



Evaluation Study Report Summary for District Partners

Description

This resource is provided as an example of the Inclusive Evaluation Key Action of “Ensure final reports are representative of school community perspectives and that they are accessible to the school community.” EF+Math’s independent evaluation partner, American Institutes of Research (AIR), the EF+Math program team, and the CueThinkEF+ team created a report designed for district partners that captured selected findings from the evaluation study. Both the full report as well as the partner report were shared with the district partners. The full report included all research questions, methods and measures, analysis, and interpretation. The partner report was specifically designed for district partners, highlighting study findings that would be meaningful and useful to teachers, using accessible language and visualizations. Please find the partner report below. You may access the complete technical report here:

<https://osf.io/y2wr5/overview>.

Acknowledgements:

- Developed in collaboration with American Institutes for Research and CueThinkEF+

Phase 4: CueThinkEF+

2023–2024 PARTICIPANT REPORT

Q CUETHINK EF+

American Institutes for Research® (AIR®) conducted an independent evaluation of CueThinkEF+, a problem-solving platform and associated pedagogical approach, during the 2023–2024 school year. CueThinkEF+ aims to enhance middle school students' mathematical problem-solving and executive function (EF) skills. The evaluation assessed CueThinkEF+ implementation, teacher and student perspectives, and impact on student outcomes. The evaluation was commissioned by EF+Math, a program of the Advanced Education Research and Development Fund (AERDF).

CueThinkEF+ is a structured, technology-based learning platform that guides students through a four-phase problem-solving process—explore, plan, solve, and review—while embedding supports for EF skills such as working memory, inhibitory control, and cognitive flexibility. Teachers receive training and ongoing support to implement lessons using the platform. Students create “Thinklets,” recorded explanations of their problem-solving approaches, which are shared and reviewed to foster mathematical discourse and reflection.

This participant report summarizes key findings from the evaluation. Teachers and students involved in the evaluation worked with AIR, CueThinkEF+ team members, and EF+Math team members to collaboratively study and improve CueThinkEF+. The evaluation focused on:

- the extent to which the teacher training and CueThinkEF+ activities were implemented as intended;
- the usefulness of the training and activities from the perspectives of teachers and students;
- the effect of four adaptive interventions (i.e., different combinations of platform features within the CueThinkEF+ platform) on student math learning, EF skill, and math perceptions; and
- the overall effect of CueThinkEF+ on student math state test scores.

WHO WAS INVOLVED

28

Teachers

from 4 schools across two suburban, midsize districts in two states.



Teachers' characteristics:

16.4 years of experience on average

82% female

89% White

7% Black/African American

4% Hispanic/Latino

2,041

Students

were randomly assigned to different versions of CueThinkEF+



Students' characteristics:

48% female

39% Hispanic/Latino

9% Black/African American

9% American Indian/Alaska Native

9% Asian

13% had individualized education plans (IEPs)

53% received free or reduced-price lunch (FRPL) services

Additionally, we collected math learning data from schools in the same states that had similar characteristics to those who used CueThinkEF+. We used these schools for comparison.



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WHAT WE FOUND: IMPLEMENTATION

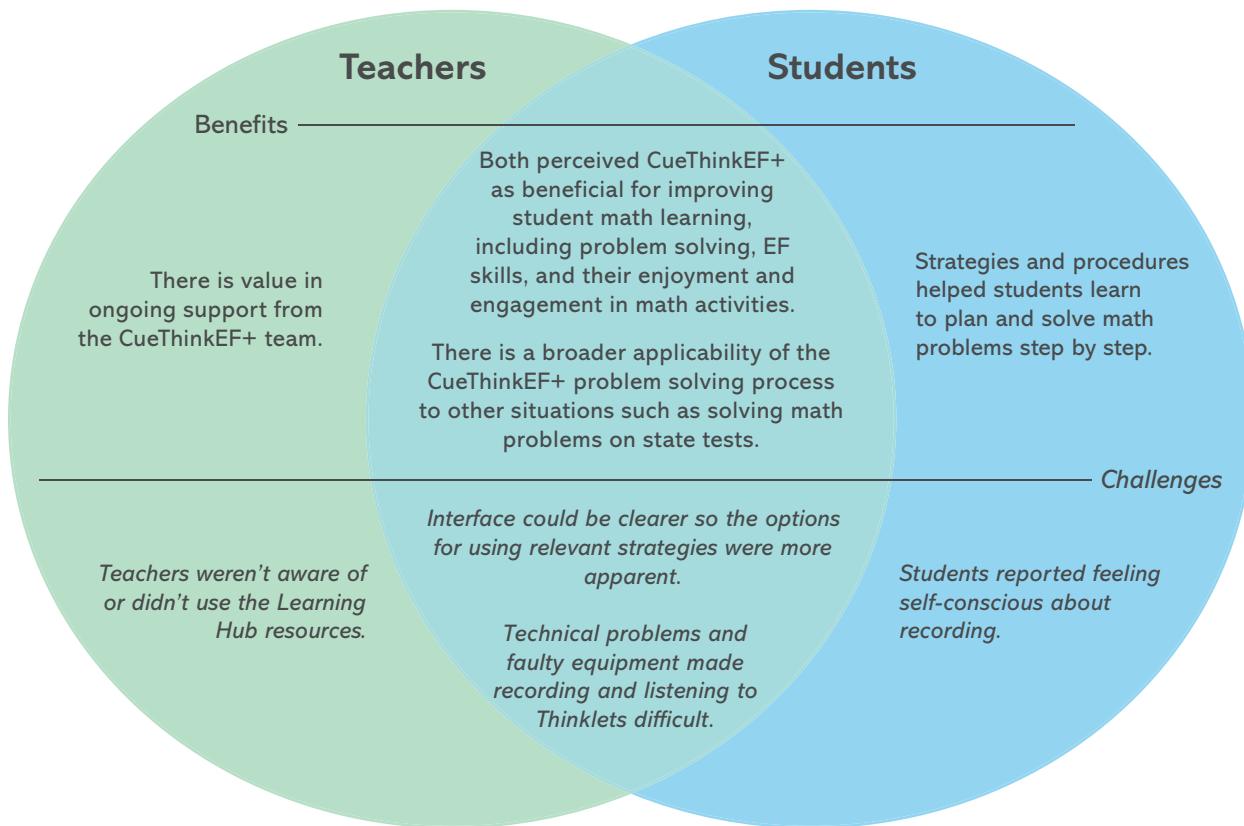
Implementation of teacher-facing activities

- Teacher training activities were implemented as planned.
- 100% of CueThinkEF+ teachers attended the training.

Implementation of student activities

- Teachers implemented an average of 4.3 CueThinkEF+ lessons with their students, with a range of one to eight lessons (the recommended implementation was 6–8 lessons).
- Teachers typically implemented CueThinkEF+ lessons that included all four lesson phases.
- Students completed 1.8 Thinklets, on average, with a range of 0–11.

BENEFITS & CHALLENGES ACCORDING TO TEACHERS AND STUDENTS



Phase 4: CueThinkEF+ 2023–2024 PARTICIPANT REPORT

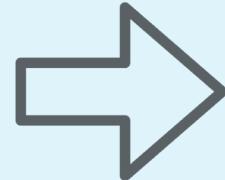
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WHAT WE FOUND: IMPACT AND OUTCOMES

- The evaluation did not find any statistically significant relative effects of the four adaptive interventions on student math learning, EF skills, or perceptions. This means that we didn't find evidence that student outcomes were determined by the combination of platform features students experienced.
- When comparing CueThinkEF+ schools to the comparison schools who did not use CueThinkEF+, we found a small positive, though not statistically significant, effect in math achievement.
- Finally, when analyzing the relationship between CueThinkEF+ usage and math learning outcomes, we found that greater use of CueThinkEF+ **was statistically significantly related to higher scores on math achievement** but lower scores on problem solving. We included time spent in the CueThinkEF+ platform as part of our measure of CueThinkEF+ usage. It is possible that students who struggled with problem solving spent more time in the platform. If so, those students would have a higher score for use, though they struggled with problem solving. This could contribute to the negative association between activity and problem solving. It is useful to re-examine and refine the measure of student activity in future inquiries.

WHAT COMES NEXT

The CueThinkEF+ evaluation provided early evidence of the program's potential to enhance student math learning. These lessons learned from the evaluation of CueThinkEF+ in 2023–2024 were applied to a second evaluation, with CueThinkEF+ implementation during the 2024–2025 school year. This evaluation aimed for greater implementation and offered new opportunities for students and teachers to provide additional input on program improvement and study design to the CueThinkEF+ platform and evaluation.



We want to express our sincere gratitude for the participation of all students, teachers, school leaders, and district leaders! This study would not have been possible without their time and commitment.