

Mathletics' ESSA Level II Certification Study

Mathletics

Context and challenge:

K-8 mathematics education faces a persistent challenge: providing diverse, engaging practice tailored to individual student needs. Educators often resort to creating custom materials, a process that consumes instructional time and resources.



Mathletics: An evidence-based approach:

Mathletics (for grades 4-9) offers a comprehensive online math program featuring standards-aligned practice activities that foster a positive, problem-solving attitude toward math. This study evaluates its efficacy in enhancing student achievement and engagement.

Study design and methodology:

3P Learning contracted with LearnPlatform by Instructure to conduct a rigorous study during the 2022-23 academic year.

Participants:

- Total sample: 1,885 students (grades 3-5).
- Treatment group: 1,561 Mathletics users.
- Control group: 324 non-users.
- Setting: Eight elementary schools, Midwestern U.S. district.

Analytical approach:

- Two-level multilevel modeling.
- Standardized effect size calculations (Hedges' g).
- Descriptive statistics for sample characterization.



Mathletics

Mathletics users outperformed non-users on end-of-year assessments



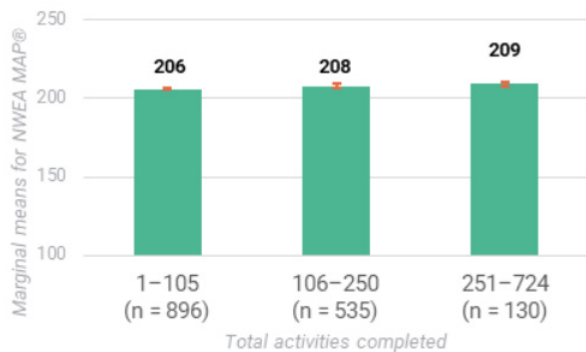
Key findings:

1. Usage intensity correlation:

High-usage students (251-724 activities) demonstrated statistically significant higher end-of-year NWEA MAP® scores compared to low-usage peers (1-105 activities).

2. Moderate usage efficacy:

Moderate engagement (106-250 activities) also yielded statistically significant achievement gains over low-usage students.



Low usage (1-105 activities)

- Minimal engagement
- Limited impact on scores

Moderate usage (106-250 activities)

- Significant gains over low usage
- Improved assessment performance

High usage (251-724 activities)

- Highest NWEA MAP® score gains
- Strongest correlation with improved math achievement

3. Overall program impact:

Mathletics users outperformed non-users on end-of-year assessments.

- Effect size: 0.11 ($p < .001$).
- Percentile improvement: 4 points on average.
- Interpretation: Students at the 50th percentile could potentially advance to the 54th percentile with Mathletics use.

ESSA Level II certification criteria met:

The study satisfies ESSA Level II (Moderate Evidence) requirements through:

1. Well-implemented quasi-experimental design.
2. Large, multi-site sample representative of target population.
3. Appropriate statistical controls.
4. Statistically significant, positive outcomes.



Implications and conclusions:

The data supports Mathletics as an effective tool for enhancing math achievement:

- **Engagement matters:** Higher usage correlates with greater achievement gains.
- **Consistent positive impact:** Statistically significant benefits observed across usage levels.
- **Quantifiable improvement:** Average 4 percentile point gain on standardized assessments.

These findings suggest that Mathletics can serve as a valuable supplement to core mathematics instruction, particularly when implemented with fidelity and consistent student engagement.

For a comprehensive analysis of the study's methodology and detailed findings, refer to the full ESSA Level II report [here](#).

See how this evidence-based program can impact math achievement. [Learn more](#)