

Effect of Adopting an External Focus on the Acquisition of a Motor Sequence

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ABSTRACT

Numerous factors make the acquisition of choreography difficult for students, however, contemporary motor learning theory offers insight into tools instructors can use to make the process of acquisition less frustrating for students. Previous research suggests that for the purposes of acquiring skill at a single task, e.g., shooting a basketball, it is optimal for the student to adopt an external focus, rather than an internal focus or no focus at all. The purpose of this study was to examine the use of an external focus on the acquisition of a motor sequence. 18 university students were assigned to one of three groups. A control group viewed a video of a motor sequence, performed a pre-test, received no practice, waited a retention period, and performed a retention, or second, post test. A non-verbal cue group watched the movement sequence, performed a pretest, rehearsed the sequence with the video without any verbal cues, waited the retention period, and performed a second post test. A verbal cue group (those who adopted the external focus) watched the movement sequence, performed a pretest, rehearsed the sequence with the verbal cues, waited the retention period, and performed a second post test. Two scores for each participant's tests were collected: a total movement sequence score and a continuity of sequence score. The results of repeated measures ANOVAs found that there was a significant difference between the pretest and first post test total movement sequence ($F(2) = 126.5, p = .00$) and continuity of sequence ($F(2) = 75.81, p = .00$) scores across all groups for the main effect of rehearsal. In addition, an independent t test of the second post test scores between the non-verbal cue and verbal cue group suggest that there was a significant difference ($t(10) = -1.75, p = .055$), between those post test scores. There was an effect of practice that reflected higher performance on the post tests for the non-verbal and verbal cue groups compared to the control group. The effect of the type of practice might have yielded a larger difference under different circumstances. Instructors who handle groups of people who memorize difficult choreography have tools (such as the adoption of an external focus) at their disposal to make learning for those students easier.

