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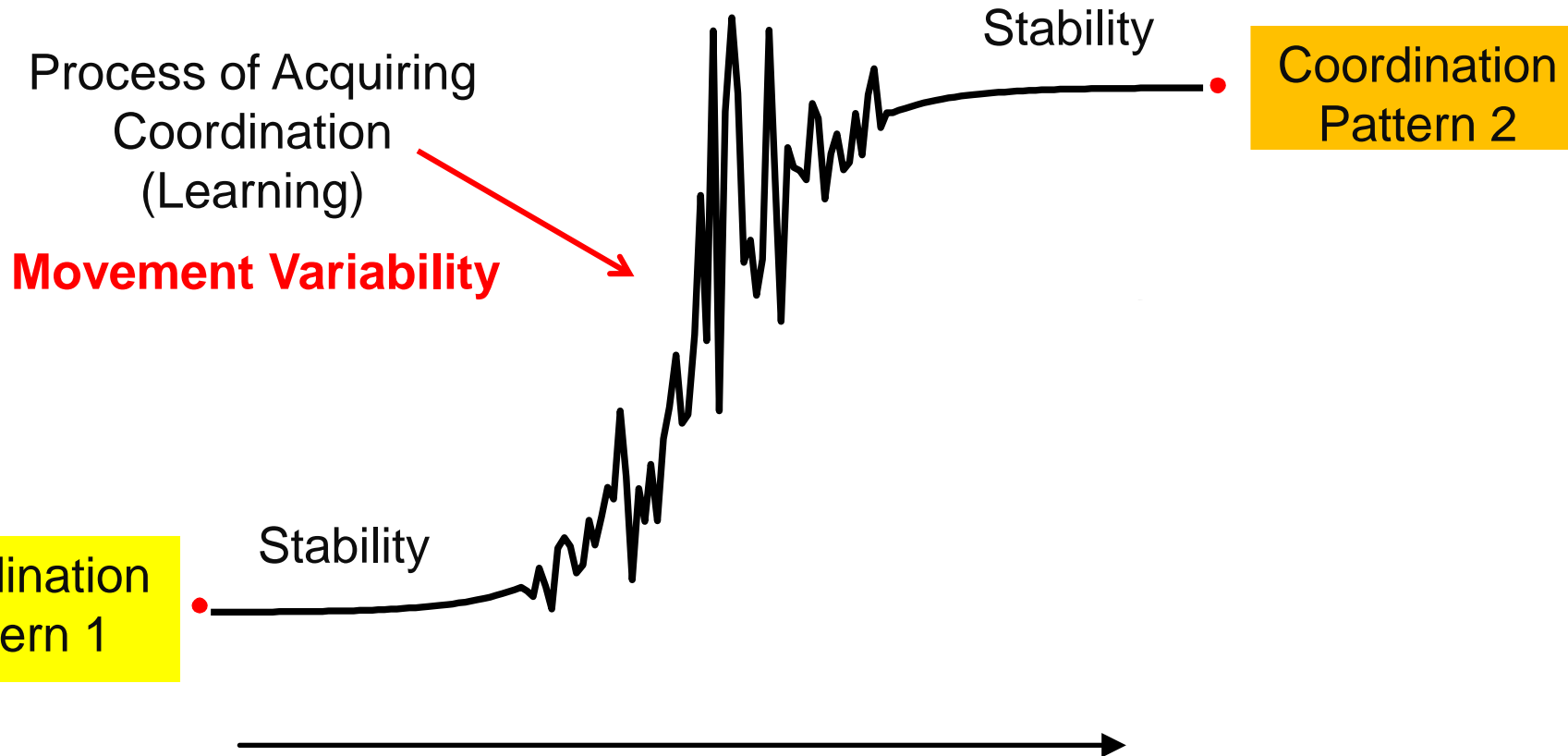
*Coaching Better Every Day:
Shaping the Future*

**Introduction to
Nonlinear Pedagogy:
Coaches as Learning Designers**

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Lee Wung Yew OLY (PESTA)*



Learning is a nonlinear process.

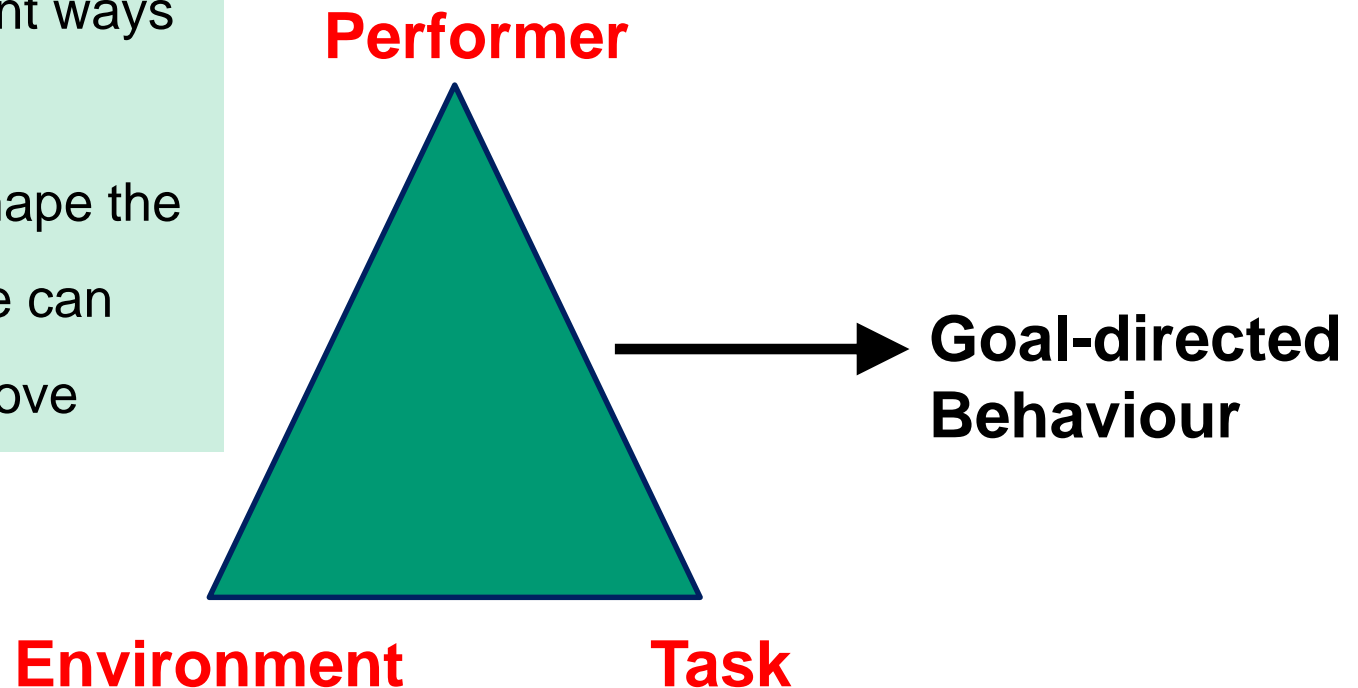


Constraints-led Approach

We can potentially move
in many different ways

BUT

Constraints shape the
ways that we can
possibly move



What is Nonlinear Pedagogy?

'Traditional' (Linear)

- **Technique dominated**
 - **Prescriptive instructions**
 - **Repetitive drills**



Nonlinear Pedagogy

- **Explore individualised movement solutions.**
- **Develop cognitive and decision-making skills for game play.**



(Chow et al., 2007).

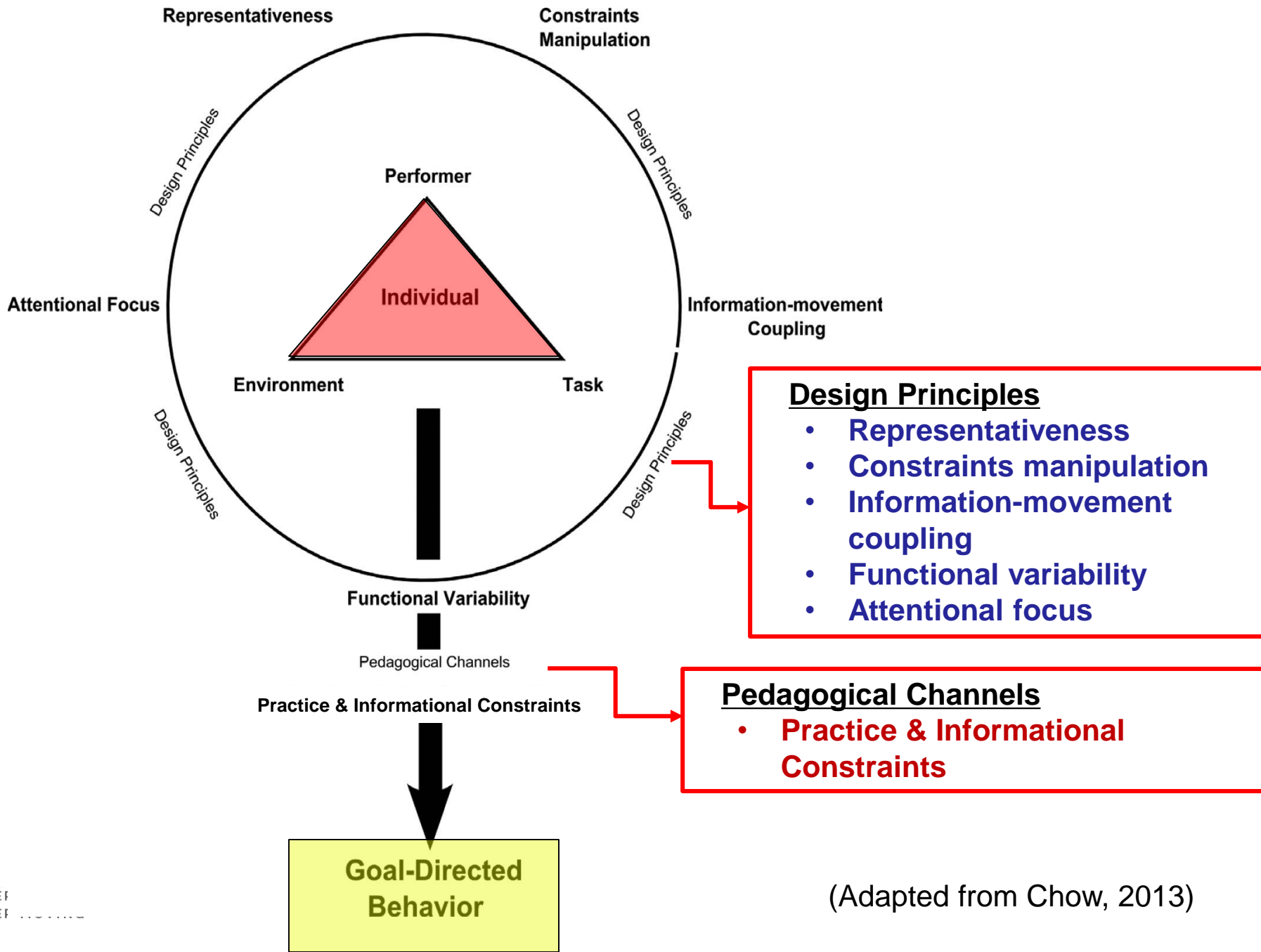
What is Nonlinear Pedagogy?

- Learner-/ Student-centred
- Exploratory learning
- Variability in practice
- Facilitative role for the coach/ teacher

In a Nonlinear Pedagogy: Teachers/Coaches are **Learning Designers**

(Davids, 2019)

What do they design and
what does this new job title involve?



(Adapted from Chow, 2013)

Representativeness

- Modified/small-sided games
- Similar tactical decisions

Constraints manipulation

- Task constraints
- Exaggeration

Information-movement couplings

- Information for movement and movement for information
- Task simplification

Functional variability

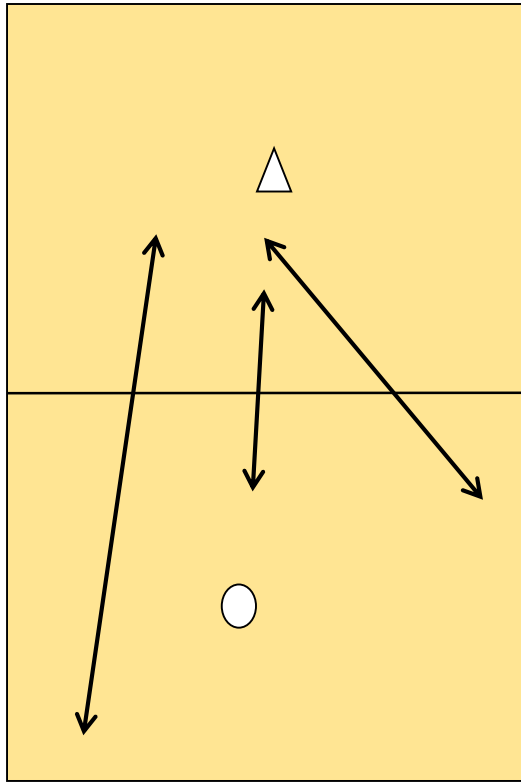
- Functional role of movement variability (noise)
- 'Repetition without repetition'

Attentional focus

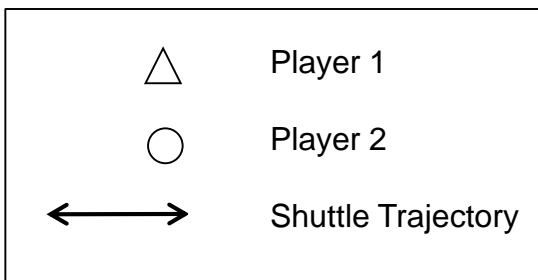
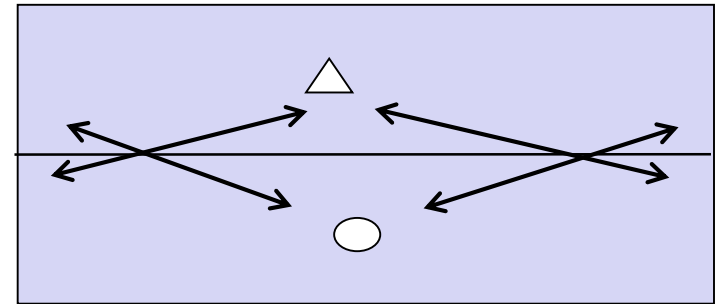
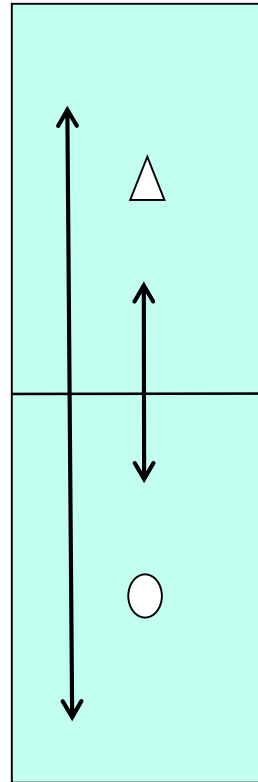
- Explorative learning
- Movement effect rather than movement form
- Analogies

- Modified/small-sided games
 - Realistic game scenarios
- Similar tactical decisions

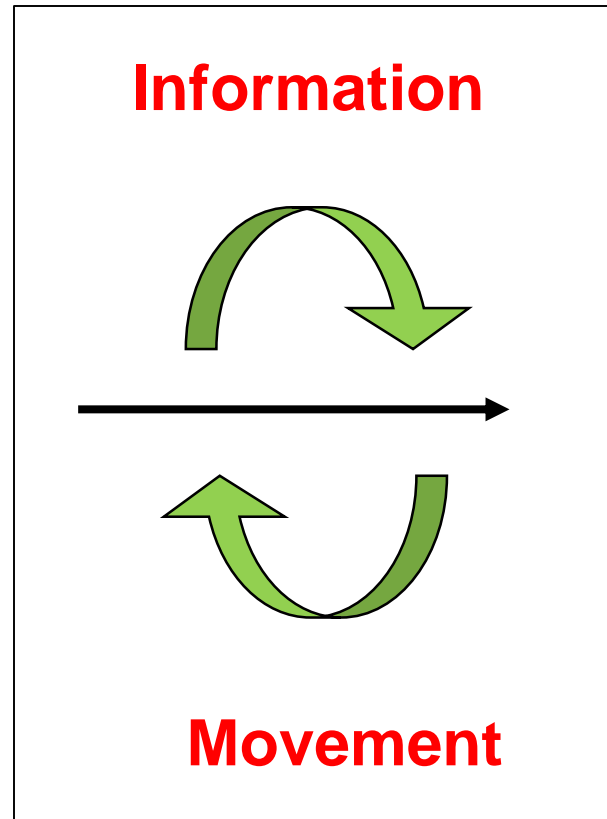
- Task constraints
- Exaggeration



Badminton Court



Badminton: Encouraging Different Patterns of Behaviours



- Using **information for movement** and **movement for information**

**(Information-movement couplings)
(Perception-action couplings)**

Information-movement Couplings

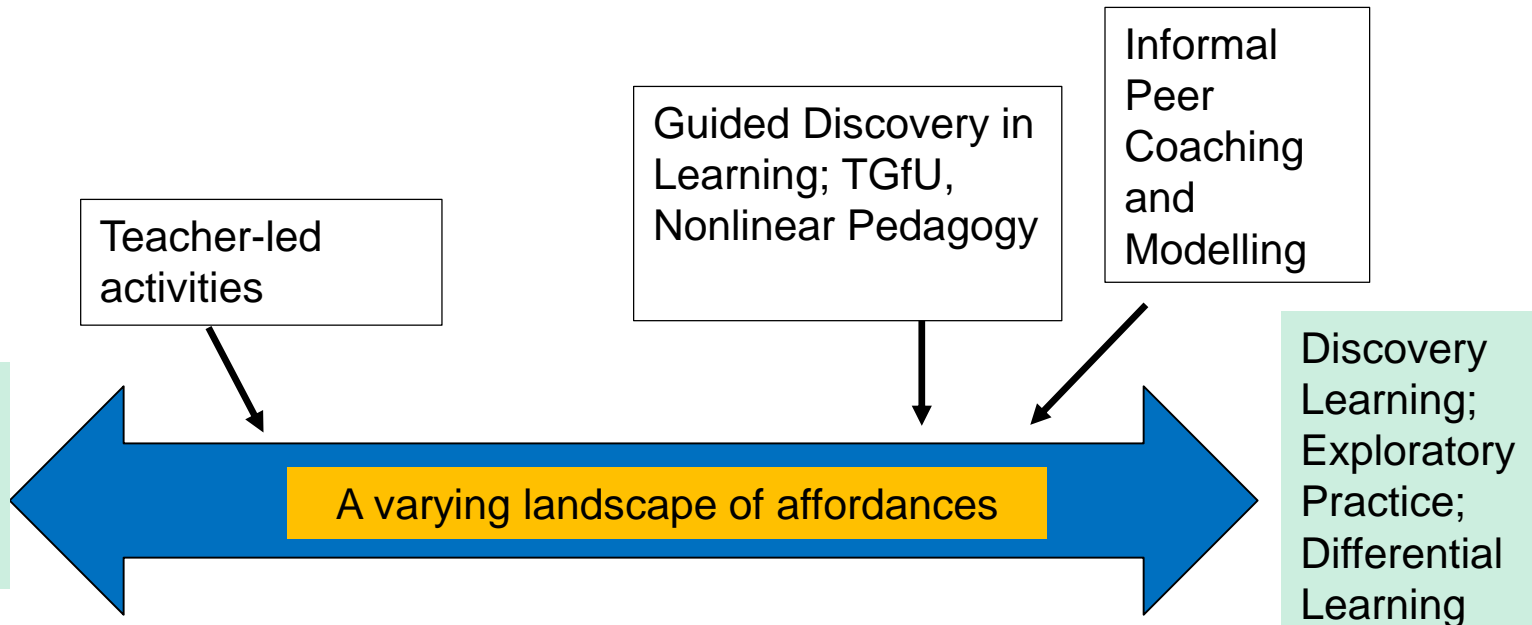
- Using *information for movement* and *movement for information*
 - ‘we must perceive in order to move, but we must also move in order to perceive’
- Manipulate appropriate task constraints
- Task simplification vs task decomposition
- ‘Affordances’

Highly Specific Activities Repetition and Rehearsal

- Highly Structured Practice
- More Certainty
- Fewer Affordances
- **Focus on Reproduction of Actions or Reaction**

Varied Activities Exploration and Search

- Unstructured Play and Practice
- More Uncertainty
- More affordances
- **Focus on Interactions with dynamic performance environment**



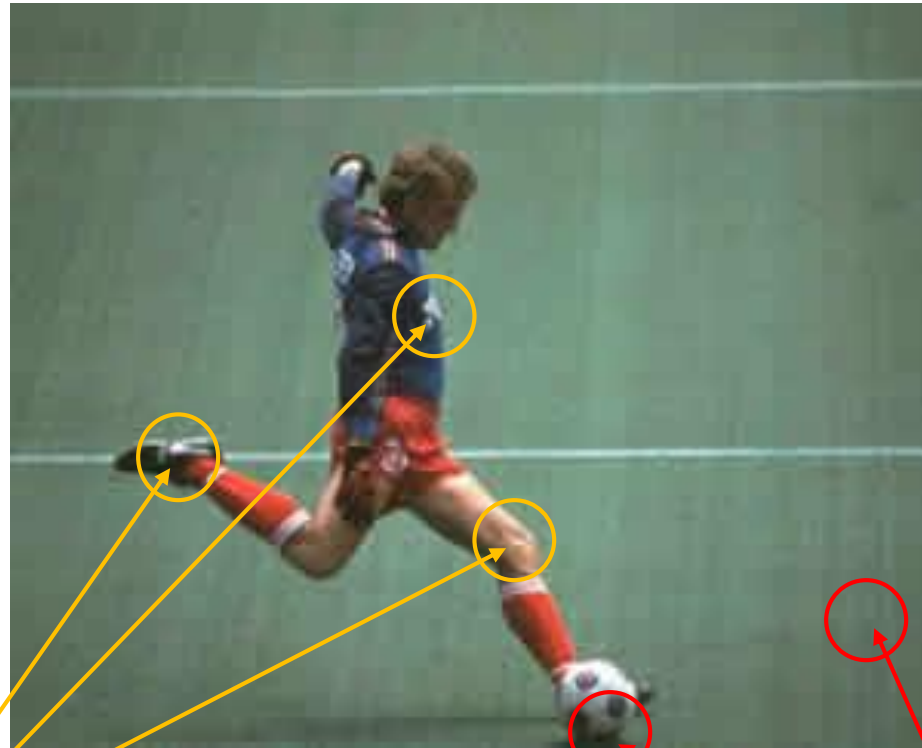
Variability ('noise')

- Functional role of movement variability (noise)
 - 'Repetition without repetition'
- Help learners explore movement solutions
 - meet specific task goals
 - acquisition of movement skills
- 'free play'?
- Flexibility and adaptability

- Explorative learning
- Movement ***effect*** rather than movement ***form***
- Analogies

Focus of Attention

Peh et al. (2011); Wulf (2007)

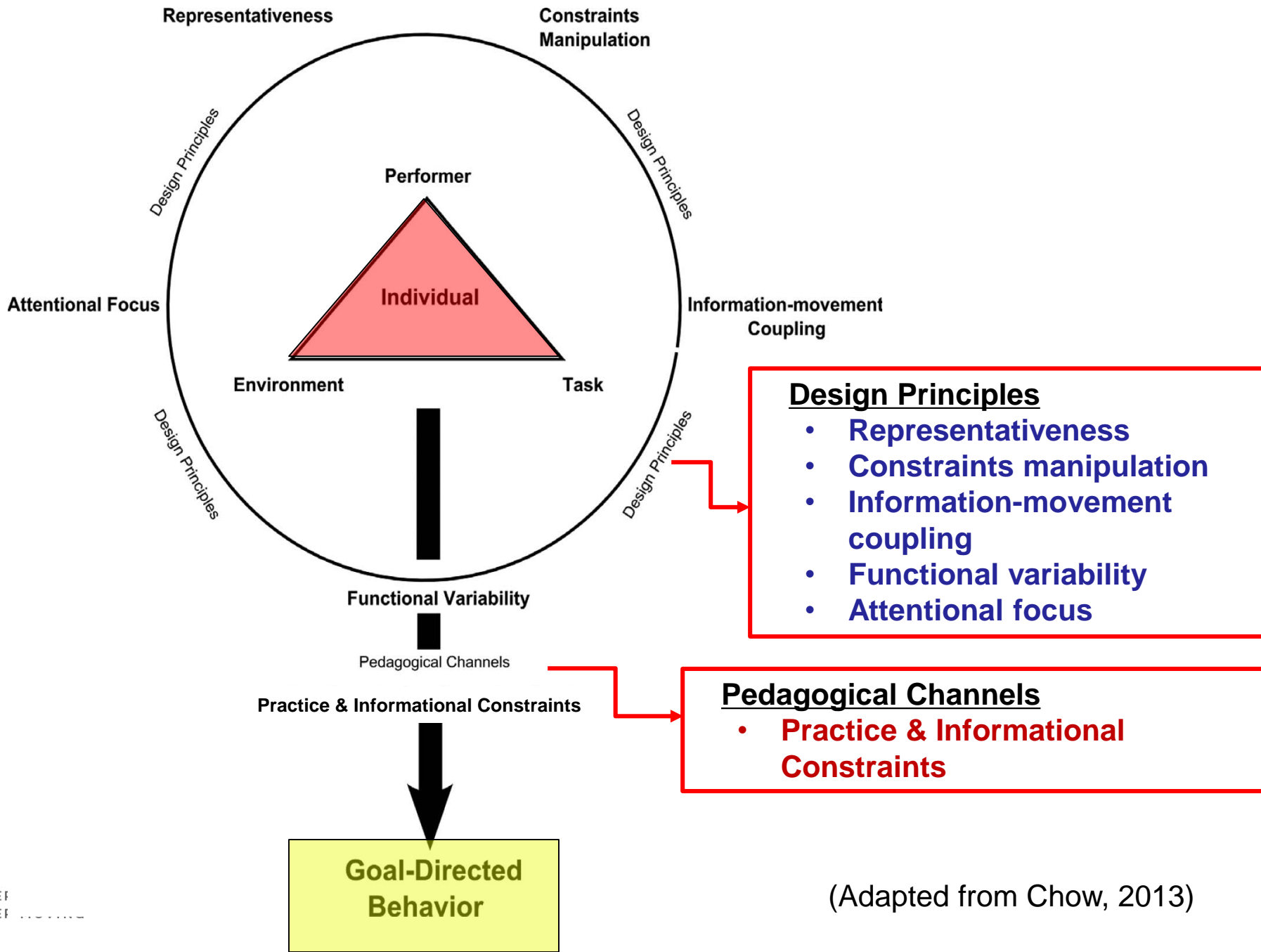


An Internal Focus of attention on body parts during coordination

e.g., locked ankles, bend knees, body lean

An External Focus on movement effects

e.g., ball trajectory, target

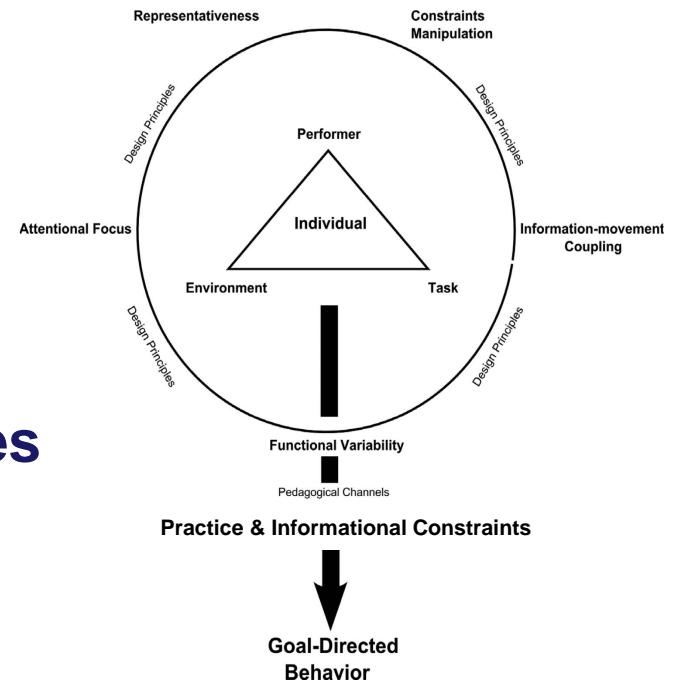


(Adapted from Chow, 2013)

Implications for Coaching/ Teaching

Organisation of Practices

- Quantity and Quality of practice/modified games
 - Task constraints
 - Representation
 - Variability
 - Attentional Focus
 - Perceptual information sources

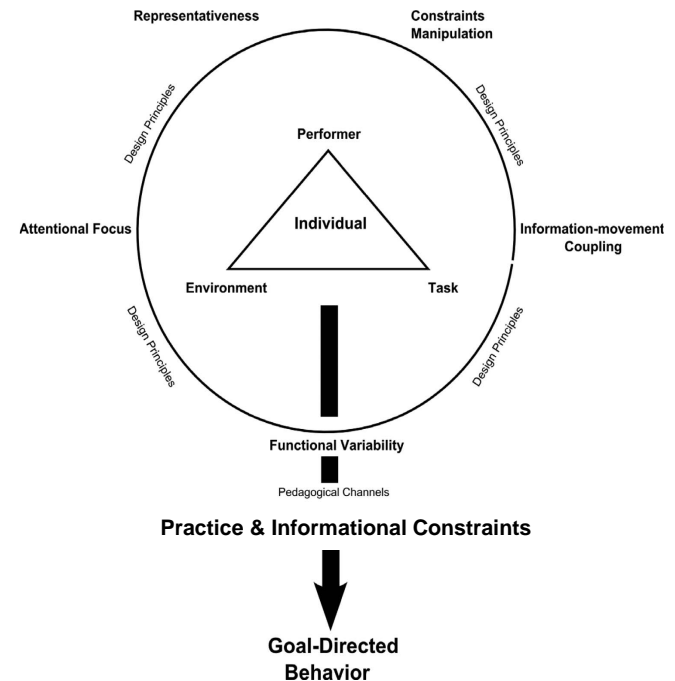


Implications for Coaching/ Teaching

Informational Constraints

- Provision of Instructions and Feedback

- Movement *effect*
 - *Analogies*
- Role of questions
 - ‘Boundaries’



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<http://knowledgebank.nie.edu.sg/nonlinear-pedagogy.html>



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*Coaching Better Every Day:
Shaping the Future*

In support of Coaching Development



Supporting Partner



Education Partner



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