



MEGA MATH MARATHON STUDY EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During the 2014 – 2015 school year, SEG Measurement conducted a study of the effectiveness of GoNoodle Plus's Mega Math Marathon. Math Marathon gets students running next to their desks while practicing grade-level appropriate math skills as a class for 2 to 5 minute intervals.

The study explored whether students who used Mega Math Marathon showed more mathematics skills improvement than comparable students who did not use Mega Math Marathon. The study also collected information regarding teacher and student perceptions of Mega Math Marathon and its effectiveness.

The study was conducted in 15 schools in 3 states. Six hundred and eight students (608) and 27 teachers in 33 4th and 5th grade classes participated. The study was designed to collect data from a wide range of schools to better generalize the results to the diverse population of GoNoodle Mega Math Marathon users, rather than to identify the specific performance of individual students, teachers, schools or districts.

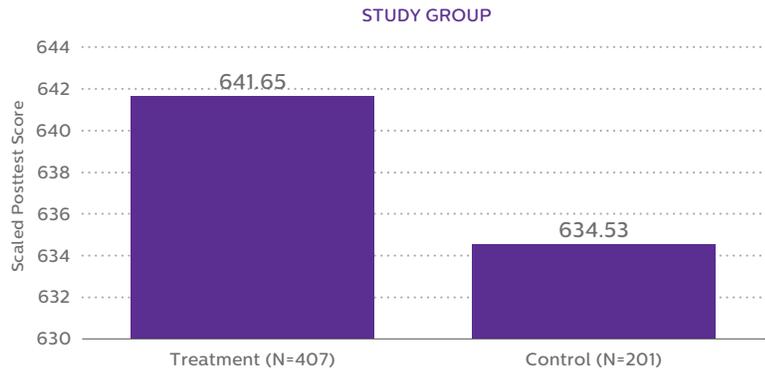
Study Results

The study was conducted using a quasi-experimental design. The mathematics knowledge and skills of students who used GoNoodle's Mega Math Marathon (treatment group) were compared to the mathematics knowledge and skills of students who did not use Mega Math Marathon (control group), based on pre and posttest results. The mathematics knowledge and skills of the treatment group were compared statistically using Analysis of Covariance (ANCOVA). We examined the difference in the posttest scores (dependent variable) between the treatment and control groups (independent variable) controlling for the initial proficiency of the students (covariate). The pretest (covariate) was used to mitigate any potential differences between the treatment and control groups initial mathematics ability.

The analysis indicated that students who used Mega Math Marathon showed more growth in mathematics skills than comparable students who did not use Mega Math Marathon. The students in the treatment group increased their scores by nearly 50% more than students in the control group from pretest to posttest. The effect size for this difference was .16 (Cohen's D). This indicates that students who used Mega Math Marathon performed .16 standard deviations better than students who did not use Mega Math Marathon ($F = 6.638$, $p = .01$). For a student at the 50th percentile, an effect size of .16 would produce a gain to the 56th percentile.

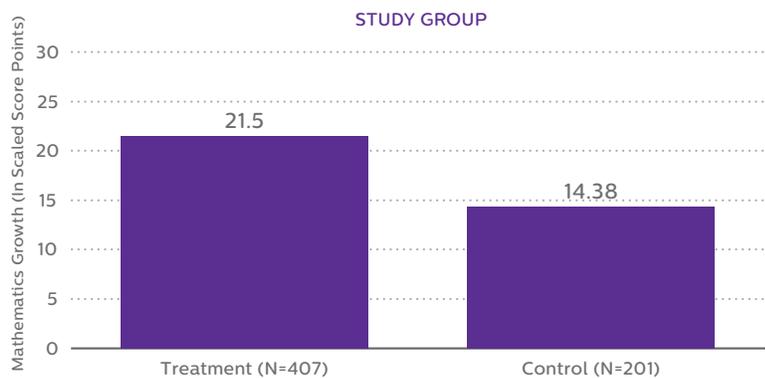
The mean mathematics test scores for the treatment and control group students are shown in Figure 1.

Figure 1: Comparison of Mean Posttest Scores for Treatment and Control Groups



In Figure 2, the amount of growth from pre to post is shown for each study group.

Figure 2: Comparison of Growth From Pre to Posttest for Treatment and Control Groups



An online survey of teachers in both the treatment and control groups was used to gather information about Mega Math Marathon usage, GoNoodle usage, and perceptions about the effectiveness of the games.

Teachers using Mega Math Marathon provided feedback about Mega Math Marathon. Of the fifteen teachers responding, 100% reported that the students were engaged with Mega Math Marathon. Eighty three percent (83%) of the teachers indicated that Mega Math Marathon helped to improve their students' math fluency and that it was relevant to their math lessons. Ninety three percent (93%) of the teachers reported that Mega Math Marathon made math more fun for their students.

The students answered several questions about GoNoodle and Mega Math Marathon after completing their post math assessment at the end of the study. Seventy percent (70%) of the students using Mega Math Marathon reported that GoNoodle games helped them to learn better and 73% reported that GoNoodle games make learning more fun.

Together, the quantitative and qualitative results provide multi-faceted support for the effectiveness of Mega Math Marathon use in improving 4th and 5th grade students' math skills.