Nearpod (2022–23)

Study Type: ESSA Evidence Level II

Prepared for:
Nearpod

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MODERATE
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ESSA LEVEL II

EXECUTIVE SUMMARY

Nearpod contracted with LearnPlatform, a third-party edtech research company, to examine the impact of Nearpod on learning outcomes. LearnPlatform designed the study to satisfy Level II requirements (Moderate Evidence) according to Every Student Succeeds Act (ESSA).

Study Sample, Measures, and Methods

This quasi–experimental study occurred during the 2022–23 school year and included an analysis sample of 6,087 students (3,877 treatment, 2,210 comparison) from 25 schools in one California K-12 district. Students were primarily Hispanic (85%) and Black or African American (14%). Additionally, some students were English Language Learners (20%) or had an Individualized Education Plan (IEP) (13%) and 89% were from low-income backgrounds.

Researchers used spring 2022 and spring 2023 California state summative assessment data to examine the impact of Nearpod on learning outcomes in grades 4 through 8. Researchers conducted descriptive analyses to examine participant characteristics and understand program implementation. For student findings, researchers conducted multilevel models (with students nested in schools) and regressions. For each impact analysis, researchers confirmed that the analytic sample met the Works Clearinghouse (WWC) version 5.0 baseline equivalence standards (Hedges g < .25; What Works Clearinghouse, 2022) and used covariate adjustment.

Program Implementation and Student Findings

Student usage. Students used Nearpod for an average of 7.2 active weeks and viewed Nearpod-created content (vs. teacher-created content on Nearpod) across most weeks (83%) across classrooms. Students also participated in an average of 16 session launches across various classrooms. Overall, 7th and 8th grade students had the greatest Nearpod usage, with students participating in 19-23 session launches across 8-10 active weeks across classrooms.

Student outcomes. Researchers examined the impact of Nearpod on learning outcomes overall and for ELL students and students on IEPs. Overall,
- grade 5 Nearpod students (on IEPs) had higher ELA achievement compared to similar grade 5 students who did not use Nearpod.
- grade 8 Nearpod students (overall and on IEPs) had higher ELA achievement compared to similar grade 8 students who did not use Nearpod.
- grade 6 Nearpod students (overall) had higher math achievement compared to similar grade 6 students who did not use Nearpod.
- grade 8 Nearpod students (overall) had higher math achievement compared to similar grade 8 students who did not use Nearpod.

There were no statistically significant differences in learning outcomes between Nearpod and comparison students in other grade levels.

Conclusion

Given positive outcome findings, this study meets ESSA evidence requirements for Level II (Moderate Evidence). Specifically, this quasi–experimental study was properly designed and implemented; used a valid and reliable outcome measure; documented baseline equivalence; included statistical controls; had more than 350 students across multiple schools; and had multiple positive, statistically significant findings.

ESSA Level II Study Key Takeaways

Students accessed moderate amounts of Nearpod content.

Students used Nearpod for an average of 7 active weeks and accessed Nearpod content (vs. teacher-created content) 83% of the time across classrooms.

Students participated in an average of 16 session launches across classrooms.

Grade 7 and 8 students had the greatest Nearpod usage. These classrooms accessed the program across 19-23 session launches for 8-10 active weeks.

Students who used Nearpod had higher ELA and math outcomes in some grades.

Grade 5 Nearpod students (on IEPs) had higher ELA achievement compared to similar grade 5 students who did not use Nearpod.

Grade 8 Nearpod students (overall and on IEPs) had higher ELA achievement compared to similar grade 8 students who did not use Nearpod.

Grade 6 Nearpod students (overall) had higher math achievement compared to similar grade 6 students who did not use Nearpod.

Grade 8 Nearpod students (overall) had higher math achievement compared to similar grade 8 students who did not use Nearpod.

No other mean differences in student achievement were statistically significant.

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Introduction

Teachers, especially those in the beginning of their career, often struggle to design, locate, or implement high-quality lessons that incorporate best teaching practices. To minimize this challenge, Nearpod provides educators instructional tools and interactive digital content backed by research-based pedagogy to support student motivation, engagement, and learning (see logic model in Appendix A; Hunt, Cavanaugh, & Henschel, 2022).

As part of their ongoing efforts to demonstrate effectiveness, Nearpod contracted with LearnPlatform, a third-party edtech research company, to examine the impact of Nearpod on student learning outcomes. LearnPlatform designed the study to satisfy Level II requirements (Moderate Evidence) according to Every Student Succeeds Act (ESSA).

The present study had the following research questions:

Implementation Research Questions

1. To what extent did students access Nearpod across classrooms during the 2022-23 school year?
    a. To what extent did classrooms use Nearpod- vs. teacher-created material?

ESSA Research Questions

2. What was the impact of Nearpod on students' ELA and math 2022-23 summative outcomes?
3. What was the impact of Nearpod on ELA and math 2022-23 summative outcomes for English language learners?
4. What was the impact of Nearpod on ELA and math 2022-23 summative outcomes for students on an IEP?

Methods

This section of the report briefly describes the study's design, setting, participants, measures, analysis methods, and baseline equivalence practices.

Study Design

This study used a quasi-experimental design to align with ESSA Level II evidence standards. The treatment group included students whose educators used Nearpod during the 2022–23 school year. The comparison group included students who did not access Nearpod but had similar prior year achievement.

Participants

The study compared grade 4-8 students who used Nearpod with students who did not (3,877 treatment students, 2,210 comparison students). Students were from 25 schools in one K-12 district in California. Students were primarily Hispanic (85%) and Black or African American (14%). Additionally, some students were English Language Learners (20%) or had an IEP (13%) and 89% were from low-income backgrounds. Additional demographic information can be found in Appendix B.

Measures

This study includes the following measures to provide insights into Nearpod implementation and impact.

Nearpod Usage Metrics. Researchers used several metrics to characterize 2022-23 Nearpod usage. These metrics included the total number of active weeks, percent of weeks accessing Nearpod-created content, and average number of sessions launched (each at the classroom level). These usage metrics informed the extent to which students were in classrooms that used Nearpod during the school year[1] and whether use of Nearpod was related to ELA and math performance.

Student Outcomes. Researchers used math and English language arts (ELA) California Assessment of Student Performance and Progress (CAASPP) scale scores from spring 2022 (prior achievement) and spring 2023 for the present study. CAASPP scale scores are grade-specific, therefore, scores cannot be averaged across grade levels. As a result, researchers conducted all analyses by content area (i.e., math, ELA) and grade level.

Data Analysis

Researchers used descriptive statistics to report on participant characteristics and support implementation analyses. Researchers then conducted partial correlations to examine associations between Nearpod usage and learning outcomes in each grade level. Finally, researchers conducted multilevel models (with students nested in schools) or regressions to examine the impact of Nearpod

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[1] When students had multiple classrooms with Nearpod usage, researchers summed student usage across classrooms to create an overall usage indicator.

on learning outcomes (i.e., did students who used Nearpod outperform students who did not?). These models included prior achievement, gender, English Language Learner status (ELL), and IEP indicators as covariates to control for potential selection bias. In addition, researchers calculated standardized effect sizes (i.e., Hedge's g) to demonstrate the magnitude of difference in learning outcomes between students who used Nearpod and similar students who did not use Nearpod.

Baseline Equivalence

To ensure the validity of the study's findings and adhere to ESSA Level II standards, researchers conducted baseline equivalence tests between treatment and comparison students based on prior year achievement. All grade levels met WWC version 5.0 baseline equivalence standards for the entire sample (What Works Clearinghouse, 2022). Within ELL and IEP student populations, some grade levels did not meet baseline equivalence standards and researchers did not proceed with these analyses. These findings are reported in Appendix B.

Program Implementation

This section presents descriptive findings related to Nearpod implementation. Researchers analyzed usage metrics at the student level to determine the extent to which students engaged with Nearpod during the 2022-23 school year.

To what extent did students access Nearpod across classrooms during the 2022-23 school year?

Overall, students used Nearpod for an average of seven active weeks (range 1-43 weeks) and participated in 16 session launches (range 1-43 launches) across classrooms. Additionally, classrooms utilized Nearpod content (vs. teacher-generated content) an average of 83% of weeks (Table 1).

Table 1. Overall Nearpod usage

Usage type:	Mean	Range
Number of active weeks	7.2	1-43
Number of sessions launched	15.7	1-43
Percentage of time student accessed Nearpod content across weeks	83%	0-100%

Students had similar levels of Nearpod usage by grade level. Overall, 7th and 8th grade students had the greatest Nearpod usage, with students participating in 19 to 23 session launches across 8 to 10 active weeks across multiple classrooms (Table 2).

Table 2. Average Nearpod usage by grade level

Usage type:	4th	5th	6th	7th	8th
Average number of active weeks	5.2	5.5	7.1	9.8	7.6
Average number of sessions launched	10.7	8.5	14.5	22.7	19.1
Percentage of time student accessed Nearpod content across weeks	90%	89%	86%	73%	81%

Findings

To answer ESSA research questions, researchers used multilevel models and regressions (as appropriate). The following section details the impact of Nearpod on learning outcomes overall and for two student subgroups. Researchers also conducted preliminary partial correlations examining the relationship between Nearpod usage and learning outcomes (see Appendix C). Researchers report statistically significant findings at the $p = .05$ level. Statistically significant findings are marked green (positive effect) or red (negative effect) in subsequent graphs. Findings that are not statistically significant are marked gray. Additional information on multilevel models is available in Appendix D.

What was the impact of Nearpod on students' ELA and math 2022-23 summative outcomes?

ELA outcomes. Researchers conducted multilevel models within grades 4 through 8 to examine the impact of Nearpod on ELA outcomes. All models included prior year CAASPP achievement, IEP indicators and ELL status as covariates. In grades 4 through 7, there were no statistically significant differences in spring 2023 ELA achievement between Nearpod students and students who did not use Nearpod. However, in grade 8, Nearpod students had higher spring 2023 ELA achievement compared to grade 8 students who did not use Nearpod (g = 0.23; Figure 5).

Grade 8 Nearpod students had higher spring 2023 ELA achievement compared to Grade 8 students who did not use Nearpod.

Figure 1. Adjusted ELA state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod students and comparison students. Mean differences were statistically significant for grade 8 only (g = 0.23, p = .003).

Math outcomes. Researchers conducted multilevel models within grades 4 through 8 to examine the impact of Nearpod on math outcomes. All models included prior year CAASPP achievement, gender, IEP indicators and ELL status as covariates. In grades 4, 5, and 7, there were no statistically significant differences in spring 2023 math achievement between Nearpod students and students who did not use Nearpod. However, in grades 6 and 8, Nearpod students had higher math achievement compared to grade 6 and 8 students who did not use Nearpod (g = 0.17, 0.25, respectively; Figure 6).

Grade 6 and 8 Nearpod students had higher spring 2023 math achievement compared to grade 6 and 8 students who did not use Nearpod.

Figure 2. Adjusted math state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod students and comparison students. Mean differences were statistically significant for grades 6 and 8 only (g = 0.17, p < .05; g = 0.25, p < .01).

What was the impact of Nearpod on ELA and math 2022-23 summative outcomes for English language learners?

ELA outcomes. Researchers conducted multilevel models within grades 4 through 8[2] to examine the impact of Nearpod on ELA outcomes for English language learners. All models included prior year CAASPP achievement and IEP indicator as covariates. In all grades, there were no statistically significant differences in spring 2023 ELA achievement between English Language Learners (ELL) Nearpod students and those students who did not use Nearpod (Figure 7).

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[2] Researchers conducted regressions to examine grade 7 math and ELA achievement for ELL students given a lack of statistically significant, school-level effects.

Grade 4-8 Nearpod ELL students had similar spring 2023 ELA achievement compared to Grade 4-8 ELL students who did not use Nearpod.
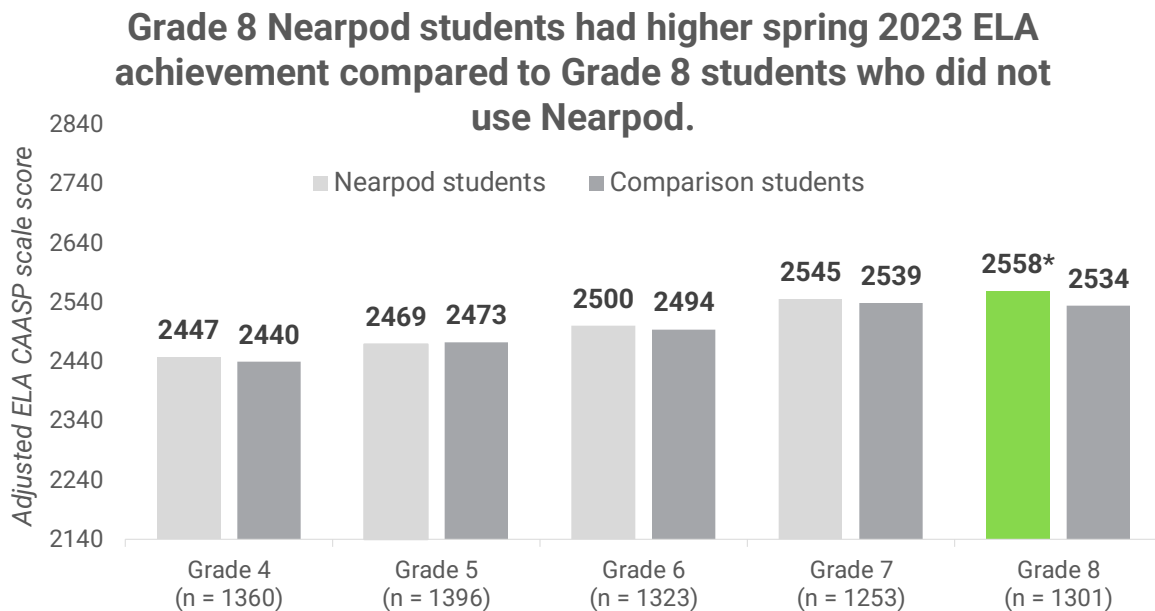

Figure 3. Adjusted ELA state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod ELL students and comparison ELL students. Mean differences were not statistically significant at any grade level.

Math outcomes. Researchers conducted multilevel models within grades 4, 5, 7 and 8 to examine the impact of Nearpod on English language learners' math outcomes.[3] All models included prior year CAASPP achievement, gender, and IEP indicators as covariates. In grades 4, 5, 7, and 8, there were no statistically significant differences in spring 2023 math achievement between English Language Learners (ELL) Nearpod students and students who did not use Nearpod (Figure 8).

Grade 4, 5, 7 and 8 Nearpod ELL students had similar spring 2023 math achievement compared to ELL students who did not use Nearpod.
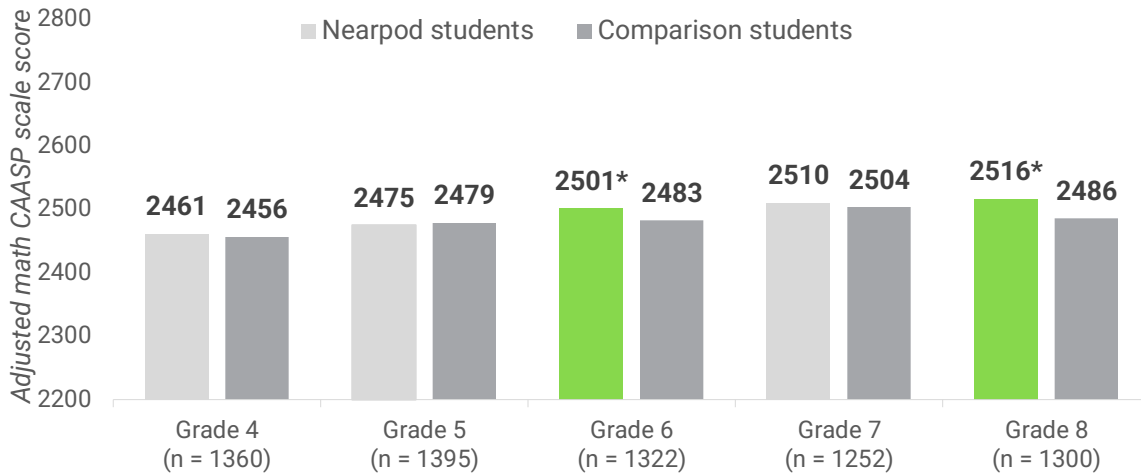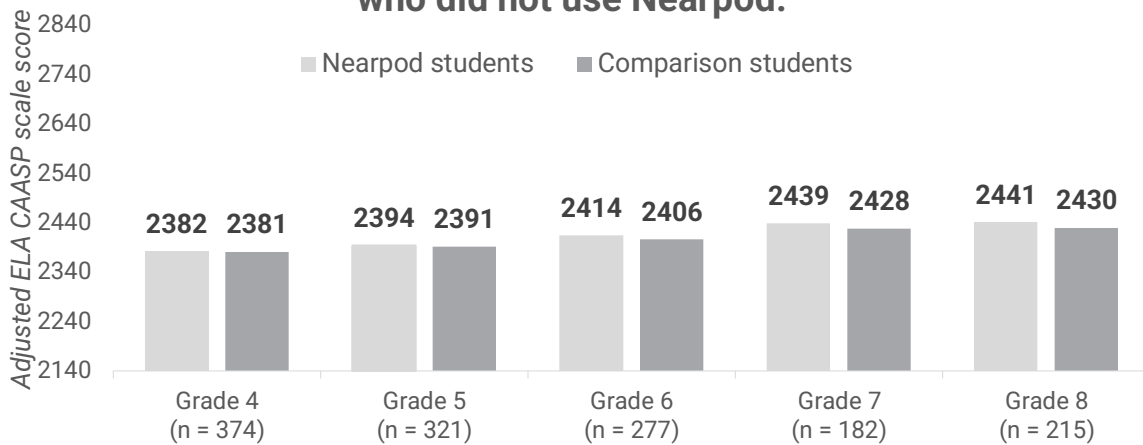

Figure 4. Adjusted math state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod ELL students and comparison ELL students. Mean differences were not statistically significant.

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[3] Researchers did not examine impacts in grade 6 for ELL students on math achievement because the sample did not meet WWC baseline equivalence standards.

What was the impact of Nearpod on ELA and math 2022-23 summative outcomes for students on an IEP?

ELA outcomes. Researchers conducted multilevel models within grades 4, 5, and 8[4] to examine the impact of Nearpod on ELA outcomes for students on an IEP. All models included prior year CAASPP achievement and ELL status as covariates. There were two positive, statistically significant impacts. For students on an IEP, grade 5 and 8 Nearpod students had higher ELA achievement in spring 2023 compared to grade 5 and 8 students who did not use Nearpod (g = 0.23, 0.39; Figure 9).

For students on an IEP, Grade 5 and 8 Nearpod students had higher spring 2023 ELA achievement compared to grade 5 and 8 students who did not use Nearpod.
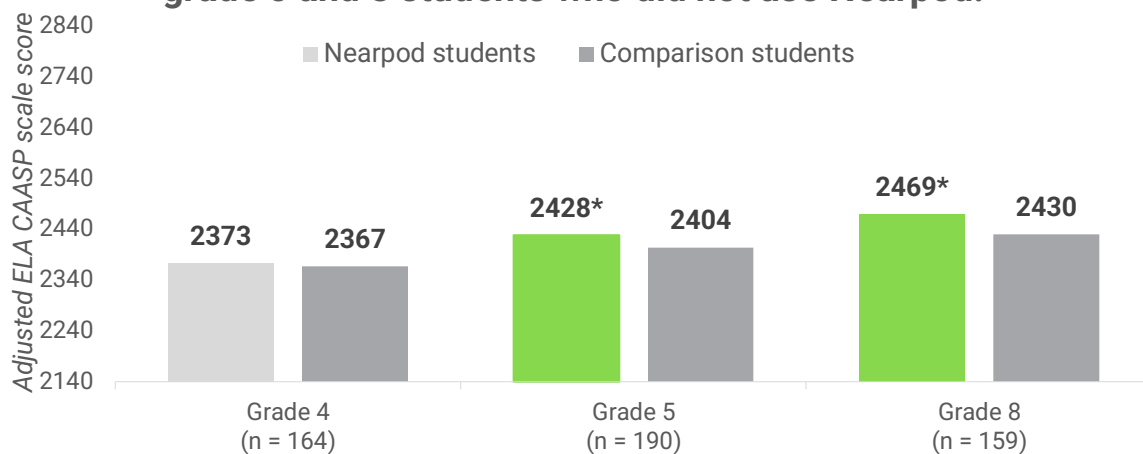
Figure 5. Adjusted ELA state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod students and comparison students on an IEP. Mean differences were statistically significant for grades 5 and 8 only (g = 0.23, p < .05; g = 0.43, p < .01).

Math outcomes. Researchers conducted multilevel models within grade levels 4, 5, 6 and 8[5] to examine the impact of Nearpod on student math outcomes. All models included prior year CAASPP achievement, gender, and ELL status as covariates. Overall, there was one positive, statistically significant impact. For students on an IEP, grade 6 Nearpod students had higher math achievement in spring 2023 compared to grade 6 students who did not use Nearpod (g = 0.28; Figure 10).

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[4] Researchers did not examine impacts for grades 6 and 7 students on an IEP on ELA achievement because samples did not meet WWC baseline equivalence standards. Additionally, researchers conducted regressions to examine grade 5 and 8 ELA achievement given a lack of statistically significant school-level effects.
[5] Researchers did not examine impacts for grade 7 students on an IEP on math achievement because the sample did not meet WWC baseline equivalence standards.

For students on an IEP, grade 6 Nearpod students had higher spring 2023 math achievement compared to grade 6 students who did not use Nearpod.
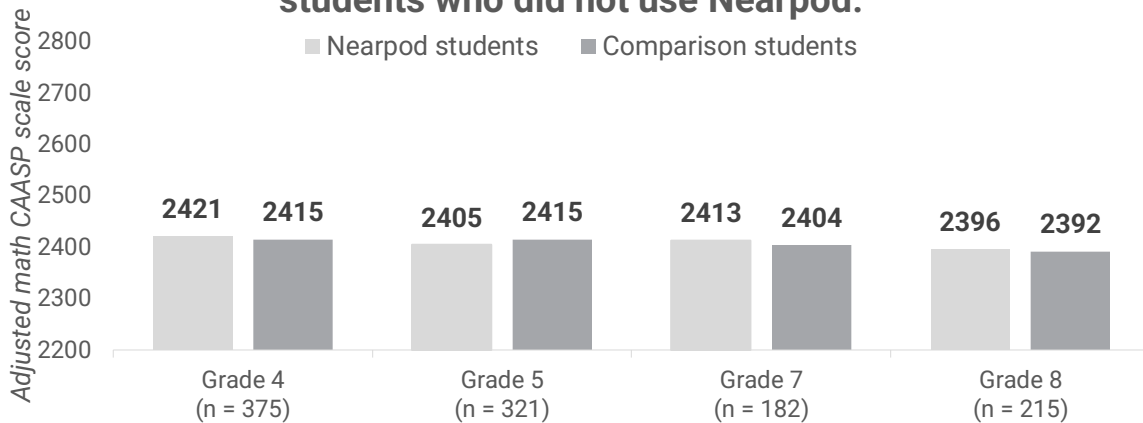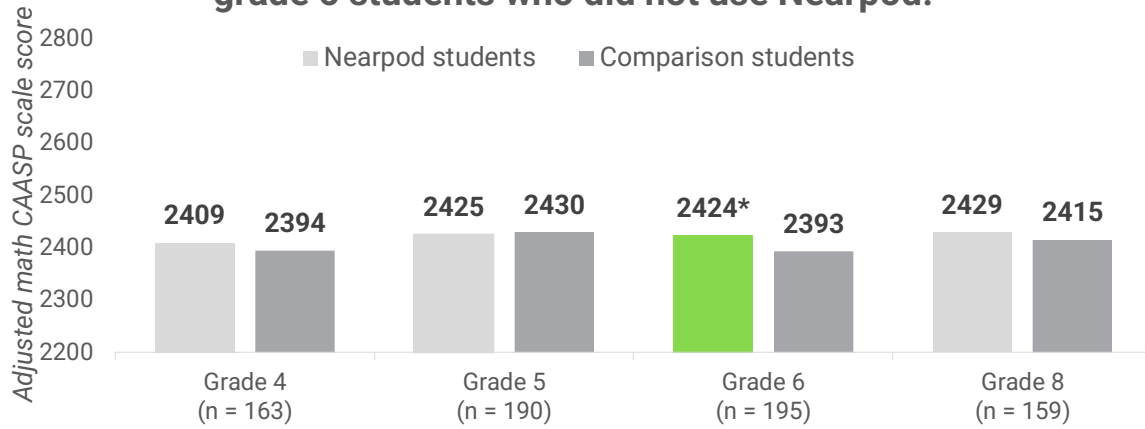
Figure 6. Adjusted math state summative assessment CAASPP end-of-year 2023 scale scores for Nearpod students and comparison students on an IEP. Mean differences were statistically significant for grade 6 only (g = 0.28, p < .05).

Conclusions

Given multiple positive outcome findings, this study provides results to satisfy ESSA evidence requirements for Level II (Moderate Evidence) in grades 5, 6 and 8. Specifically, this quasi−experimental study met the following criteria:

✔ Proper design and implementation

✔ Valid and reliable outcome measure that is not overaligned with the intervention

✔ Baseline equivalence for treatment and comparison groups

✔ Statistical controls through covariates

✔ At least 350 students in the analysis sample

✔ Representative, multi−site study

✔ At least one statistically significant, positive finding

References

Hunt, A., Cavanaugh, A., & Henschel, M. (2022). Nearpod Logic Model: Study Type: ESSA Evidence Level IV. LearnPlatform: Raleigh, NC.

What Works Clearinghouse. (2022). What Works Clearinghouse procedures and standards handbook, version 5.0. U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance (NCEE). This report is available on the What Works Clearinghouse website at https://ies.ed.gov/ncee/wwc/Handbooks.

Appendix A. Nearpod Logic Model

Problem Statement: It is challenging for educators to easily design and implement lessons that are informed by best teaching practices. Nearpod provides teachers with tools and interactive digital content to support student motivation, engagement, and performance.

Inputs *What we invest:*	Participants *Who we reach:*	Activities *What we do:*	Outputs *Products of activities:*	Outcomes *What changes or benefits result...*		
				Short-term	**Intermediate**	**Long-term**
Intuitive lesson planning software

Virtual library of pre-made lessons and research-based teaching tools utilizing multimedia and interactive slides, videos, gamification and other instructional supports

Specialized training and resources to support administrators' and teachers' implementation

District-wide on-boarding, including LMS integration for seamless meshing of Nearpod with existing edtech ecosystem | K-12 teachers

K-12 students

School/District administrators | Teachers create or use pre-made 21st century, standards-aligned lessons from Nearpod's library of customizable instructional content

Teachers select from a variety of teaching modalities (e.g., live, student-paced) to facilitate the learning experience

Teachers utilize formative assessments and monitor engagement and provide students real-time feedback

Teachers share students' in-progress responses with the class or small group

Students engage with a range of shared interactive learning tools (e.g., message boards, digital 3D manipulatives, virtual reality simulations) and take part in formative assessments during instructional time

Administrators monitor usage data trends to scale-up use of high-impact resources and curate locally valued instructional resources | Number of lessons implemented from pre-made library

Number of formative assessments administered and evaluated

Percentage of teachers activated on Nearpod

Percentage of teachers using Nearpod weekly | Teachers spend less time planning lessons and more time facilitating learning using evidence-based practices and tools

Teachers use more real-time formative assessment tools and post-lesson usage reports

Students are more motivated to participate in learning activities

Students make authentic connections with content and their teacher/peers

Administrators review teacher usage data | Teachers lead hands-on, standards-aligned lessons

Teachers experience professional growth

Teachers broaden their approach to evaluating student performance

Teachers gain insight about student progress and adapt lessons to student needs

Students are more engaged during lessons

Students use 21st century skills (e.g., collaboration, curiosity, creativity)

Administrators use teacher usage data to inform organizational support | Teachers experience greater job satisfaction

Teachers become more efficient with lesson planning and implementation

Teachers use data from consistent formative assessment to inform their instruction

Students retain more information from instruction

Student academic performance improves

Students feel an increased sense of belonging

Administrators support and direct use of Nearpod to help teachers become more impactful |

Appendix B. Additional information on study design and methods

A total of 3,877 Nearpod students had complete demographic, achievement (i.e., 2021-22 and 2022-23 CAASPP scale scores), and usage data and were included in the analysis sample. Researchers had a sample of 2,210 comparison students with complete demographic and achievement data. Additional demographic information on the study sample is in Table B1.

Table B1. Student demographics by group

Characteristic	Nearpod students (n = 3,877)		Students who did not use Nearpod (n = 2,210)		Total sample (n = 6,087)	
	Percent	n	Percent	n	Percent	n
Gender						
Male	51%	1,987	52%	1,146	51%	3,133
Female	49%	1,890	48%	1,064	49%	2,954
Race/Ethnicity						
American Indian/Alaskan	0.1%	4	0.2%	4	0.1%	8
Asian	0.1%	4	0%	0	0.1%	4
Black/African American	13%	495	16%	348	14%	843
Hispanic	86%	3,327	83%	1,819	85%	5,146
Multiple	0.3%	11	0.2%	5	0.3%	16
Native Hawaiian/Other	0.4%	16	0.4%	8	0.4%	24
White	0.1%	3	0.3%	7	0.2%	10
Low income?						
Yes	89%	3,451	90%	1,983	89%	5,434
No	11%	426	10%	227	11%	653
English Language Learner?						
Yes	19%	753	21%	453	20%	1,206
No	81%	3,124	79%	1,757	80%	4,881
Student has an IEP?						
Yes	12%	483	14%	315	13%	798
No	88%	3,394	86%	1,895	87%	5,289
Grade						

4th	15%	580	29%	651	20%	1,231
5th	18%	708	27%	589	21%	1,297
6th	21%	827	17%	381	20%	1,208
7th	21%	806	16%	359	19%	1,165
8th	25%	956	10%	230	19%	1,186

Before beginning impact analyses, researchers conducted multilevel models to confirm there were no statistically significant differences between student groups based on prior year CAASPP achievement. Overall, all grades met WWC baseline equivalence standards with Hedges *g* effect sizes less than 0.25. Researchers included pretest and demographic covariates in all multilevel models.

Table B2. Baseline equivalence based on 2021-22 CAASPP (prior year) achievement scale scores.

Outcome Variable	Adjusted mean (Nearpod students)	Unadjusted *n* (SD) (Nearpod students)	Adjusted mean (Comparison students)	Unadjusted *n* (SD) (Comparison students)	Hedges *g*
ELA					
Grade 4	2395.96	583 (92.28)	2387.51	651 (98.80)	0.09
Grade 5	2443.64	710 (98.65)	2431.83	589 (96.99)	0.12
Grade 6	2465.88	828 (105.53)	2445.60	381 (105.71)	0.19
Grade 7	2505.66	809 (102.06)	2501.42	360 (97.38)	0.04
Grade 8	2526.54	963 (111.39)	2543.99	230 (108.50)	-0.16
Math					
Grade 4	2411.53	581 (92.59)	2405.40	652 (126.47)	0.05
Grade 5	2448.74	709 (89.97)	2430.80	589 (91.29)	0.20
Grade 6	2247.56	829 (94.15)	2450.03	382 (96.73)	-0.03
Grade 7	2484.49	807 (112.46)	2478.91	360 (110.96)	0.05
Grade 8	2481.32	958 (107.92)	2497.92	230 (117.54)	-0.15

Researchers also conducted multilevel models to confirm there were no statistically significant differences between grade levels for ELL students and students on an IEP based on prior year CAASPP achievement. For ELL students, the grade 6 math achievement sample did not meet baseline equivalence standards and researchers did not proceed with this analysis. For students on an IEP, the grade 6 and 7 ELA achievement and grade 7 math achievement samples did not meet baseline equivalence standards and researchers did not proceed with these analyses. All other subgroup grade levels had Hedges *g* effect sizes less than 0.25 and researchers proceeded with the analyses (Tables B3 and B4).

Table B3. Baseline equivalence based on 2021-22 CAASPP (prior year) achievement scale scores for ELL students.

Outcome Variable	Adjusted mean (Nearpod students)	Unadjusted *n* (SD) (Nearpod students)	Adjusted mean (Comparison students)	Unadjusted *n* (SD) (Comparison students)	Hedges *g*
ELA					
Grade 4	2342.04	156 (71.31)	2335.95	184 (76.21)	0.08
Grade 5	2362.90	153 (77.75)	2358.40	137 (78.54)	0.06
Grade 6	2376.23	175 (70.71)	2363.55	62 (69.27)	0.18
Grade 7	2400.09	123 (64.41)	2400.34	39 (60.74)	0.00
Grade 8	2399.12	150 (73.65)	2407.03	30 (83.13)	-0.11
Math					
Grade 4	2363.18	156 (79.22)	2369.94	184 (80.06)	-0.08
Grade 5	2390.58	152 (76.79)	2377.14	138 (70.46)	0.18
Grade 6	2380.22	176 (67.57)	2402.21	63 (74.98)	-0.32
Grade 7	2376.48	122 (92.30)	2373.96	39 (75.01)	0.03
Grade 8	2376.22	148 (77.45)	2387.89	30 (98.05)	-0.14

Table B4. Baseline equivalence based on 2021-22 CAASPP (prior year) achievement scale scores for students on an IEP.

Outcome Variable	Adjusted mean (Nearpod students)	Unadjusted *n* (SD) (Nearpod students)	Adjusted mean (Comparison students)	Unadjusted *n* (SD) (Comparison students)	Hedges *g*
ELA					
Grade 4	2340.53	70 (87.77)	2333.58	71 (79.66)	0.08
Grade 5	2377.01	84 (82.61)	2388.35	97 (99.75)	-0.12
Grade 6	2405.62	113 (100.39)	2367.14	61 (102.21)	0.38
Grade 7	2447.06	109 (104.40)	2412.22	53 (92.98)	0.35
Grade 8	2454.75	111 (106.42)	2437.72	35 (105.52)	0.16
Math					
Grade 4	2356.88	70 (89.92)	2357.82	71 (101.28)	-0.01
Grade 5	2391.45	84 (82.82)	2402.07	96 (107.18)	-0.11
Grade 6	2398.31	113 (94.20)	2393.51	61 (87.99)	0.05

Grade 7	2417.75	109 (117.24)	2371.60	53 (105.02)	**0.41**
Grade 8	2422.96	109 (103.91)	2406.51	35 (119.24)	0.15

Appendix C. Additional analyses

Researchers conducted preliminary analyses examining relationships between Nearpod usage and student learning outcomes. These results are detailed below.

What was the relationship between Nearpod usage and student ELA and math 2022-23 summative outcomes?

Active weeks. Researchers conducted partial correlations within grades 4 through 8 to examine relationships between the number of active weeks spent in Nearpod and learning outcomes. Each model included prior year achievement, gender (math models only), IEP indicator, and ELL status as covariates. Overall, there was one positive relationship and one negative relationship. Grade 6 students in classrooms with more active weeks in Nearpod also had lower spring 2023 ELA achievement. However, Grade 4 students in classrooms with more active weeks in Nearpod had higher spring 2023 math achievement (Figures 1 and 2).

Grade 6 students in classrooms with more active weeks in Nearpod had lower spring 2023 ELA achievement.

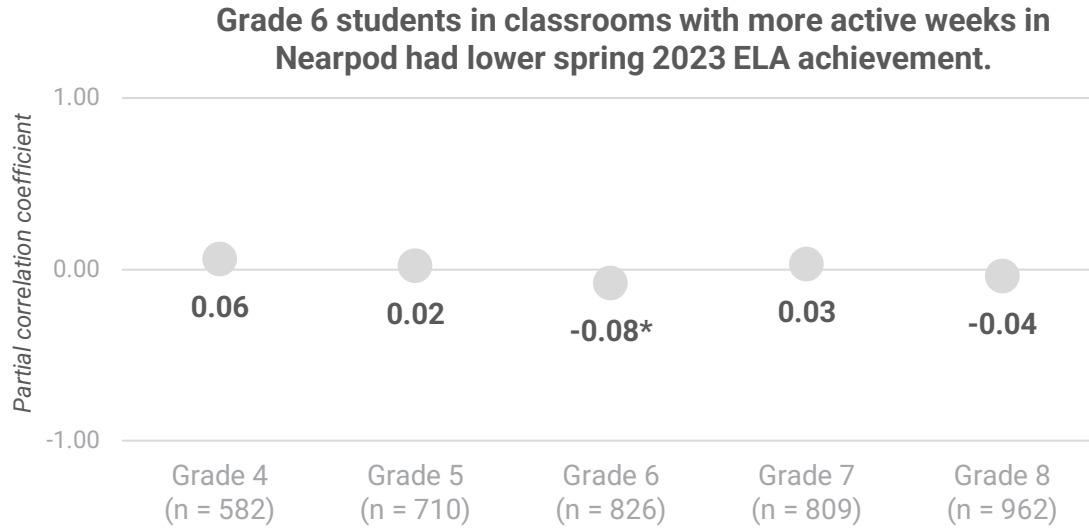|				
Grade 4 (n = 582)	Grade 5 (n = 710)	Grade 6 (n = 826)	Grade 7 (n = 809)	Grade 8 (n = 962)
0.06	0.02	-0.08*	0.03	-0.04

Figure 7. Partial correlations between number of active weeks in Nearpod and Nearpod students' spring 2023 CAASPP ELA scale scores. Grade 6 was statistically significant (r = -0.08).

Grade 4 students in classrooms with more active weeks in Nearpod had higher spring 2023 math achievement.
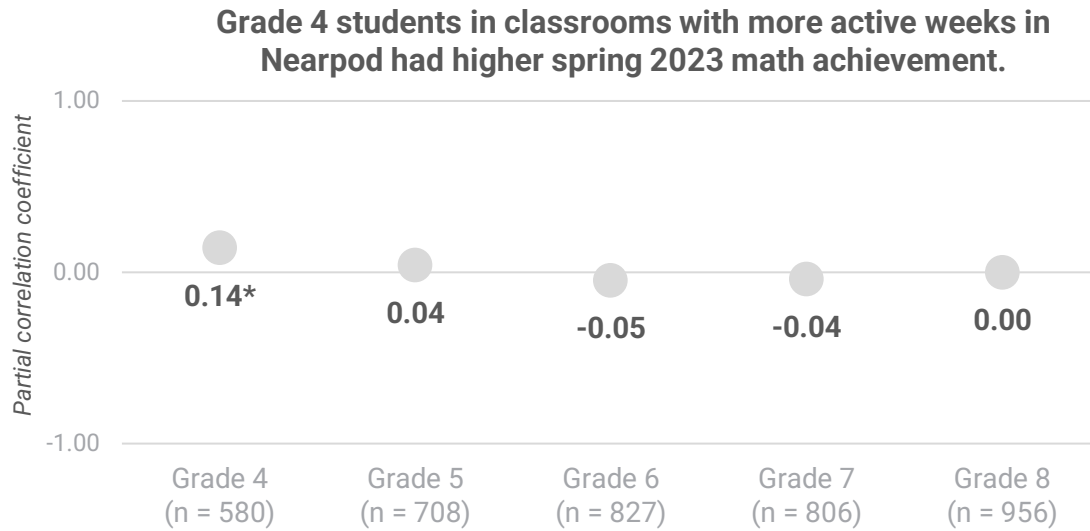

Figure 8. Partial correlations between number of active weeks in Nearpod and Nearpod students' spring 2023 CAASPP math scale scores. Grade 4 was statistically significant (r = 0.14).

Sessions launched. Researchers conducted partial correlations within grade levels 4 through 8 to examine relationships between Nearpod usage and learning outcomes. Each model included prior achievement, gender, IEP indicator, and ELL status as covariates. Overall, there was one positive relationship and one negative relationship. Grade 6 students in classrooms with more sessions launched in Nearpod had lower 2022-23 ELA achievement. However, Grade 4 students in classrooms with more sessions launched in Nearpod had higher 2022-23 math achievement (Figures 3 and 4).

Grade 6 students in classrooms with more sessions launched in Nearpod had lower spring 2023 ELA achievement.

Figure 9. Partial correlations between number of sessions launched in Nearpod and Nearpod students' spring 2023 CAASPP ELA scale scores. Grade 6 was statistically significant (r = -0.08).

Grade 4 students in classrooms with more sessions launched in Nearpod had higher spring 2023 math achievement.
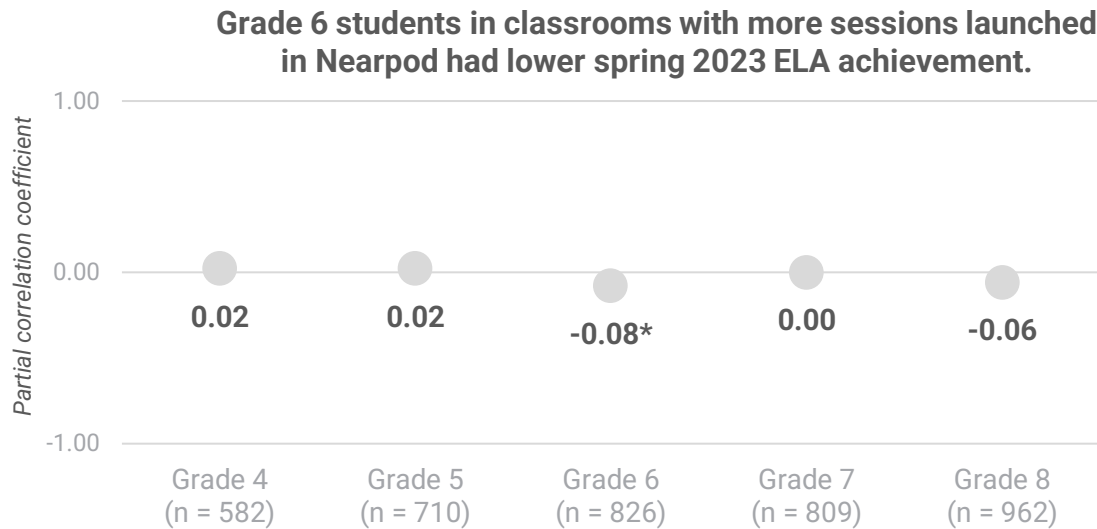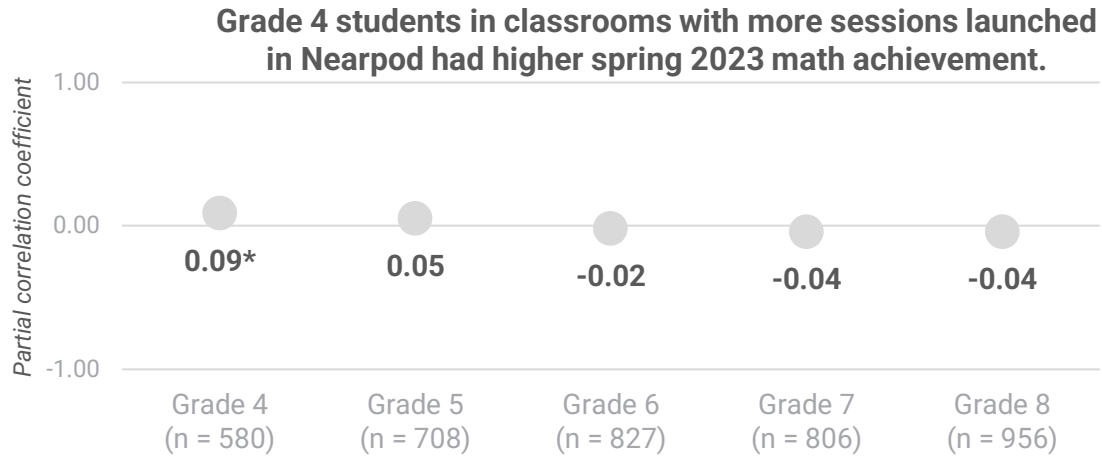
Figure 10. Partial correlations between number of sessions launched in Nearpod and Nearpod students' spring 2023 CAASPP math scale scores. Grade 4 was statistically significant (r = 0.09).

Appendix D. Additional analyses

Examining the impact of Nearpod on learning outcomes

Table D1. Impact of Nearpod on 2023 CAASPP assessment scores (overall)

Outcome (Grades)	Predictor	Unstandardized Beta Coefficient	Standard Error	Test statistic*	*p*-value
Spring 2023 CAASPP ELA scale score (Grade 4)	Condition	7.39	4.83	1.53	.13
	Spring 2022 CAASPP ELA scale score	0.67	0.02	31.28	.00
	School-level random effects	202.36	86.95	29.88	.00
Spring 2023 CAASPP ELA scale score (Grade 5)	Condition	-3.74	4.86	-0.77	.44
	Spring 2022 CAASPP ELA scale score	0.74	0.02	33.69	.00
	School-level random effects	194.31	82.31	31.81	.00
Spring 2023 CAASPP ELA scale score (Grade 6)	Condition	6.02	7.24	0.83	.41
	Spring 2022 CAASPP ELA scale score	0.61	0.02	30.94	.00
	School-level random effects	356.83	123.43	72.87	.00
Spring 2023 CAASPP ELA scale score (Grade 7)	Condition	6.16	5.36	1.15	.25
	Spring 2022 CAASPP ELA scale score	0.72	0.02	33.93	.00
	School-level random effects	77.35	45.61	8.57	.00
Spring 2023 CAASPP ELA scale score (Grade 8)	Condition	24.44	8.26	2.96	.00
	Spring 2022 CAASPP ELA scale score	0.64	0.02	31.08	.00
	School-level random effects	303.19	128.43	44.00	.00
Spring 2023 CAASPP math scale score (Grade 4)	Condition	5.04	4.57	1.10	.27
	Spring 2022 CAASPP math scale score	0.69	0.19	35.45	.00
	School-level random effects	570.49	221.92	118.94	.00
Spring 2023 CAASPP math scale score (Grade 5)	Condition	-3.71	4.78	-0.78	.44
	Spring 2022 CAASPP math scale score	0.83	0.02	38.86	.00
	School-level random effects	431.98	171.22	76.46	.00
Spring 2023 CAASPP math scale score (Grade 6)	Condition	18.32	7.71	2.37	.02
	Spring 2022 CAASPP math scale score	0.74	0.02	32.04	.00
	School-level random effects	370.59	136.38	59.87	.00
Spring 2023 CAASPP math scale score (Grade 7)	Condition	6.59	7.10	0.93	.35
	Spring 2022 CAASPP math scale score	0.77	0.02	35.41	.00
	School-level random effects	198.72	98.57	19.59	.00
	Condition	30.23	8.99	3.36	.00

Outcome (Grades)	Predictor	Unstandardized Beta Coefficient	Standard Error	Test statistic*	p-value
Spring 2023 CAASPP math scale score (Grade 8)	Spring 2022 CAASPP math scale score	0.79	0.02	34.27	.00
	School-level random effects	286.33	126.92	30.19	.00

Note. Test statistics are a *z*-score for the fixed effects (i.e., usage metric and baseline score) and a chi-square for the random effects (i.e., school-level); demographic covariates are not included in the table.

Table D2. Impact of Nearpod on 2023 CAASPP assessment scores (ELL students)

Outcome (Grades)	Predictor	Unstandardized Beta Coefficient	Standard Error	Test statistic*	p-value
Spring 2023 CAASPP ELA scale score (Grade 4)	Condition	0.31	8.21	0.04	.97
	Spring 2022 CAASPP ELA scale score	0.55	0.05	11.34	.00
	School-level random effects	290.34	187.58	5.66	.01
Spring 2023 CAASPP ELA scale score (Grade 5)	Condition	3.65	8.10	0.45	.65
	Spring 2022 CAASPP ELA scale score	0.41	0.05	8.97	.00
	School-level random effects	219.17	161.75	4.26	.02
Spring 2023 CAASPP ELA scale score (Grade 6)	Condition	8.01	10.81	0.74	.46
	Spring 2022 CAASPP ELA scale score	0.39	0.06	6.88	.00
	School-level random effects	299.61	209.78	5.10	.01
Spring 2023 CAASPP ELA scale score (Grade 7)	Condition	10.78	11.83	0.91	.36
	Spring 2022 CAASPP ELA scale score	0.44	0.08	5.45	.00
Spring 2023 CAASPP ELA scale score (Grade 8)	Condition	11.14	17.07	0.65	.51
	Spring 2022 CAASPP ELA scale score	0.19	0.08	2.46	.01
	School-level random effects	498.96	322.97	8.36	.00
Spring 2023 CAASPP math scale score (Grade 4)	Condition	5.83	6.98	0.84	.40
	Spring 2022 CAASPP math scale score	0.65	0.04	17.80	.00
	School-level random effects	361.09	176.90	18.10	.00
Spring 2023 CAASPP math scale score (Grade 5)	Condition	-9.12	9.17	-0.99	.32
	Spring 2022 CAASPP math scale score	0.68	0.05	12.79	.00
	School-level random effects	513.25	265.00	14.25	.00
	Condition	8.94	13.73	0.65	.52

Outcome (Grades)	Predictor	Unstandardized Beta Coefficient	Standard Error	Test statistic*	p-value
Spring 2023 CAASPP math scale score (Grade 7)	Spring 2022 CAASPP math scale score	0.49	0.07	6.91	.00
Spring 2023 CAASPP math scale score (Grade 8)	Condition	3.92	17.23	0.23	.82
	Spring 2022 CAASPP math scale score	0.34	0.07	4.85	.00
	School-level random effects	484.90	415.51	3.60	.03

Note. Test statistics are a *z*-score for the fixed effects (i.e., usage metric and baseline score) and a chi-square for the random effects (i.e., school-level); demographic covariates are not included in the table. Researchers conducted regressions for grade 7 analyses with ELA and math outcomes.

Table D3. Impact of Nearpod on 2023 CAASPP assessment scores (Students on an IEP)

Outcome (Grades)	Predictor	Unstandardized Beta Coefficient	Standard Error	Test statistic*	p-value
Spring 2023 CAASPP ELA scale score (Grade 4)	Condition	5.51	16.62	0.33	.74
	Spring 2022 CAASPP ELA scale score	0.62	0.09	6.79	.00
	School-level random effects	1523.71	828.59	9.18	.00
Spring 2023 CAASPP ELA scale score (Grade 5)	Condition	24.33	11.61	2.10	.04
	Spring 2022 CAASPP ELA scale score	0.78	0.07	11.91	.00
Spring 2023 CAASPP ELA scale score (Grade 8)	Condition	39.12	14.45	2.71	.01
	Spring 2022 CAASPP ELA scale score	0.63	0.06	9.69	.00
Spring 2023 CAASPP math scale score (Grade 4)	Condition	14.86	13.21	1.13	.26
	Spring 2022 CAASPP math scale score	0.67	0.07	10.08	.00
	School-level random effects	664.38	529.62	3.38	.03
Spring 2023 CAASPP math scale score (Grade 5)	Condition	-4.58	12.91	-0.35	.72
	Spring 2022 CAASPP math scale score	0.76	0.06	12.14	.00
	School-level random effects	347.50	360.18	1.65	.10
Spring 2023 CAASPP math scale score (Grade 6)	Condition	30.45	15.30	1.99	.047
	Spring 2022 CAASPP math scale score	0.72	0.07	10.56	.00
	School-level random effects	838.87	535.94	5.63	.01
Spring 2023 CAASPP math scale score (Grade 8)	Condition	13.65	19.70	0.69	.49
	Spring 2022 CAASPP math scale score	0.70	0.07	10.78	.00
	School-level random effects	1105.20	727.46	6.78	.00

Note. Test statistics are a *z*-score for the fixed effects (i.e., usage metric and baseline score) and a chi-square for the random effects (i.e., school-level); demographic covariates are not included in the table. Researchers conducted regressions for grades 5 and 8 models with ELA outcomes.