

大学競歩選手における技能水準と動作の認知的構造

筑波大学大学院 平川 武仁
筑波大学 吉田 茂
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Skill Levels and Cognitive Structure of Movements in Varsity Race Walkers

Takehito Hirakawa University of Tsukuba
Shigeru Yoshida University of Tsukuba

Abstract

The purpose of this study was to explore structural changes in the control style and sense of movements in race walking. Twenty-nine male varsity race walkers were divided into Beginner-, Intermediate-, and Advanced-group on their official records. Six categories (body, posture, head, upper limbs, trunk, and lower limbs) consisted of 317 items which were selected from open questions about movements in competition. The subjects rated each item on a four-point scale. Principal component analysis extracted two to four factors in each category and revealed structural differences at skill levels. The results showed that: 1) Beginner-group tried to move the hands and legs backward and to control the posture balance excessively, 2) the body part to be relaxed shifted from the upper limbs to the lower limbs with their progress, 3) Advanced-group intended to walk smoothly and to coordinate the upper limbs, hips, and lower limbs. It is necessary for acquiring refined skills to integrate the movements of each part of a body, especially the shoulders and hips.

Key words: control style and sense, principal component analysis, integration of movements.