

# A Study of 2nd Grade Students' Attitude on a Mathematics Game

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## Abstract

This study investigated students' attitudes on the mathematics game Arithmetic Climbing. In this game, players are required to calculate numbers in a strategic fashion to move their tokens to the destination faster than their opponents. Twenty six second grade students played the game for forty minutes once a week for four weeks. A questionnaire for students' mathematics attitudes and a questionnaire for students' attitudes toward Arithmetic Climbing game were applied in this study. The students' mathematics attitude questionnaire included three variables: cognition, affection, and behavior. It was conducted with pretest/posttest design. The students' attitudes toward Arithmetic Climbing game questionnaire included four variables: pedagogy, game, society, and system. The results show that students had high cognition and behavior but poor affection on mathematics. There were significant differences between pretests and posttests for cognition, affection, and behavior. The experimental results also show that Arithmetic Climbing game is a well designed digital game-based learning program with both high "education" and "entertainment" ingredients. The students have positive attitudes on Arithmetic Climbing game regarding pedagogy, game, society, and system.

Keyword : digital game-based learning; mathematics game; mathematics attitude; game attitude