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Training strategies underpinning youth soccer skill acquisition: the benefits from dual task training

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Publicado por: Imprensa da Universidade de Coimbra

URL persistente: URI:<http://hdl.handle.net/10316.2/34839>

DOI: DOI:http://dx.doi.org/10.14195/2182-7087_5_5

Accessed : 26-Apr-2023 12:54:28

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1 • TREINO DESPORTIVO / SPORT TRAINING

**TRAINING STRATEGIES UNDERPINNING
YOUTH SOCCER-SKILL ACQUISITION:
THE BENEFITS FROM DUAL-TASK
TRAINING**

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INTRODUCTION:

In youth soccer-skill training, coaches tend to adopt a repetitive-part training strategy where the motor procedure is practiced in isolation before adding perceptual-cognitive demands (Ford, Yates, & Williams, 2010). However, it has been suggested that behaviors developed under part-task conditions may have to be unlearned when the learner proceeds to dual-task conditions (Wickens, 1989) and that coaches, instead, should adopt a dual-task approach involving both the perceptual-cognitive and the motor requirements of the skill (Ford et al., 2010). Therefore, we examined the outcome of repetitive-part training and dual-task training in the acquisition of dribbling-technique and decision-making performances in prepubescent novice soccer players.

METHOD:

Twenty-four preschool pupils were tested (pre test) for initial level of dribbling-technique and decision-making performance and were then divided into two balanced groups. The repetitive-part group underwent four weeks of part-task training (isolated dribbling-technique training) which was followed by four weeks of dual-task training (simultaneous training of dribbling technique and decision making). The dual-task group underwent eight weeks of dual-task training. The outcomes in acquisition of dribbling-technique and decision-making performances were examined after four weeks (mid test) and eight weeks (post test) of training. Both training regimes were followed by four weeks of non-training

• 33

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and thereafter the retention effects were tested (retention test). Outcomes were interpreted using Cohen's effect size criteria with $|d| < 0.2$, as no worthwhile effect; $0.2 \leq |d| < 0.5$, as the smallest worthwhile effect; $0.5 \leq |d| < 0.8$, as a moderate effect; and $0.8 \leq |d|$ as a large effect.

RESULTS:

Between pre test and mid test both the repetitive-part and the dual-task group showed large improvements in dribbling-technique performance ($d = -0.99$, and $d = -0.87$, respectively). The dual-task group was superior to the repetitive-part group in decision-making performance at mid test, post test, and retention test ($d = -2.15$, $d = -2.68$, and $d = -2.81$, respectively). The improvement in decision-making performance following the initial four weeks of dual-task training in each group was of greater magnitude in the dual-task group ($d = -0.60$). These findings challenge conventional repetitive-part training regimes and emphasize the importance of dual-task training for skill acquisition in prepubescent novice soccer players.

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