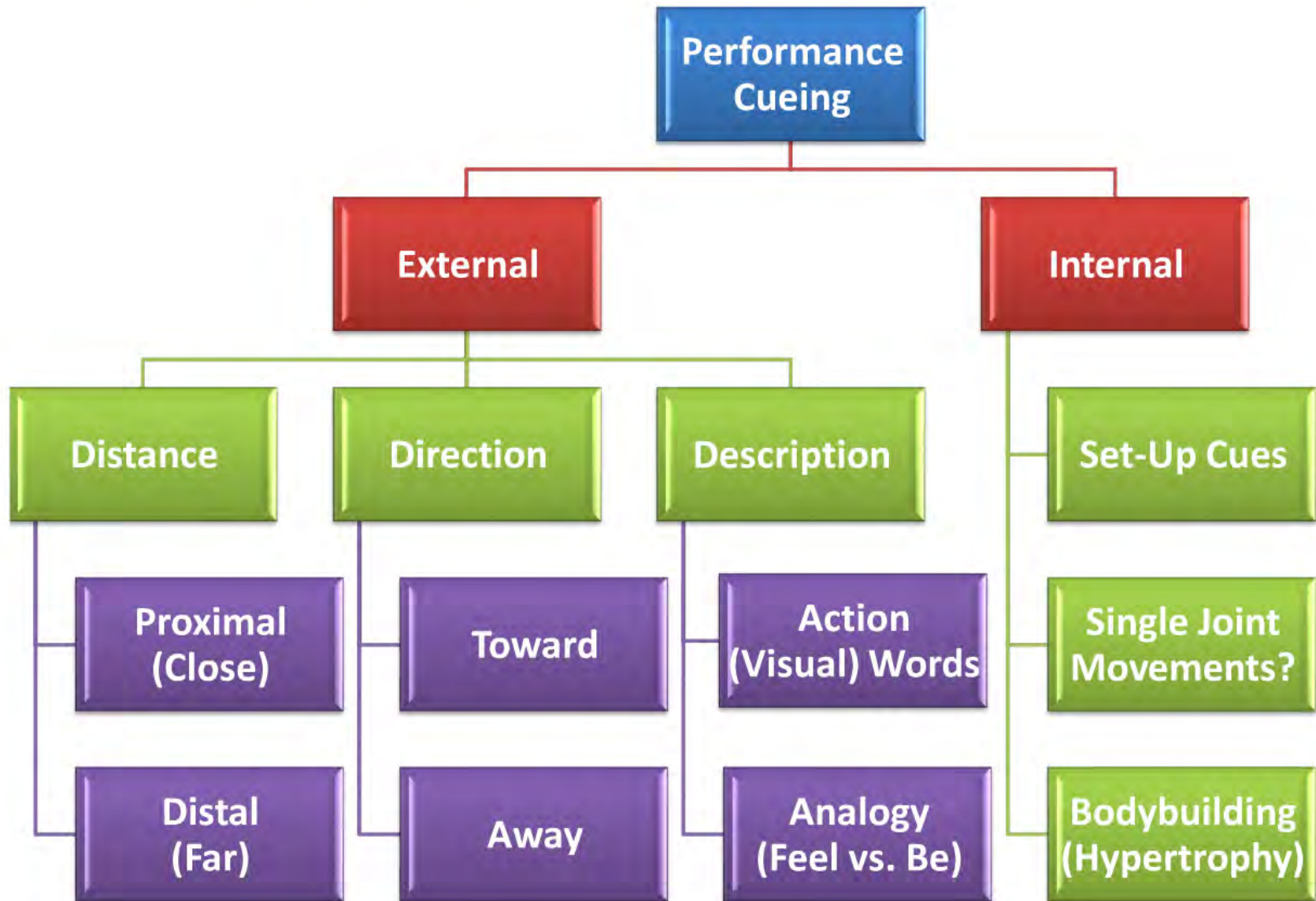
# ⑥ Performance Cueing...

# ...Framework

ATTENTION! Lab



# CUEING FRAMEWORK



Description

Direction

"Drive the Bar Towards the Ceiling Explosively"

Distance

Description





Description

"Snap the Bar to the Ceiling"



Distance &  
Direction

Description:  
Analogy

"Just Like You Were Trying  
to Snap a Towel"

*Final Thoughts...*

# The Big Question?

\_Can we trust the results of studies that have and continue to adopt internal cueing strategies?

## What Next?

\_Continue to harden our knowledge of cueing and instruction and build-out a coaching framework...Periodization of Coaching



# "Monday Morning Takeaways"

\_Cueing = Words

\_Words = Thoughts

\_Thoughts = Images

\_Images = Feelings

\_Feelings = Actions

\_Actions = Goals

Cues = Goals

# Final Thought

Thank You for Your



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WHAT WE SAY

MATTERS



# Thank You for Your



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