

Imagery

“Using all of the senses to create or re-create an experience in the mind.”

Imagery - What is it?

Mental imagery refers to (1) all those quasi-sensory or quasi-perceptual experiences of which (2) we are self-consciously aware and which (3) exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and (4) which may have the same consequences as their sensory or perceptual counterparts (Richardson, 1983).

Imagery - How Does It Work?

- The mind knows no difference between what's "real" and what's vividly imagined
 - Hypnagogic imagery
- "Imagery is functionally equivalent to, and can substitute for, perception"
- "at some level of the sensory pathway, imagery and perception activate the same neuronal structures"

Imagery - How Does It Work?

(cont.)

- Finite amount of bandwidth...
- Individual differences
- (Marks, 1990; Marks, 1983)

Imagery - What Can it be Used For?

- Mental practice
 - Skill development, skill refinement, learning mechanics
 - Practicing strategy
 - Problem solving
- Imagery and physical practice
 - Does not replace practice, but is better than no practice at all

Imagery - What Can it be Used For? (cont.)

- Contest preparation
 - State management
 - Site familiarization
- Arousal control, stress management
- Desensitization

Imagery - What Can it be Used For? (cont.)

- Development of self-confidence through visualization of successful performance
- Recovery from injury
 - Pain management
 - Desensitization
- Developing interpersonal skills

Imagery - Does It Work?

- Arnold Palmer
- Tiger Woods

Imagery - Does It Work?

“Some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician.”

Hippocrates

Imagery - Does It Work?

- Enhancing sport performance and learning
 - Mental practice
 - Preparatory images
 - Multimodal methods
- Enhancing competition-related thoughts and emotions

Imagery - Enhancing sport performance and learning

- Mental practice
 - Feltz and Landers, 1983
 - Martin, Moritz, & Hall (1999)
 - Better than no practice at all

Imagery - Enhancing Sport Performance and Learning

- Preparatory images
 - Strength tasks
 - Sheldon & Mahoney, 1978
 - Tynes & McFatter, 1987
 - Muscular endurance tasks
 - ☹Gould, Weinburg & Jackson, 1980
 - Lee, 1990
 - Golf putting

Imagery - Enhancing Sport Performance and Learning

- Learning & Problem Solving
- Boxing is a thinking person's game
 - Formulation and adjustment of tactics and strategies. What is she doing? What will she do if I do this? How is she getting to me? What is she doing wrong? Where is her weakness?
- Shadow Boxing with imaginary opponent develops the habit of thinking about the opponent when boxing. Also develops automatic responses to specific situations.

Imagery - Enhancing Competition-Related Thoughts and Emotions

- Shown to be effective in
 - Increasing confidence
 - Increasing motivation
 - Reducing anxiety

Feltz & Landers, 1983

- Meta Analysis of studies of performance-enhancing effects of imagery
- Review of effect size = $(M_t - M_c)/SD$
 - 0.0 trivial
 - 0.2 small
 - 0.6 moderate
 - 1.2 large
 - 2.0 very large

Comparisons of Effect Sizes

– Strength	.2	Motor .43	Cognitive 1.44
– Novice	.44		Experienced .77
– Reactive	.25		Self-paced .39
– Immediate	.32		Later .57
– Unpublished	.32		Published .74

Imagery - How Does It Improve Performance?

☹️ Psychoneuromuscular Theory

- Muscle memory is developed by muscle innervation during practice

? Symbolic Learning Theory

- Movement schema is strengthened by repetitive mental practice

😊 Bioinformational Theory

- Imagery adds to the set of potential responses available to the player

Imagery Skill for Performance Enhancement

- Performance Enhancement using imagery requires imagery skill:
 - Ability to control/hold the image
 - (Intervention check)
 - Developed through controlled/planned, systematic practice

Imagery - Who Can Do It?

- People start with different levels of imaging ability
- Can be assessed: Sports Imagery Evaluation
- Imagery is a skill that can be developed with practice over time

Imagery - How is it learned?

- Most effective when practiced in a controlled and systematic manner
 - controlled/planned imagery
 - systematic: scheduled performance
- Using all of the senses: visual, auditory, olfactory, gustatory, tactile, kinesthetic, & emotions

Imagery - Perspective

- Internal or external
- Both can be beneficial
- Internal may offer incremental benefits from kinesthetic and response-oriented imagery.

Techniques for Developing Imagery

- Awareness of setting
- Photographs to recall
- Recalling sounds, smells
- Effectiveness of imagery is related to vividness of image

Techniques for Developing Imagery

- Daily practice - before or after physical practice
- Perform the movement then immediately close eyes and imagine it
 - Perform-visualize, perform-visualize, ...
- Individual and group

Techniques for Developing Imagery

- Imagery Scripts
- Imagery logs
 - Record quality and frequency of imagery practice
- Audio and video tape
 - Clients voice. Highlight tapes

The End