

# 大学剣道選手の技知識獲得による試合中の 能動的反応選択の改善

奥村基生・吉田 茂

## Improvements of Active Response Selection in Matches by Collegiate Kendo Players' Acquisition of Skill Knowledge

Motoki Okumura and Shigeru Yoshida

### Abstract

The purpose of this study was to examine whether active response selection in matches is improved by cognitive training in which collegiate kendo players attempt to acquire advanced skill (waza) knowledge. Active response selection is not the passive processing and reacting to the environment; rather it anticipates environment changes and controls environments based on the anticipation such as using feint-actions. Subjects, who had much athletic experience although they were not regular players in collegiate regular-season matches, were placed in three groups: the control group, which received no specific training, the match-observation group, which observed regular players' matches, and the knowledge-acquisition group, which participated in skill-acquisition cognitive training sessions (n=6 for each group). Training were held three times per week for three weeks (9 sessions). Match experiments were conducted among the groups as pre-and post-tests. We analyzed processing times, effectivenesses, frequencies of utilization of skill knowledge, and responses to a questionnaire concerning response selection. The results indicated that the match-observation group delayed defenders' appropriate reactions after the training (-210 ms to -168 ms), but, as in the case of the control group, the training effects were unstable through all analyses. The knowledge-acquisition group acquired skill knowledge and frequently displayed use of this knowledge in response selection in the matches (49.4%). The knowledge utilization heightened frequencies of significant delays of defenders' appropriate reactions (33.2% to 45.8%) and enhanced the success rate of offence actions. Almost all analyses also indicated a trend towards improvement of response selection in the case of the knowledge-acquisition group. Thus, although the cognitive training period was short, it improved active response selection in matches. This shows that cognitive training may improve not only passive response selection as dealt with so far in cognitive training studies, but also active response selection. Players and instructors should consider and implement approaches to both passive and active processing for comprehensive improvement of response selection.

**Key words:** cognitive training, expertise, passive-active processing, transfer of training effect