TRANSFER OF LEARNING IN COINCIDENCE-ANTICIPATION: TASK EFFECT

Rodrigues Paula¹, Vasconcelos Olga¹, Barreiros João², Botelho Manuel¹
(Faculty of Sports, Oporto University¹, Faculty of Human Motricity, Technical University of Lisbon², Portugal)

Interlateral transfer of learning in coincidence-anticipation tasks involving different levels of movement complexity was investigated in 16 males and 21 females adolescents volleyball players (Mean age =16.54 yrs; SD =1.04 yrs). The subjects performed a serial manual response task coupled to a Bassin Anticipation Timer device and were randomly assigned to two transfer conditions: simple to complex and complex to simple. Both groups performed 6 trials in each task, with the right hand. Absolute (AE), constant (CE) and variable errors (VE) were analyzed through a 2 (sex: male, female) x 2 (group: simple-complex, complex-simple) x 2 (task: simple, complex) ANOVA with repeated measures on the last factor. Analysis of AE revealed a significant main effect for sex \[ F (1, 33) = 7.216; p = .011 \] and a significant group by task interaction \[ F (1, 33) = 10.456; p = .003 \], revealing superior performance of males (.090 ± .05) over females (.274 ± .27). The two groups were better on the task carried out for last. CE analysis showed only a significant main effect for sex \[ F (1, 33) = 8.749; p = .006 \]. Males showed a smaller CE (-.026 ± .07) than females (-.245 ± .85). Analysis of variable error only indicated a significant group by task interaction \[ F (1, 31) = 6.708; p = .014 \]. Overall, these results indicated that (1) the groups did not differ in terms of transfer of learning; (2) males outperformed females; and, (3) different levels of movement complexity transfers in a symmetric way in the anticipatory timing performance. This finding suggests task complexity had no clear influence on the practice effect, because we did not observe a consistent advantage for a single direction of transfer of learning (simple to complex or complex to simple). Like other previous studies, our results seems to indicate that in synchronization tasks motor control takes place at a higher level independent of the effector system.

Keywords: Adolescents, Volleyball, Motor Learning

12th Annual Congress of the ECSS, 11–14 July 2007, Jyväskylä, Finland