Fantasy Sports Math League

Spring 2026 QED Study | Research Summary

+13pp	+4.5pp	+0.15	133
Treatment vs. comparison math post-score	**Within-group gain, treatment (pre→post)**	**Fraction-equation confidence gain, treatment**	**Matched students, 6 teachers, PA & CT**
p = .004 (controlling for prescore, grade, gender, race/ethnicity)	*p = .024; comparison group: n.s.*	*p = .05; comparison group: n.s.*	*107 treatment / 26 comparison*

Study Design & Sample

Design: Quasi-experimental design (QED) with treatment and comparison groups — the first FSML study to include a comparison group.

Sample: 201 students completed the pre-survey; 171 completed the post-survey; 133 were matched pre-to-post (107 treatment, 26 comparison). Recruited from 6 middle school math/STEM teachers in Pennsylvania and Connecticut.

Grade span: 77% in grades 6–8 (80 in 6th, 14 in 7th, 31 in 8th); remaining students in mixed grade 9–11 classes.

Instruments: 11-item math assessment (fraction & decimal operations, order of operations, problem-solving) and a 15-item math interest/confidence Likert scale, given pre and post.

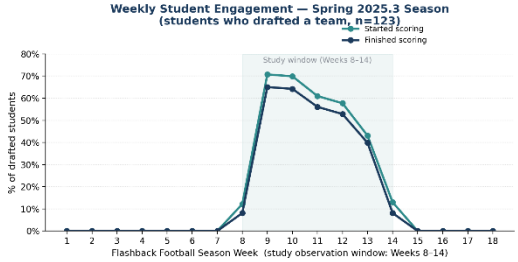
Analysis: OLS regression on math post-score, controlling for prescore, grade, gender, and race/ethnicity; paired t-tests for within-group change.

Timeline: ~5 weeks average implementation, April–June 2026, using an off-season configuration with historical player data (regular in-season NFL concurrent play was not available during the study window).

Math Skill Outcomes

The final regression model (R^2 = .362, F = 24.05, p < .001) retained prescore, an 8th-grade indicator, and FSML treatment as predictors. Treatment status was associated with a .131 higher post-score (SE = .044, p = .004) — a 13.1 percentage point advantage on the 11-item assessment, holding prior performance and demographics constant.

Within the treatment group, math scores rose significantly from pre to post (+.045 on the 0–1 scale, p = .024); the comparison group showed no significant change (–.038, n.s.).



Confidence, Engagement & Skills Practiced

Fraction-equation confidence rose significantly for the treatment group (+0.151, p = .05 one-sided) while the comparison group showed no significant change (–0.095, n.s.).

53% of student respondents rated their enjoyment of FSML a 4 or 5 (of 5); 40% rated its help understanding math concepts a 4 or 5.

52% said they would recommend FSML to other students; 35% said they might.

Students most often said FSML helped them practice multiplying fractions (63%), adding/subtracting fractions (52%), and solving equations (44%). Favorite activities were drafting players (61%) and competing with classmates (54%).

Implementation

Teachers used FSML mainly as a supplement to regular instruction (also as a warm-up or extra project), averaging 5 weeks of use between pre- and post-survey. All treatment teachers reported the math concepts in FSML had already been taught — consistent with its design as reinforcement, not first instruction. The study took place at the end of the school year, for most, upon completion of state testing.

Based on in-platform usage statistics, 45% of participating students completed FSML gameplay for at least 4 weeks, primarily driven by the associated classroom routine and teacher facilitation (see figure).

All but one treatment-group teacher plans to use FSML again in fall 2026; the one exception cited a scheduling conflict, not program quality.

Limitations

Initial recruitment challenges led the study to shift from a planned RCT to a QED, and the comparison group (n = 26) is smaller than the treatment group (n = 107). Off-season play used historical rather than live data. A full RCT with a larger, balanced comparison group is a natural next step conducted during the fall concurrent with the NFL season for the full engagement factor when the game is tied to on-going football games.