Coordinative Optimization
Intra-Inter Systemic

David Ribera-Nebot
copying and interpreting professor Fco. Seirul·lo since 1985
Complex dynamic systems conception of technical training by Seirul·lo since 1987

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INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

- ACCURACY (precision)
- SPEED (pressure of time)
- CHANGING SITUATION (pressure of variability)

SPORT SKILL

GENERAL/SPECIAL DYNAMIC Coordination

GENERAL/SPECIAL STATIC Coordination (Static Balance)

PERSON

- CONDITIONING STRUCTURE
- COGNITIVE STRUCTURE
- SOCIO-AFFECTIVE STRUCTURE
- EMOTIONAL-VOLITIONAL STRUCTURE
- CREATIVE-EXPRESSIVE STRUCTURE
- MENTAL STRUCTURE
- BIOENERGETIC STRUCTURE

INTER-SYSTEMIC OPTIMIZATION

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INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

MOVEMENT CONTROL
Kinästhetik Discrimination
Segmentary Differentiation
Variability of Movement
Combination of Movements
Guided Control of Movement
Fluidity and Relaxation of Movement
Amplitude of Movement

IMPLEMENTATION ON SPACE
Orientation
Directionality
Localization
Situation (placement)
Static-Dynamic Balance

TEMPORAL ADEQUACY
Reaction-Anticipation
Rhythmic Differentiation
Rhythmic Variability
Rhythmic or Temporal Adaptation
Rhythmic Sense (Temporal Creativity)

INTER-SYSTEMIC OPTIMIZATION

* CONDITIONING STRUCTURE
* COGNITIVE STRUCTURE
* SOCIO-AFFECTIVE STRUCTURE
* EMOTIONAL-VOLITIONAL STRUCTURE
* CREATIVE-EXPRESSIVE STRUCTURE
* MENTAL STRUCTURE
* BIOENERGETIC STRUCTURE
* ...

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EXAMPLE 1

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

Example 1a

MOVEMENT CONTROL
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

Example 1b

SPATIAL IMPLEMENTATION
- Orientation
- Directional (Directionality)
- Localization
- Situation (placement)
- Static-Dynamic Balance

Example 1c

TEMPORAL ADEQUACY
- Reaction-Anticipation
- Rhythmical Differentiation
- Rhythmical Variability
- Rhythmical or Temporal Adaptation
- Rhythmical Sense (Temporal Creativity)

Preferential interactions **within** one type of coordination capacities

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Intra-systemic Optimization

Coordinative Structure

Movement Control
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

Spatial Implementation
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

Preferential interactions between two types of coordination capacities

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EXAMPLE 2b
INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

MOVEMENT CONTROL
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

TEMPORAL ADEQUACY
- Reaction-Anticipation
- Rhythmic Differentiation
- Rhythmic Variability
- Rhythmic or Temporal Adaptation
- Rhythmic Sense (Temporal Creativity)

Preferential interactions between two types of coordination capacities

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EXAMPLE 2c

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

SPATIAL IMPLEMENTATION
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

TEMPORAL ADEQUACY
- Reaction-Anticipation
- Rhythmic Differentiation
- Rhythmic Variability
- Rhythmic or Temporal Adaptation
- Rhythmic Sense (Temporal Creativity)

Preferential interactions **between** two types of coordination capacities

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exemple 3

Intra-Systemic Optimization

Coordinative Structure

Movement Control
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

Implementation on Space
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

Temporal Adequacy
- Reaction-Anticipation
- Rhythmic Differentiation
- Rhythmic Variability
- Rhythmic or Temporal Adaptation
- Rhythmic Sense (Temporal Creativity)

Preferential interactions among three types of coordination capacities

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EXAMPLE 1A

INTER-SYSTEMIC OPTIMIZATION

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

MOVEMENT CONTROL
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

PREFERENTIAL COORDINATIVE INTERACTIONS WITH CONDITIONAL STRUCTURE

CONDITIONAL STRUCTURE

PERSON

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EXAMPLE 1B

INTER-SYSTEMIC OPTIMIZATION

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

SPATIAL IMPLEMENTATION
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

CONDITIONAL STRUCTURE

COGNITIVE STRUCTURE

PERSON

Preferential Coordinative interactions with Conditional and Cognitive Structures

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Preferential Coordinative interactions with Conditional, Cognitive and Socio-Affective Structures
INTER-SYSTEMIC OPTIMIZATION

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

MOVEMENT CONTROL
- Kinesthetic Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

SPATIAL IMPLEMENTATION
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

EMOTIONAL-VOLITIONAL STRUCTURE

PERSON

Preferential Coordinative (2 types) interactions with Emotional-Volitional Structure

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EXAMPLE 2B

INTER-SYSTEMIC OPTIMIZATION

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

SPATIAL IMPLEMENTATION
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

TEMPORAL ADEQUACY
- Reaction-Anticipation
- Rhythmic Differentiation
- Rhythmic Variability
- Rhythmic Adaptation
- Rhythmic Sense

CONDITIONAL STRUCTURE + COGNITIVE STRUCTURE

PERSON

Preferential Coordinative (2 types) interactions with Conditional and Cognitive Structures

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EXAMPLE 3

INTER-SYSTEMIC OPTIMIZATION

INTRA-SYSTEMIC OPTIMIZATION

COORDINATIVE STRUCTURE

MOVEMENT CONTROL
- Kinästhetik Discrimination
- Segmentary Differentiation
- Variability of Movement
- Combination of Movements
- Guided Control of Movement
- Fluidity and Relaxation of Movement
- Amplitude of Movement

SPATIAL IMPLEMENTATION
- Orientation
- Directionality
- Localization
- Situation (placement)
- Static-Dynamic Balance

TEMPORAL ADEQUACY
- Reaction-Anticipation
- Rhythmic Differentiation
- Rhythmic Variability
- Rhythmic Adaptation
- Rhythmic Sense

SOCIO-AFFECTIVE STRUCTURE

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Preferential Coordinative (3 types) interactions with Socio-Affective Structure

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