Effects of Blocked and Random Mental Imagery on Performance and Learning of Basketball Skills

Poster Presentation

1Ali Torabi*; 1Seyed Fardin Qeysari; 2Mahmoud Sheikh

1Ph.D. candidate in Motor Behavior, Department of Motor Behavior, Faculty of Physical Education, University of Tehran, Tehran, Iran(torabi48@yahoo.com)

2Professor, Department of Motor Behavior, Faculty of Physical Education, University of Tehran, Tehran, Iran

Abstract

Introduction: The contextual interference effect typically involves the comparison of the learning gains from random (RP) and blocked (BP) scheduling formats. When multiple tasks are practiced, the overall difficulty of these tasks may be manipulated by presenting them in a repetitive order or an interleaved (non-repetitive) order, but so far, this factor has not been studied in motor imagery. The aim of this study was to investigate the effect of blocked and random mental imagery on basketball skills.

Methods: For this purpose, 36 novice Students participated in this study. At first, students practiced basketball lay-up shooting, dribble, and pass shooting skills for a week (5 sessions, five blocks of each skill per session). After the acquisition sessions, the subjects performed a block of ten attempts for each skill; then, based on these scores, they were divided into three homological groups: blocked imagery, random imagery, and control group. Experimental groups performed basketball skills imagery for two weeks in blocked or random order. After two weeks, the groups participated in the post-test. Both in the pre-test and in the post-test, each group was divided into two equal subgroups, one of these subgroups performed the tests randomly, and the other subgroup blocked them to eliminate the possible effects of the tests.

Results: The results showed that the randomized imaging group was not significantly different from other groups in the post-test stage, but in retention and transfer tests, they performed better than the blocking and control groups. The score of the control group was significantly lower in all stages than the blocked and random groups.

Conclusion: These findings suggest that the benefits of contextual interference can be used during imaging, but more research is needed to confirm these findings.

Keywords

Contextual interference; blocked training; random training; motor imagery; basketball skills

Reference:

1. Lin, C. H. J., Yang, H. C., Knowlton, B. J., Wu, A. D., Iacoboni, M., Ye, Y. L., ... & Chiang, M. C. (2018). Contextual interference enhances motor learning through increased resting brain connectivity during memory consolidation. NeuroImage, 181, 1-15.

2. Dang, K. V., Parvin, D. E., & Ivry, R. B. (2019). Exploring Contextual Interference in Implicit and Explicit Motor Learning. bioRxiv, 644211.

3. Lu, F. J., Gill, D. L., Lee, Y. C., Chiu, Y. H., Liu, S., & Liu, H. Y. (2020). Effects of visualized PETTLEP imagery on the basketball 3-point shot: A comparison of internal and external perspectives. Psychology of Sport and Exercise, 51, 101765.

4. Fazel, Fatemeh, et al. "The effects of different types of imagery delivery on basketball free-throw shooting performance and self-efficacy." Psychology of Sport and Exercise 39 (2018): 29-37.