Spaced Versus Massed Learning in Horses:

The Effects of Inter-trial Interval Within a Learning Session

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Abstract

Horses are routinely trained to perform various tasks, yet relatively little research has been conducted to determine how often and for how long a horse should be trained to obtain the best short term and long term training outcomes. Research on other species indicates that spaced training often, but not always, results in better acquisition and retention of new skills than does massed training. Time between training sessions, time between trials within a single session, as well as the type of task being taught, all affect training success. Previous research with horses has focused on the effects of time between sessions as well as the number of trials within a session on learning outcomes. There does not appear to be any published research on the effect of varying the inter-trial interval (ITI) within a single training session. The aim of the current study was to determine the effect of varying the ITI within a training session on horses' speed of acquisition and retention of three common training tasks. Fifteen horses were divided into three groups, with ITI varying between groups. The horses were trained to perform three common training tasks, however only task, an obstacle course, produced sufficient data for analysis. Acquisition was measured as the amount of time, in minutes, it took for the horses to master each task. Retention of the tasks was measured one day and two weeks following acquisition. It was expected that there would be a main effect of ITI (group) on acquisition with spaced learning protocols resulting in better outcomes than massed learning protocol. No statistically significant differences were found in acquisition or retention between the three groups. However, the group with equally spaced ITI shows potential to outperform the massed group, given a large enough sample. Replication of this research with a larger sample is planned for next summer.

Keywords: massed training, spaced training, inter-trial interval, horse, learning,

acquisition, retention