

# What Works Clearinghouse



Revised December 2010

## WWC Quick Review of the Article “Culture and the Interaction of Student Ethnicity with Reward Structure in Group Learning”<sup>1,2</sup>

### What is this study about?

This study examined the effects of different reward systems used in group learning situations on the math skills of African-American and White students.

The study analyzed data on 75 African-American and 57 White fourth- and fifth-grade students from urban schools in the northeastern United States.

All students participated in a 15-minute study session that involved learning about multiplication estimation. The study sessions occurred in three-person, racially-homogenous, gender-mixed groups.

The key outcome was the score on a 15-item multiple choice test that involved estimating answers to multiplication problems.

Students were randomly assigned to three different reward-system groups. The study measured effects by comparing the scores of students in these three groups.

### What Different Reward Systems Were Contrasted?

*Reward based on individual performance:* Students were told they would receive a reward if their individual performance was better than other students

*Reward based on group performance:* Students were told they would receive a reward if their group’s performance was better than other groups

*Communal learning, no reward:* Students were encouraged to work hard and help each other because of their common bond; no reward mentioned

### WWC Rating

#### *The research described in this article meets WWC evidence standards*

**Strengths:** This study was a well-implemented randomized controlled trial.

**Cautions:** The study did not use a standardized assessment tool. It is unclear how well this test captures the core skills of multiplication estimation.

### What did the study find?

African-American students who participated in the communal learning intervention scored statistically significantly higher than those offered a reward based on individual performance. There were no significant differences in test scores between African-American students offered a reward based on group performance and the other two research groups (those offered an award based on individual performance and those offered communal learning).

White students offered a reward based on individual performance scored statistically significantly higher than those in the other two research groups (those offered a reward based on group performance and those offered communal learning). The difference in test scores for White students offered a reward based on group performance and those offered communal learning was not statistically significant.

<sup>1</sup>Hurley, E. A., Allen, B. A., & Boykin, A. W. (2009). Culture and the interaction of student ethnicity with reward structure in group learning. *Cognition and Instruction*, 27(2), 121–146.

<sup>2</sup>This is a revised version of a quick review released in March 2010. The language used to describe the communal learning intervention and its accompanying results has been modified to more accurately reflect the intervention content.