

Selection Control Theory:

An Integrated Model of Skill Acquisition Based on Choice, Control, and Interaction

— A Case Study in Capoeira —

■ Abstract

This study proposes a novel framework for understanding skill acquisition in interactive movement, termed *Selection Control Theory*. Unlike traditional models that emphasize technical execution or environmental adaptation, this theory focuses on the maintenance of multiple action possibilities (choices) and the control of interaction with others (dominance).

In this framework, expertise is defined as the ability to maintain multiple options while continuously selecting optimal actions in response to dynamic situations. The theory identifies four core components—center of mass, rhythm, distance, and gaze—as the structural basis that sustains these options. Furthermore, phenomena such as “aura” or “pressure,” often considered tacit knowledge, are reinterpreted as emergent properties of sustained choice availability.

Using capoeira as a case study, this research explains the stagnation observed in intermediate practitioners as a reduction in available choices, and proposes a pedagogical approach based on the design of awareness rather than direct instruction.

■ 1. Introduction

Skill acquisition in movement disciplines has traditionally been explained through repetition, technique acquisition, and biomechanical optimization. However, in highly interactive and

improvisational activities such as capoeira, performance is not solely determined by technical proficiency but by the ability to adapt, respond, and influence others in real time.

Practitioners often describe advanced performers using terms such as “timing,” “presence,” or “aura.” These qualities are typically categorized as tacit knowledge and remain difficult to articulate or teach. This gap highlights the need for a framework that connects embodied experience, decision-making, and interpersonal dynamics.

This study introduces *Selection Control Theory* as a model that integrates these elements through the concepts of choice and control.

■ 2. Theoretical Framework

2.1 Redefining Expertise

In this study, expertise is defined as:

The ability to maintain multiple actionable choices and select the optimal response within a dynamic interaction.

2.2 Concept of Choice

Choice is not merely action selection but the preservation of multiple directional possibilities, such as:

- attacking
- responding
- waiting (controlling)

The loss of choice corresponds to reduced adaptability and predictability.

2.3 Control and Dominance

Choice exists within interaction. Therefore, this study introduces the concept of control (dominance):

Control is the ability to influence the opponent's available choices while maintaining one's own.

2.4 Tacit Knowledge and Aura

Advanced performers often exhibit qualities perceived as "aura" or "pressure." This study reinterprets such phenomena as:

An emergent state in which multiple choices are continuously maintained and controlled.

■ 3. Structure of Selection Control Theory

The theory is structured around four core components:

3.1 Center of Mass

The foundation of all movement.

Good balance = maintaining available choices

Poor balance = restriction to a single direction

3.2 Rhythm

Temporal control of action.

- Too early → predictable
- Too late → ineffective

3.3 Distance

Relational positioning between self and opponent.

- Too close → limited options
- Too far → no engagement

3.4 Gaze

Information acquisition.

- Limited perception → reactive behavior
- Expanded perception → proactive control

These four elements together sustain choice availability.

■ 4. Stagnation in Intermediate Practitioners

Intermediate practitioners typically possess technical skills but fail to apply them effectively in interaction.

This study identifies the core issue as:

Reduction of available choices

This reduction occurs due to:

- imbalance (center of mass)
- fixed rhythm
- passive distance

■ 5. Pedagogical Implications

5.1 Principle

Do not instruct directly; facilitate awareness.

5.2 Learning Process

1. Modify constraints
2. Create failure or discomfort
3. Prompt reflection
4. Adjust behavior
5. Re-execute

5.3 Evaluation

“How many choices are available?”

■ 6. Discussion

This theory relates to existing frameworks such as:

- Tacit Knowledge
- Skill Acquisition Models
- Ecological Dynamics

However, these models treat perception, action, and interaction separately.

Selection Control Theory uniquely integrates:

- body (center of mass)
- cognition (choice)
- interaction (control)

■ 7. Conclusion

This study redefines skill acquisition as:

The maintenance of choices and the control of interaction

In this context, capoeira is not merely a set of techniques but:

A system of relational decision-making

■ References

- Polanyi, M. (1966). *The Tacit Dimension*
- Dreyfus, H. (1980). *Skill Acquisition Model*
- Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*

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