Abstract

Distribution of Practice on Cup Stacking Performance

Gibbons, E., Hendrick, J. L., & Bauer, J. SUNY Cortland, Cortland, NY

Purpose

The purpose of this study was to examine the effectiveness of two different distributions of practice on cup stacking performance, using massed practice and distributed practice schedules. Considering the popularity of cup stacking, it would be beneficial to know which type of practice schedule enhances learning and performance the best.

Introduction

Cup stacking is an individual or team activity where participants stack and un-stack specially designed plastic cups in predetermined sequences while racing against the clock for the fastest time ("The competitive sport," n.d.). Speed Stacks Inc. claims that cup stacking promotes and increases hand-eye coordination, quickness, reaction time and ambidexterity ("Building team skills," n.d.). Although Speed Stacks Inc. has made claims that the task will enhance motor skills, there is limited empirical evidence that can support their case. One study however, was conducted by Udermann et al. (2004) to investigate if cup stacking influenced hand-eye coordination and reaction time in second grade students. They found that cup stacking positively affected hand-eye coordination and reaction time in the participants rationalizing that it would also help students to become more proficient in motor skills, movement, and physical activities.

Methods and Procedures

Thirty undergraduate students (ages 19-27yrs) volunteered to participate in this study and were randomly assigned to a practice schedule. A short video called Speed Stacks Stacker Training DVD on cup stacking at the beginning of each session was shown to the participants. Participants were measured for reaction time (RT) during pre and post trial sessions using the Johnson & Nelson (1978) reaction time test as used by Udermann et al. (2004) to compare the pre and post test results for both the massed and distributed groups. Since there was no significant change with the control group, this signifies that the results agreed with the claims made by Speed Stacks Inc., in which practicing cup stacking can improve reaction time.

Results

According to the manufacturer of Speed Stacks, there are a number of positive benefits gained as a result performing cup stacking. Speed Stacks Inc. claims that cup stacking promotes and increases hand-eye coordination, quickness, reaction time and ambidexterity ("Building team skills," n.d.). The reaction time results of this study showed that there was a significant improvement between pre and post tests for both the massed and distributed groups. There was no significant Group x Sequence interaction (F(2,56) = 1.51, p>.05). It was concluded that practicing cup stacking in a distributed fashion will lead to better performance, however, reaction time gains can be elicited with either practice schedule after only one hour of practice.

Discussion

The significant improvement in reaction time with only 60 minutes of practice for both the massed and distributed groups supports the claims by Speed Stacks. Our study results support the findings of Undermann et al. (2004). Possible reasons for the distributed group having faster stacking times than the massed group could have been because the participants in the massed group may have resulted from massed group members becoming bored, frustrated, and/or losing focus on the task during the longer training session. Future studies will need to examine various ratios of practice and rest to determine the most effective distributed practice schedule for this task, and to confirm these results with younger populations.

Conclusions

Distributed practice enhances performance and learning of the serial skills of cup stacking. Even 60 minutes of cup stacking practice can improve reaction time in young adults.

References


