

# Distance Learning Programs Show Promise; More Research Needed to Guide Remote Education

## A Brief Summary of “A What Works Clearinghouse Rapid Evidence Review of Distance Learning Programs”



### What is the aim of this review?

Due to the COVID-19 pandemic, millions of students attended school from a remote location during the 2019–20 and 2020–21 academic years. Distance learning programs became vital, yet educators and administrators had limited information about the variety and effectiveness of these programs.

This review aimed to provide timely information to educators and administrators on distance learning programs, their effectiveness, key features of the programs, and the supporting evidence. The work also examined which types of distance learning programs have been evaluated and identified areas for further research of these programs.



### What studies are included?

This review included studies that are randomized controlled trials of distance learning programs in grades K–16 with at least one positive and statistically significant effect on a student outcome. Only studies published in the U.S. between 2010 and 2021 were included.

This review evaluated educational programming that was fully online or could be offered completely remotely. In total, this review included 24 studies that were reviewed for What Works Clearinghouse (WWC) eligibility standards and used to examine areas for future research (i.e., an evidence review). In addition, the review included nine studies of K–12 programs with mathematics and English language arts student achievement outcomes that met WWC standards and were included in a quantitative synthesis of findings (i.e., a meta-analysis).



### What are the main findings of this review?

The meta-analysis of K–12 programs with nine studies that met WWC standards found that, on average, students in distance learning programs

**“Innovative approaches may offer the best opportunity for success in remote learning, warranting additional research on whether these approaches are effective for older students.”**

improved moderately in English language arts but did not improve in mathematics.

The meta-analysis also examined whether the effects of distance learning on student achievement changed based on program (e.g., program type, content coverage, teacher interaction type) or sample (e.g., student age characteristics and found that, overall, program effectiveness was similar across program components and samples.

The evidence review of all 24 studies found that the field of distance learning lacks high-quality evaluations, especially studies that examine social-emotional outcomes and distance

learning programs for high school students. However, the evidence review revealed three effective programs for students in grades K–8 that education administrators might consider: ASSISTments, Intelligent Tutoring for the Structure Strategy (ITSS), and Online Algebra I. Finally, an analysis of where evidence was present revealed that more studies of innovative and adaptive programs that are personalized to the participant’s performance are warranted, as these types of programs may be especially effective for distance learners.



### **What do the findings in the review mean?**

Although the results of rigorous studies of distance learning programs are promising, and there are several products that education stakeholders should consider, more evidence is needed to reach strong conclusions about the effectiveness of distance learning programs across a variety of contexts and outcomes.

#### **WHAT IS MOSAIC?**

The Methods of Synthesis and Integration Center (MOSAIC) is a center that supports methods innovation for projects that synthesize evidence across multiple studies to inform stakeholders and create evidence-based solutions in education, health, international development, social welfare, and the workforce.

#### **ABOUT THIS BRIEF**

This brief is based on Sahni, S. D., Polanin, J. R., Zhang, Q., Michaelson, L. E., Caverly, S., Polese, M. L., & Yang, J. (2021). *A What Works Clearinghouse rapid evidence review of distance learning programs* (WWC 2021-005REV). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse.

[https://ies.ed.gov/ncee/wwc/Docs/ReferenceResources/Distance\\_Learning\\_RER\\_508c.pdf](https://ies.ed.gov/ncee/wwc/Docs/ReferenceResources/Distance_Learning_RER_508c.pdf)



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