Nearpod (2021-22)

Study Type: ESSA Evidence Level III

Prepared for:
Nearpod

Prepared by LearnPlatform by Instructure:
Ashley Hunt, PhD
Austin Cavanaugh, MA
Justin Long, MA

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EXECUTIVE SUMMARY

Nearpod contracted with LearnPlatform by Instructure, a third-party edtech research company, to examine whether usage of Nearpod was associated with improved outcomes for students during the 2021-22 school year in a large urban district. LearnPlatform designed the study to satisfy Level III requirements (Promising Evidence) according to the Every Student Succeeds Act (ESSA, 2015; USDE, 2016).

Study Sample, Measures, and Methods

Nearpod implementation from the 2021-22 school year was compiled for a large urban school district in Texas. Outcome analyses included 28,968 students and 1,029 teachers from 24 elementary schools, five K-8 schools, 10 middle schools, and nine high schools.

End-of-year English language arts (ELA) and math scores on the State of Texas Assessments of Academic Readiness (STAAR) were used to measure student outcomes. Evaluation questions investigated whether Nearpod implementation was associated with better student performance at the end of the school year. Researchers used descriptive and correlational analytic approaches, which included student-level covariates (including prior achievement when available) to control for selection bias. Multilevel models were calculated where appropriate to account for student clustering in educator classrooms.

Main Implementation and Research Findings

Educator usage. In the 2021-22 school year, educators in the district that used Nearpod (n = 4,020) were active for an average of 10 weeks. During the weeks they were active on the platform, educators launched an average of 4 sessions. A subset of Nearpod users (n = 1,029) were matched to students in grades 3 through 12 based on availability of spring 2021 and 2022 STAAR ELA and/or math assessment data. Educators included in the analytic sample were active on Nearpod for an average of 15 weeks and launched an average of 4 sessions during active weeks.

Student outcomes. After controlling for key covariates (including prior achievement when available), analyses revealed a pattern of positive associations between Nearpod implementation and student performance. Results suggest that, on average, students in classrooms where educators used Nearpod more consistently scored higher on end-of-year STAAR assessments. Implementation of Nearpod was most strongly associated with ELA and math outcomes in grades 3 through 8.

Overview of Key Findings

More than 4,000 district educators used Nearpod during the 2021-22 school year.

- On average, district K-12 educators (*n* = 4,020) were active on Nearpod for 10 weeks of the study period and launched an average of 4 sessions per active week.
- Educators matched to student ELA and math STAAR assessment data in grades 3 through 12 (*n* = 1,029) were active for an average of 15 weeks of the study period and launched an average of 4 sessions per active week.

After controlling for key covariates, students in classrooms where educators used Nearpod more received higher scores on end-of-year STAAR assessments.

- Implementation of Nearpod was most strongly associated with ELA and math outcomes in grades 3 through 8.
- Both consistency and weekly frequency of Nearpod usage were positively associated with ELA and math performance for students in grades 3 through 5.
- Consistency of Nearpod usage was positively associated with ELA performance for students in grades 7 through 10. Average weekly frequency of sessions was positively associated with ELA and math performance in grades 6 and 8.

Compared to less consistent users, more active weeks and higher weekly session frequency were associated with better end-of-year ELA and math scores in grade 4.

- Launching more weekly sessions was most strongly associated with better end-of-year grade 4 STAAR assessment scores when educators were active on Nearpod for six or more weeks.
- Consistent use of Nearpod was a particularly strong indicator of the relationship between average weekly frequency of sessions and end-of-year grade 4 math scores.

Results suggest that higher average weekly Nearpod usage provided unique benefits for students identified as English learners.

- English learners outperformed their English fluent peers in grade 5 math when educators launched 10 or more sessions per active week.
- Higher weekly frequency of sessions was associated with a smaller gap between English learner and English fluent performance in grade 9 ELA.

Conclusions

This study provides results satisfying ESSA evidence requirements for Level III (Promising Evidence). In the future, Nearpod could consider leveraging implementation findings in this high-usage district to inform design of a quasiexperimental study to satisfy ESSA Level II (Moderate Evidence) and What Works Clearinghouse (WWC) requirements.

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Introduction

Teachers, especially those in the beginning of their careers, 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 in an effort to support student motivation, participation, engagement, and active learning (see logic model in Appendix A; Hunt, Cavanaugh, & Henschel, 2022).

As part of their ongoing efforts to demonstrate the efficacy, Nearpod contracted with LearnPlatform by Instructure, a third-party edtech research company, to examine the relationship between usage of Nearpod and outcomes for students. LearnPlatform designed the study to satisfy Level III requirements (Promising Evidence) according to Every Student Succeeds Act (ESSA, 2015).

The current study had the following research questions:

1. Was Nearpod implementation associated with higher student scores on end-of-year ELA and math STAAR assessments?
2. Did the relationship between the average weekly frequency of Nearpod sessions and student STAAR scores differ by consistency of usage?
3. Did the relationship between the average weekly frequency of Nearpod sessions and student STAAR scores differ for English learner students?

Methods

This study was designed to align with ESSA Level III evidence standards (ESSA, 2015; USDE, 2016). Researchers used descriptive and correlational analyses to investigate the relationship between patterns of Nearpod usage and student outcomes. All correlational analyses included student-level covariates (including prior achievement when available) to control for selection bias. Additional information on the study design and methods appears in Appendix B.

Study Context

The evaluation describes district wide 2021-22 Nearpod implementation in a large, urban school district in Texas. Outcome analyses included 28,968 students and 4,020 teachers from 24 elementary schools, five K-8 schools, 10 middle schools, and nine high schools. Nearpod implementation data from the beginning of the school year until end of year testing (August 2021 through May 2022) were included for analysis.

Participants

From the total number of K-12 Nearpod users in the district, (*n* = 4,020) a subset (*n* = 1,029) were matched to students in grades 3 through 12 based on availability of spring 2021 and 2022 STAAR ELA and/or math assessment data. Researchers identified an analytic sample of 9,356 elementary-level students (grades 3 through 5) and 19,406 secondary-level students (grades 6 through 12). Among students with spring 2021 and 2022 STAAR scores, nearly all were in classrooms where educators were active on Nearpod for at least one week of the study period (95% of elementary students and 100% of secondary students in either ELA or math).

Measures

Analyses incorporated Nearpod data with student assessment and demographic data shared by the district partner to provide insights into implementation and the association between usage and student outcomes.

Nearpod implementation metrics. Educator usage of Nearpod was measured from the beginning of the school year through the beginning of end-of-year testing (August 2021 – May 2022). Researchers used two primary metrics to characterize educator usage: the total number of active weeks and the average number of sessions launched per active week. Usage data was used to describe the extent to which students were in classrooms with educators that used Nearpod during the 10-month studeny period.

Standardized student assessments. Researchers used end-of-year ELA and math STAAR assessment scores as measures of student performance. Descriptives for grade-level pre- and post-STAAR assessment scores are provided in Appendix B. Among those who took the spring 2022 STAR ELA test, 62% (*n* = 17,968) were missing a spring 2021 pre-test. Among students who took the spring 2022

STAAR math assessment, 26% (*n* = 5,970) were missing a spring 2021 pre-test. The high amount of missingness is due to school closures and student absences during the COVID-19 pandemic.

Student demographics. Detailed grade-level demographics for students included in the study are presented in Appendix B. Among elementary school students, 92% of students were Hispanic. One third (33%) were designated as English learners and 71% were designated as low income. Secondary students were demographically similar: 92% identified as Hispanic, 27% were designated as English learners, and 70% were designated as low income.

Data Analysis

Researchers used descriptive statistics to describe Nearpod usage in terms of active weeks and average number of sessions during active weeks. Analyses included student prior achievement (when available), English learner (EL) status, low-income status, ethnicity, and gender as covariates to control for potential selection bias. Pairwise correlations and multilevel regression analyses were used to examine the association between Nearpod usage and student outcomes. Two-level multilevel models were designed to account for student clustering in educator classrooms.

Program Implementation

Nearpod usage data drawn from the beginning of the school year through the beginning of end-of-year testing (August 2021 through May 2022) in the partnering school district is described below. Researchers analyzed usage metrics at the educator level as a measure of the extent to which elementary and secondary students used Nearpod in their ELA and math classrooms. Tables summarizing usage are rounded to the nearest whole number for ease of interpretation.

Overall district usage. 4,020 K-12 educators in the district used Nearpod during the 10-month study period. On average, teachers were active on Nearpod for 9.99 weeks (about 2 and a half months) of the study period (*SD* = 9.87). During the weeks they were active on the platform, educators launched an average of 3.67 sessions (*SD* = 3.83). An average of 69 students (*SD* = 91.75) joined sessions during active weeks, and students collectively submitted an average of 251.70 activities (*SD* = 460.27).

Usage among educators matched to student assessment data. The primary analytic sample for the study was determined by availability of end-of-year ELA and math STAAR assessment data for students in grades 3 through 12 from the 2020-21 and 2021-22 school years. Students with assessment data were linked to 1,029 educators that used Nearpod during the study period.

Teachers in the analytic subset were active on Nearpod for an average of 14.99 weeks (about 3 and a half months) of the study period (*SD* = 9.99). During the weeks they were active on the platform, educators launched an average of 4.14 sessions (*SD* = 3.61). An average of 73 students (*SD* = 72.71) joined sessions during active weeks, and students collectively submitted an average of 276.23 activities (*SD* = 419.78) for educator review.

Table 1: Summary of 2021-22 Nearpod implementation in study district

	All district educators with usage (*n* = 4,020)		District educators matched to student assessment data (*n* = 1,029)	
Number of:	**Mean**	**Range**	**Mean**	**Range**
Active weeks	10	1 – 38	15	1 – 36
Sessions launched	4	1 – 47	4	1 – 37
Student joins	69	1 – 1,082	73	1 – 779
Activity submissions	252	0 – 9,270	281	0 – 6,603

Elementary educator usage. A total of 507 elementary student educators (93% of the teacher sample) used Nearpod during the study period. Third, fourth, and fifth grade teachers were active on Nearpod for an average of 16.35 weeks (about three and a half months) of the school year (*SD* = 9.94). During the weeks they were active on the platform, educators launched an average of 3.47 sessions (*SD* = 2.34). An average of 51 students (*SD* = 37.98) joined sessions during active weeks, and they collectively submitted an average of 192.75 activities (*SD* = 170.64) during the study period.

Secondary ELA educator usage. A total of 299 secondary ELA student educators (88% of the teacher sample) used Nearpod during the study period. ELA teachers of students in grades 6 through 12 were active on Nearpod for an average of 15.67 weeks (about three and a half months) of the school year (*SD* = 9.78). During the weeks they were active on the platform, educators launched an average of 5.20 sessions (*SD* = 4.79). An average of 103 students (*SD* = 98.33) joined sessions during active weeks and collectively submitted an average of 352.05 activities (*SD* = 435.46) during the study period.

Secondary math educator usage. A total of 223 secondary math educators (83% of the teacher sample) used Nearpod during the study period. Due to minimal usage among math educators of grade 11 and 12 students, analyses were restricted to grades 6 through 10.

Math teachers of students in grades 6 through 10 were active on Nearpod for an average of 11.03 weeks (about two and half months) of the study period (*SD* = 9.14). During the weeks they were active on the platform, educators launched an average of 4.23 sessions (*SD* = 3.83). An average of 80 students (*SD* = 76.57) joined sessions during active weeks, and students collectively submitted an average of 364.35 activities (*SD* = 680.93) during the study period.

Table 2: Nearpod implementation among educators matched to student assessment data by grade band and subject

	Elementary (*n* = 507)		Secondary ELA (*n* = 299)		Secondary math (*n* = 223)	
Number of:	**Mean**	**Range**	**Mean**	**Range**	**Mean**	**Range**
Active weeks	16	1 – 35	16	1 - 36	11	1 – 33
Sessions launched	3	1 – 18	5	1 - 37	4	1 – 26
Student joins	51	1 – 256	103	1 - 779	80	1 – 535
Activity submissions	193	0 – 901	352	0 – 5,141	364	0 – 6,603

Researchers grouped educators by level of Nearpod implementation based on average usage values by grade band and subject.[1] The number of total active weeks and the average number of sessions during active weeks were grouped as below average (more than one standard deviation below the mean), average (within one standard deviation above or below the mean), or above average (more than one standard deviation above the mean).

Table 3: Average number of active weeks and sessions launched per active week by usage group and grade-level

	Elementary (*n* = 507)			Secondary ELA (*n* = 299)			Secondary math (*n* = 223)		
Nearpod usage groups	**n**	**Mean**	**Range**	**n**	**Mean**	**Range**	**n**	**Mean**	**Range**
Consistency: Number of active weeks									
Below average	102	3	1 – 5	71	3	1 – 6	38	2	1 – 2
Average	289	16	6 – 26	170	16	7 – 25	144	9	3 – 20
Above average	116	30	27 - 35	58	30	26 – 36	41	27	21 - 33
Weekly frequency: Average number of sessions launched per active week									
Below average	60	1	0 - 1	26	1	0 - 1	35	1	0 – 1
Average	396	3	2 – 6	250	5	2 – 10	168	4	2 – 8
Above average	51	7	7 – 16	23	18	11 – 37	20	14	9 – 26

Consistency of usage groups. The number of active weeks for Nearpod users matched to students in the study ranged from 1 to 36. On average, elementary educators were active on Nearpod for 16 weeks during the study. Educators with above average consistency were active for between 27 and 35 weeks. Similar to elementary-level educators, secondary ELA Nearpod users were active for an average of 16 weeks of the study period. On average, secondary math educators tended to use Nearpod less consistently, with most active for 9 weeks of the study period.

Weekly frequency of usage groups. The average number of Nearpod sessions launched during active weeks for users matched to students in the study ranged from zero to 37. Average weekly sessions frequency was similar across grade bands: elementary educators launched an average of 3 sessions per week, secondary ELA educators launched 5, and secondary math educators launched 4. However, the above average groups extended to a higher range among secondary educators, suggesting that more active secondary users tended to launch more sessions per week than elementary educators.

[1] Ranges were calculated based on district usage. Implementation results do not reflect Nearpod recommendations.

Findings

The following sections detail overall findings, analyses by subgroup, and the relationship between Nearpod usage and student performance on grade-level end-of-year ELA and math STAAR assessments. Researchers used descriptive statistics, correlations, and multilevel linear models to analyze whether Nearpod implementation was associated with better student outcomes.

In figures summarizing results, statistically significant values are noted by inclusion of an asterisk. For students in grades 4 through 12, analyses controlled for student 2020-21 end-of-year assessment performance, English learner (EL) status, low-income status, ethnicity (Hispanic/non-Hispanic), and gender. Since grade 2 students do not participate in STAAR testing, grade 3 analyses did not include prior achievement as a covariate, but all other student characteristics were included as controls for selection bias. Appendix B provides additional description of analytic procedures and results.

Was Nearpod implementation associated with higher student scores on end-of-year ELA and math STAAR assessments?

Nearpod implementation and elementary student performance. Examination of pairwise correlations revealed a pattern of positive, statistically significant ($p < .05$) associations between Nearpod usage and student scores on grade-level ELA and math STAAR assessments. On average, students in classrooms where educators used Nearpod more performed better in both subjects. These results are presented in Figures 1 and 2. Grade-level correlation tables are provided in Appendix C.

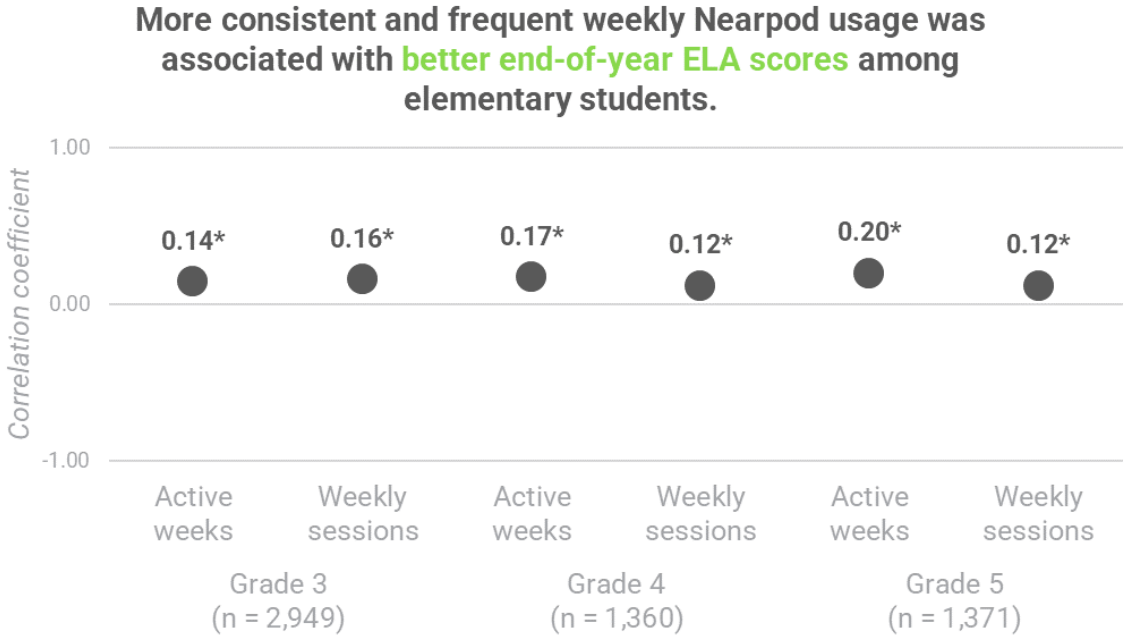

Figure 1: Pairwise correlations between total active weeks and average weekly session frequency and elementary student ELA STAAR scores

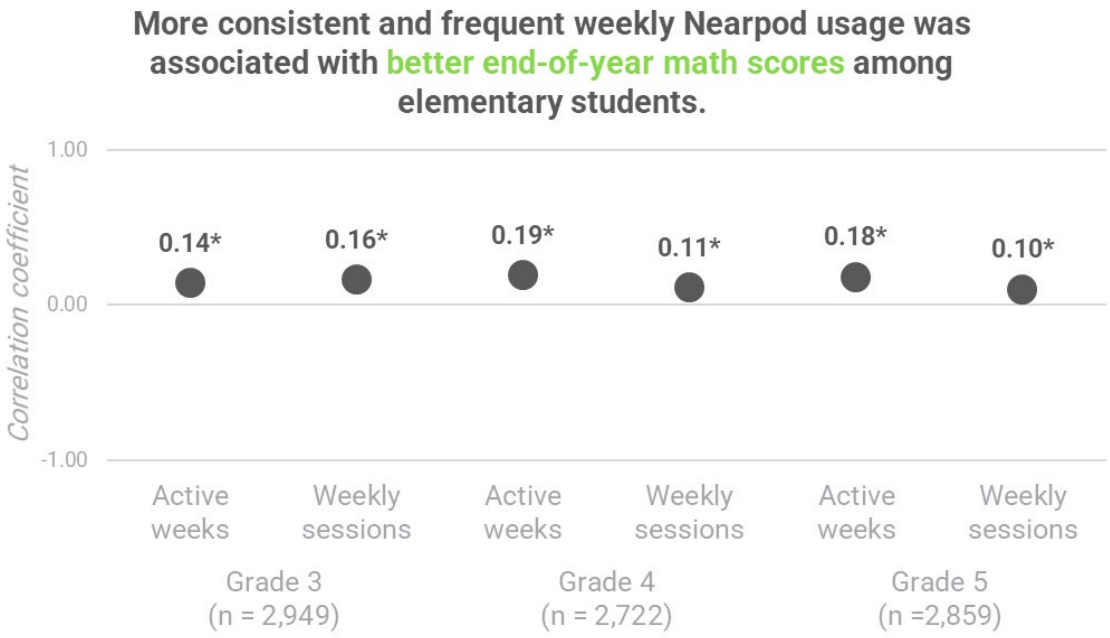

Figure 2: Pairwise correlations between total active weeks and average weekly session frequency and elementary student math STAAR scores

Nearpod implementation and secondary student ELA performance. Pairwise correlations revealed a significant relationship between Nearpod implementation and secondary student ELA scores in grades 6 through 10. Results showed positive, statistically significant ($p < .05$) associations between total active weeks (in grades 7 through 10), weekly session frequency (in grades 6 and 8), and student performance. These results are presented in Figures 3 and 4. Grade-level correlation tables are available in Appendix D.

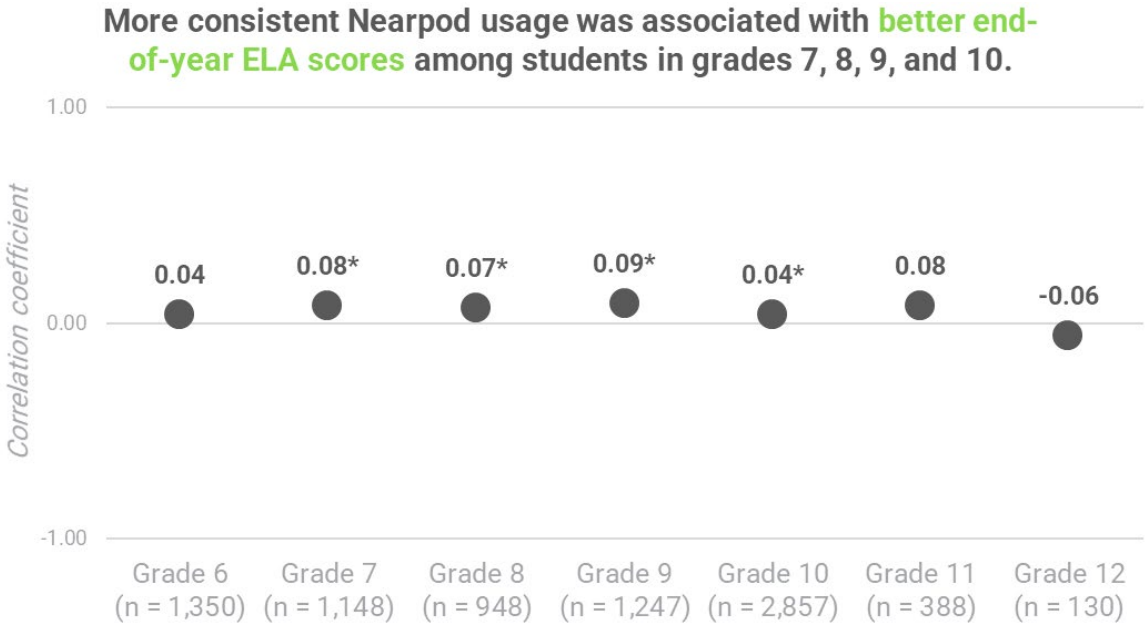

Figure 3: Pairwise correlations between total active weeks and secondary student ELA STAAR scores

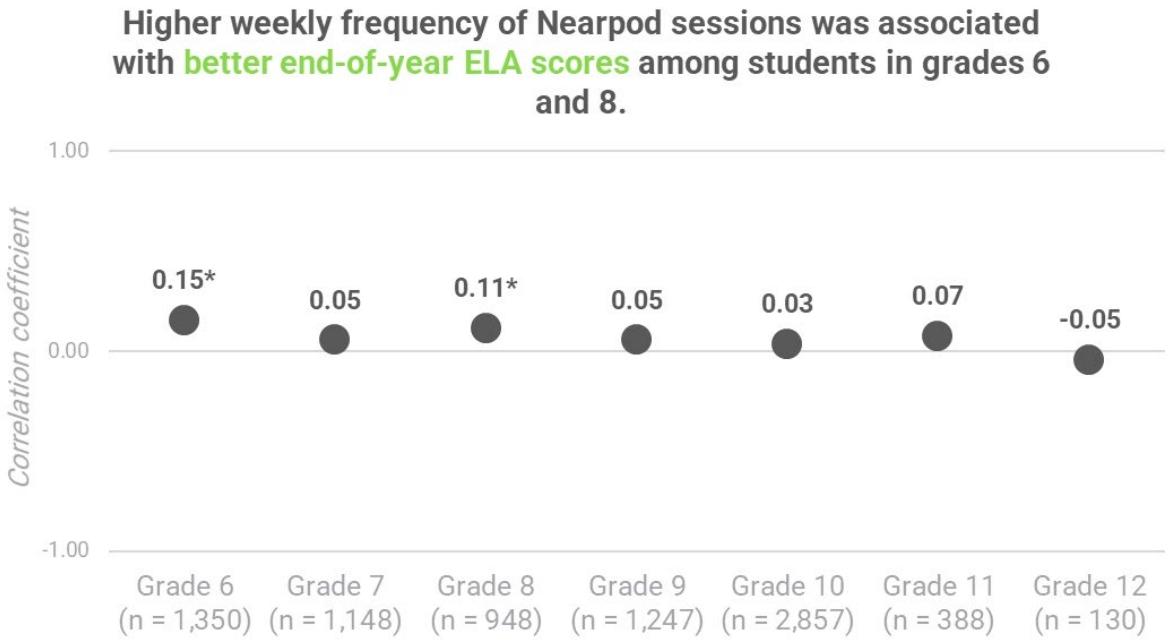

Figure 4: Pairwise correlations between average weekly session frequency and secondary student ELA STAAR scores

Nearpod implementation and secondary student math performance. Correlations between usage and secondary student math scores yielded mixed results. No consistent pattern was observed in the correlations among number of active weeks and secondary student math scores. However, results did show a positive, statistically significant ($p < .05$) association between average weekly session frequency and math scores for students in grades 6 and 8. Results are presented in Figure 5. Grade-level correlation tables are available in Appendix D.

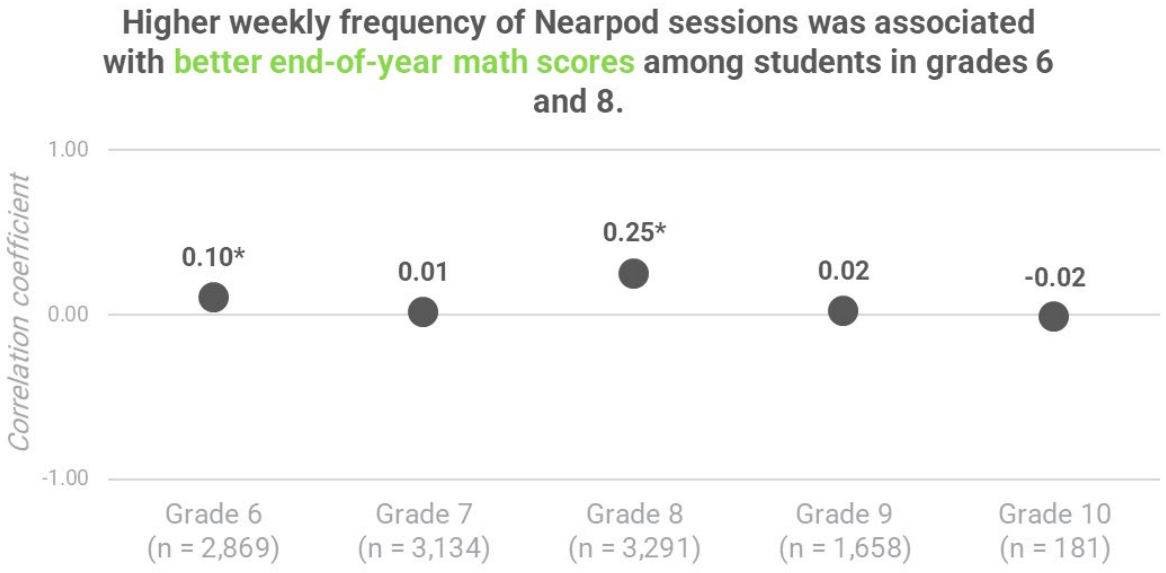

Figure 5: Pairwise correlations between weekly session frequency and secondary student ELA STAAR scores

Did the relationship between the average weekly frequency of Nearpod sessions and student STAAR scores differ by consistency of usage?

Multilevel regression analyses tested for grade-level interactions between consistency of Nearpod usage and average weekly number of sessions to further probe the relationships observed in the previous section. The interaction compared the relationship between average weekly number of Nearpod sessions and student scores by consistency of usage (i.e., below average, average, or above average). Interpretation of the significant positive results among grade 4 students on ELA and math outcomes appears in the text and figures below. The full model results are presented in Appendix E.

These analyses were not conducted for grade 3 students in either ELA or math as pretest data were not collected when students were in grade 2. The interaction between consistency of usage and weekly session frequency was not significant for the remaining ELA (grade 5 and 7-10) or math (grade 5, 6, & 8) outcomes.

Usage patterns among grade 4 educators. Analyses revealed positive, significant ($p < .05$) interactions between consistency of Nearpod usage and weekly session frequency in predicting student performance on grade 4 end-of-year STAAR assessments. These results indicate that launching more weekly sessions produced the best outcomes when educators made Nearpod a consistent part of their instruction throughout the study period. The Hedges *g* (Hedges, 1981) effect sizes in Figure 6 reflect the comparison between the respective groups to those who were low consistency users (that is, educators who were active on Nearpod for five or fewer weeks of the study period).

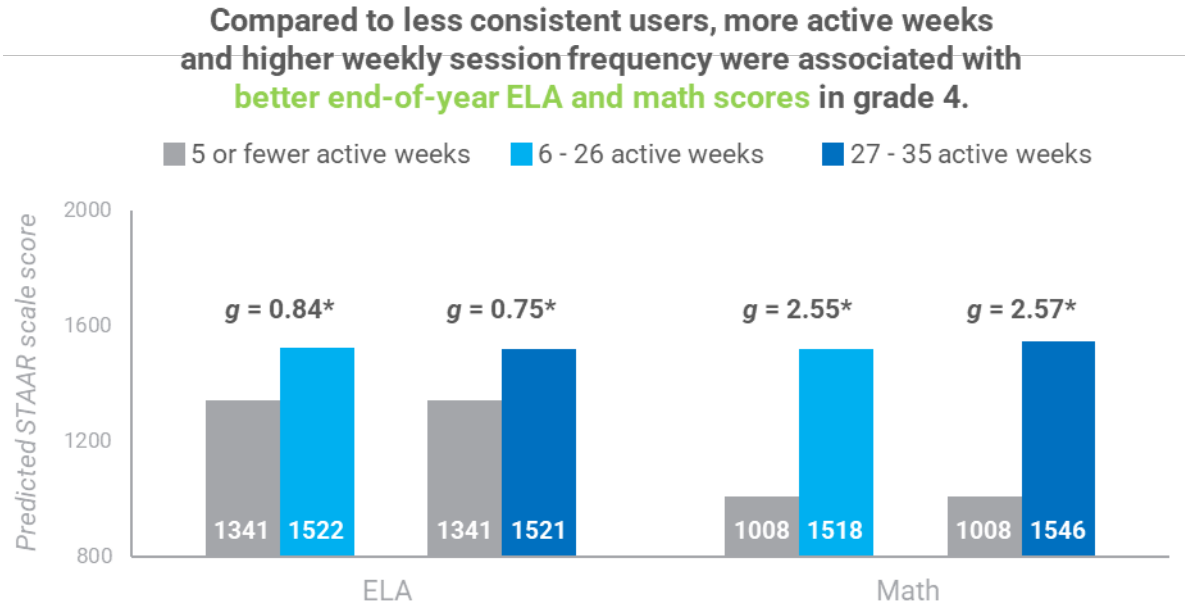

Figure 6: Significant interaction between consistency and weekly session frequency predicting grade 4 ELA and math STAAR scores

Did the relationship between the average weekly frequency of Nearpod sessions and student STAAR scores differ for English learner students?

Multilevel regression analyses tested for an interaction between student demographics and average weekly number of sessions to further probe the positive associations among Nearpod usage and student outcomes. Interpretation of the significant positive results among grade 5 math and grade 9 ELA outcomes appear in the text and figures below. The full model results for these analyses are presented in Appendix E.

The interaction between student demographics and weekly number of sessions was not significant for the remaining ELA (grade 4 – 8 and 10) or math (grade 4 – 6 and 8) outcomes that were significant in the prior results. These analyses were not reviewed for grade 3 students in either ELA or math as pretest data were not collected when students were in grade 2.

Grade 5 educators. Multilevel analyses revealed a positive, significant ($p < .05$) interaction between English learner status and weekly frequency of Nearpod usage in predicting grade 5 student math performance. The interaction compared outcomes associated weekly number of Nearpod sessions and performance of English learner and English fluent students. The effect sizes in Figure 7 reflect the comparison between the respective groups by average weekly number of sessions.

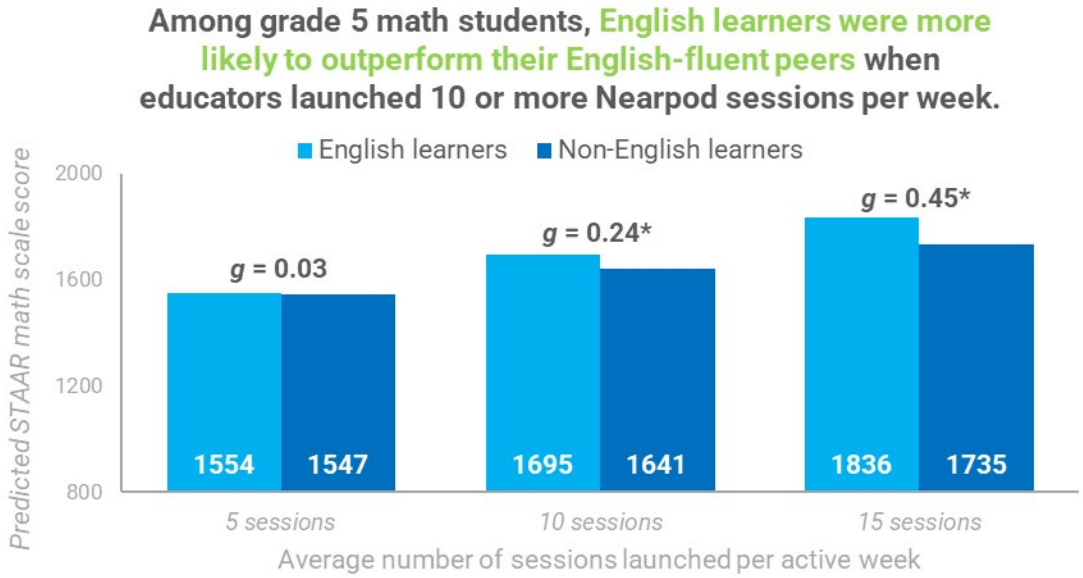

Figure 7: Significant interaction between English learner status and weekly session frequency predicting grade 5 math STAAR scores

Grade 9 ELA educators. Multilevel regression analysis revealed a positive, significant ($p < .05$) interaction between English learner status and weekly session frequency in predicting grade 9 student ELA performance. The interaction compared outcomes associated with average weekly number of Nearpod sessions and performance of English learners and English fluent students. The effect size in Figure 8 reflects the comparison between the groups by weekly sessions frequency. The delta represents the difference in predicted mean STAAR scores for each group.

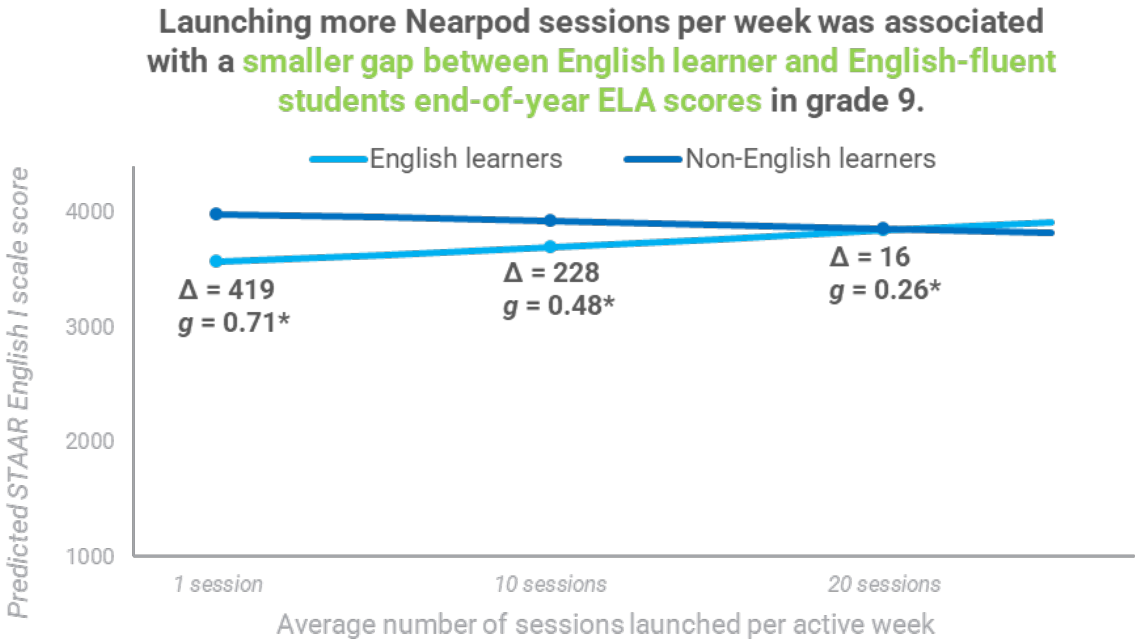

Figure 8: Significant interaction between English learner status and weekly session frequency predicting grade 9 ELA STAAR scores

Conclusions

Based on the observed patterns of positive, significant associations between Nearpod usage and student ELA and math outcomes, this study provides results to satisfy ESSA evidence requirements for Level III (Promising Evidence). Specifically, this correlational study met the following criteria for Level III:

- ✓ Proper design and implementation
- ✓ Statistical controls through covariates
- ✓ At least one statistically significant, positive finding

In the future, Nearpod could consider leveraging implementation findings in this high-usage district to inform design of a quasiexperimental study to satisfy ESSA Level II requirements (Moderate Evidence). This could include further probing differences in how educators of different subjects and grade levels use Nearpod and bringing additional context to the content, duration, and interactivity of sessions launched. Future causal analyses might focus on grades 3 through 8, which were most strongly associated with better student outcomes in this high-use district.

Recommended Next Steps

For next steps, we recommend the following:

- Explore subject and grade-level implementation in greater depth. Results showed that most district educators used Nearpod, and that there was variation by group. Future studies could continue to build evidence for use-cases specific to different subjects or grade levels.
- Consider other student and teacher outcomes. This study used end-of-year standardized assessment scores as the outcome measure. Future research could explore the relationship between implementation and other student outcomes (e.g., formative assessment performance, GPA) or teacher outcomes (e.g., burnout, retention).
- Leverage program strengths for supporting English learners. Analyses pointed to possible unique benefits of Nearpod implementation for students learning English. Results can support implementation by providing evidence-based recommendations to practitioners and future research could further probe this relationship to build on existing knowledge.
- Use results to inform causal study design. Results indicate that the association between Nearpod usage and student ELA and math outcomes was strongest in grades 3 through 8. Consider restricting recruitment and analyses for causal studies to these grade-levels to maximize the probability of finding significant effects.
- Increase capacity for evaluating student usage. For this study, educator usage data was used to describe the extent to which students were in classrooms with educators who used Nearpod. Student-level data would provide more precise insight into when and how student use of Nearpod contributed to their performance.

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