LEARNING MOVEMENT PHASES DURING EARLY STAGES OF MOTOR LEARNING

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Introduction

- Overall movement instead of movement phases
- Learning the movement phases by novices is not experimentally understood.
- Detailed analysis of movement phases

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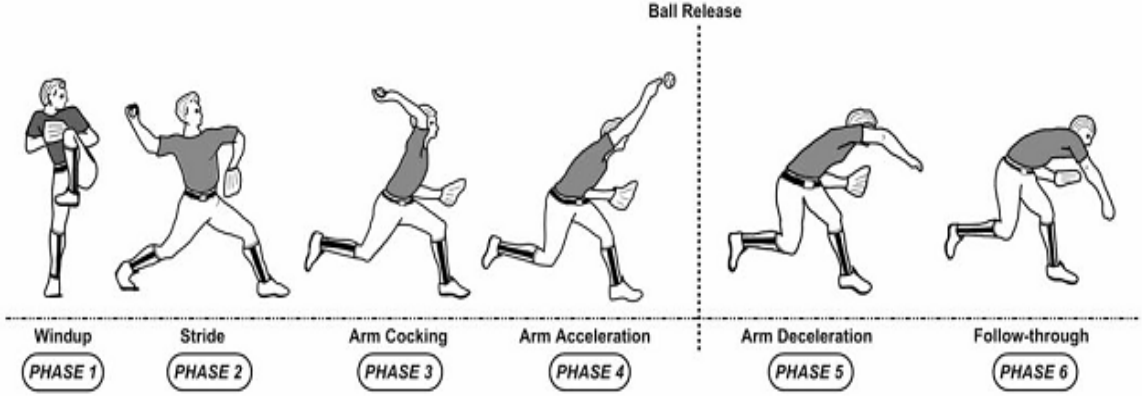
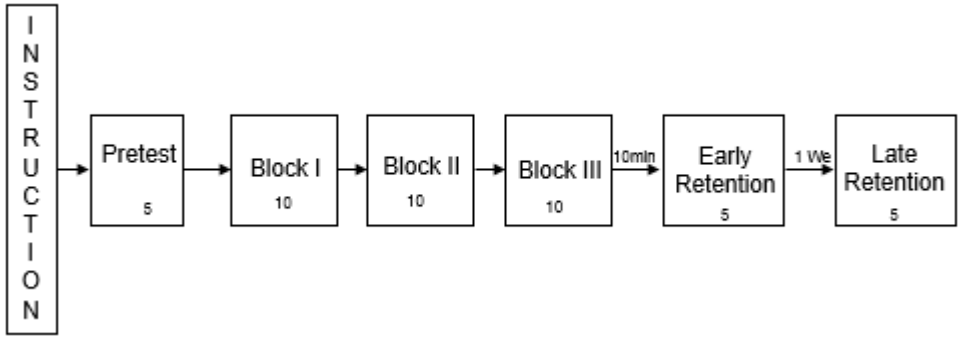
Methods

Participants: Eight male and female young adults.

Motor task: Due to its clear movement phase structure, the Baseball-pitch was chosen as motor task.





Variables: Intra- and inter-limb coordination of upper- and lower body segments were measured as dependent variables.

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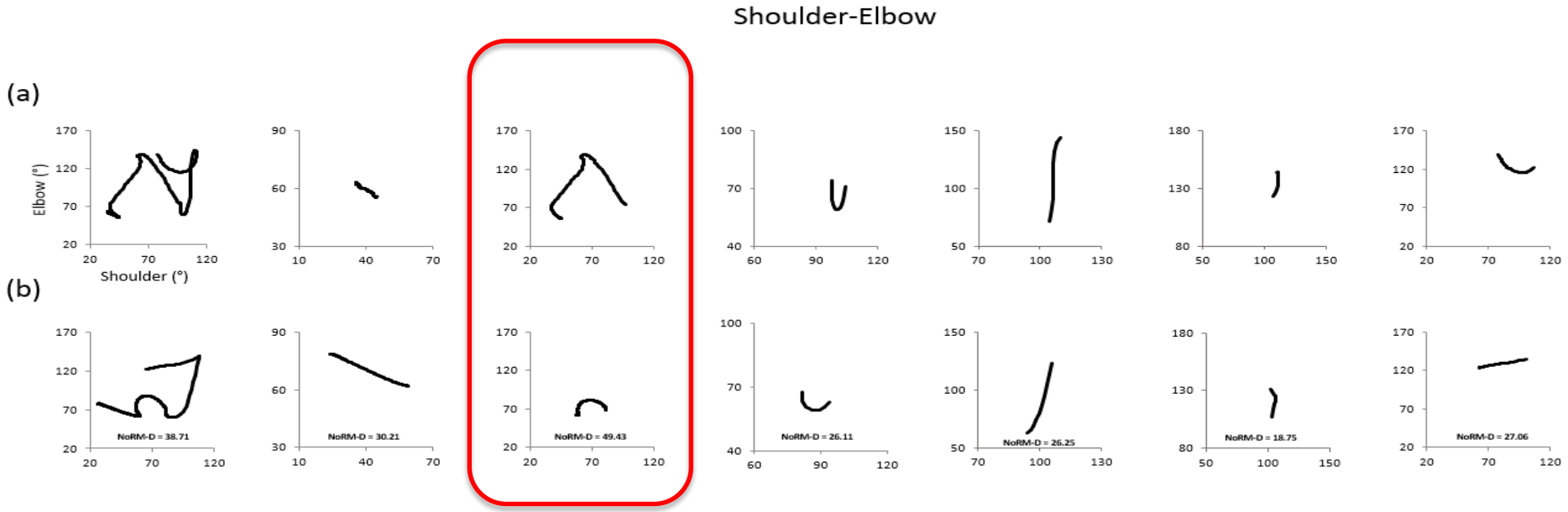

Figure 1. Angle-angle plots of shoulder-elbow intra-limb coordination for the expert (a) and the participants (b). The panels left-to-right represent overall movement and movement phases 1-6, respectively.

Results: Results showed that there was a significant difference between stride phase and other phases in pretest, acquisition phase and both retention tests in all measured variables.

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Discussion

- Participants experienced more difficulty by coordinating the stride phase than the other pitch phases.
- Stride phase is the only segment in which the participants had to move upper and lower body parts (right arm and left leg) simultaneously.
- Due to this feature, they needed to unfreeze more degrees of freedom, which led to inferior coordination performance in this phase.