

Errorless and errorful learning: the effect on the discrete throwing task

ABSTRACT

The current study aimed to investigate the effect of errorless learning (ELL) and errorful learning (EFL) on a discrete aiming task (dart-throwing). Thirty university students (male, $n = 15$; female, $n = 15$) with age of 22 ± 2.0 years old ($M = 21.2$; $SD = 1.08$) without any prior experience in dart-throwing participated in this study. After the pre-experimental evaluation, participants were randomly assigned into two groups (ELL and EFL group) by matched-pair design. There were three phases in the study, which were the acquisition, retention, and transfer phases. Both groups did not receive any instructions regarding the dart-throw. The results of variable error showed that there was a significant reduction in the ELL group over trials seemed to indicate that participants in ELL can utilize the learning to become more consistent in dart-throwing performance compared to the EFL group. The results in retention and transfer phases showed that the ELL group performed with significantly less error than the EFL group. The ELL group practiced with errorless learning performed with increased consistency during the retention phase compared to participants who practiced with errorful learning. The study concluded that implicit learning in errorless learning has been beneficial for the individual to get better dartthrowing performance as it can reduce the errors and lower cognitive demand when performing the task.