

Research Requirement:

Tests of a Prior Marksmanship Knowledge Predictor Test

(ARI Research Report 1970)

(DTIC No. ADA 597406)

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Executive Summary

The current research examined the use of a marksmanship prior knowledge test as a means of systematically grouping Soldiers for the purposes of rifle marksmanship instruction. Prior knowledge in the context of rifle marksmanship could include knowledge of body position, firearm safety, ballistics, trajectory, windage, and sighting systems. Given the role of such subdomains in marksmanship performance, it stands to reason that the training most beneficial to Soldiers with some knowledge of these topics would differ from the training most beneficial to Soldiers with limited or no knowledge of these areas. Accordingly, we specifically sought to determine whether performance on a prior knowledge test of marksmanship added any predictive power beyond that from simply asking Soldiers if they have experience shooting outside of a military context (e.g., hunting).

Procedure:

In Experiment 1, we tested the relationship between marksmanship prior knowledge and the shooting performance of 54 students across three classes of the Army Squad Designated Marksmanship (SDM) Course. In Experiment 2, we tested whether this same test could predict performance for 184 Soldiers during Infantry One Station Unit Training (OSUT) on the Basic Rifle Marksmanship (BRM) qualification course of fire.

Findings:

We found that prior knowledge did significantly predict marksmanship performance beyond any effects of prior shooting experience outside of the military in both the SDM and BRM groups. However, the effect size for BRM was too small to be useful for effective instructional grouping for BRM.

Utilization and Dissemination of Findings:

Results from the prior knowledge test can be used by SDM trainers to group shooters based on their anticipated performance. Further research and test development is needed to group Soldiers for BRM training according to prior marksmanship knowledge. Results of this research were presented to the leaders and trainers of the SDM course as well as the OSUT unit leaders.