Hard facts – Soft skills enriching teaching

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Hard facts – Soft skills

- Attentional Focus
- Optimum Feedback
- Embodied Learning
- Inherent - acquired skill
- choices

enriching teaching
Attentional focus and motor learning skills

Research on the effects of attentional focus has consistently demonstrated that motor performance and learning are enhanced by an ‘external’ focus (i.e., on the movement effect) relative to an ‘internal’ focus (i.e., on body movements).

INTERNAL FOCUS

Concentration on body parts & body movements

“Bend your knees more”

“Lengthen the legs & lift out of the hips”

“Concentrate on the movement of your diaphragm”

“Focus on the hand movement”
EXTERNAL FOCUS  Concentration on *effect of movements* (e.g., the fan, the floor, the sound, the skis)

“Press the floor away”
Or
“Reach down into the rock & up to the rain”

“Put pressure on the skis”

“Focus on the circling movement of the fan”

“Concentrate on the quality of the sound”
Constrained action hypothesis – *Choking Effect*

- Trying to consciously control one’s movements (*internal focus*) constrains the motor system by interfering with automatic control processes.

- Focusing on the movement effect (*external focus*) promotes the utilization of automatic control processes.

Evidence …?

Balance

Platform movements over 90-s trial…

Participant with internal focus

Internal focus: the feet
External focus: the markers

Faster movement adjustments with external focus:
Utilization of reflexive (automatic) control mechanisms

Participant with external focus

Swimming – Speed and Fluidity

Internal focus: Pull the hands
External focus: Push the water
Control

Gymnastics – Height, Precision & Learning speed

- **Internal focus:** the direction in which your hands are pointing after the 1/2 turn
- **External focus:** the direction in which the marker is pointing after the 1/2 turn
- **Control:**

Gymnasts, 12 yrs
Experience: 5.3 yrs

Learning Stages

- Internal Focus
- External Focus

1. Cognitive
2. Associative
3. Autonomous
Movement instructions or feedback promoting an ‘external’ focus of attention relative to an ‘Internal’ focus of attention results in …

- more effective motor performance and learning
  - Balance
  - Precision
  - Power - force production
  - Speed

- more efficient movement patterns
  - Fluidity
  - Minimum muscular activity
  - Power - increased max force production
  - Reduced fatigue, greater endurance
  (lower heart rate, reduced oxygen consumption, etc.)
Movement instructions or feedback promoting an ‘external’ focus of attention relative to an ‘Internal’ focus of attention results in …

- improved movement quality
- increased movement automaticity
  - Multi-tasking improved, reduced attentional demands
  - Stress - enhanced performance in stressful situation
External focus advantages have been found for …

**Tasks**
- Balance
- Agility
- Sprint
- Force production
- Vertical jump
- Long jump
- Playing musical instruments
- Swimming
- Gymnastics
- Weight lifting
- Etc. . .

**Levels of expertise**
- Beginners
- Professionals

**Age groups**
- Children
- Young adults
- Older people

**Conditions**
- Injuries (ankle sprain)
- Parkinson’s disease
- Stroke
- Intellectual disability
- ADHD

Optimum Feedback Mechanisms

- Normative Feedback
- Self Modeling – following best performance
- Perceived task difficulty
Empowered Learning

- Embody Power

- Inherent Skill – Acquired Skill

- Ability Conceptions affect motivation
Embodied Learning

- Movement Facilitates Cognitive Learning
- Choice Enhances Learning
Thank you . . .