



ESCUELA SMART ACADEMY

A TPS SCHOOL

LEARN KERNEL PILOT REPORT

DEC 2025- JUNE 2026



Prepared For :

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EXECUTIVE SUMMARY

OVERVIEW

This report summarizes the results of the Learn Kernel pilot program conducted with 3rd and 4th grade students at Escuela SMART Academy in Toledo, Ohio. The pilot was designed to address two critical educational challenges: the digital divide and the need to improve foundational literacy, reading comprehension, English Language Arts (ELA), and mathematics skills among elementary students.

PROBLEM STATEMENT

Research consistently shows that students who are not reading proficiently by the end of third grade face significantly greater challenges in future academic achievement, high school graduation, workforce readiness, and long-term economic opportunity. At the same time, many students lack consistent access to educational technology and learning resources outside of the classroom, limiting opportunities for continued learning and skill development.

PROPOSED SOLUTION

To help address these challenges, Learn Kernel provides students with portable, offline-capable learning devices preloaded with educational content designed to reinforce classroom instruction and support independent learning. The devices enable students to access educational materials both in school and at home, regardless of internet connectivity, helping to extend learning beyond the traditional classroom environment.

ESA PILOT

The pilot demonstrates encouraging results in student engagement and learning outcomes. Survey data indicates strong levels of device usage, with most students utilizing the device multiple times per week. A significant majority of students reported learning new information and developing a better understanding of educational topics through the device. Feedback from students, educators, and school leadership suggests that the Learn Kernel platform served as a valuable supplement to classroom instruction while increasing access to educational resources.

Overall, the pilot highlights the potential of Learn Kernel as a scalable, cost-effective solution for supporting literacy, mathematics achievement, digital equity, and student engagement. The results demonstrate how accessible educational technology can help bridge learning gaps, reinforce foundational skills, and create greater opportunities for academic success both inside and outside the classroom.

PILOT SUMMARY

OVERVIEW

The Learn Kernel pilot demonstrates a meaningful positive impact on student achievement across both third and fourth grades, highlighting the importance of early intervention and language-accessible instruction in supporting academic success. Across 40 participating students, **89.2% met or exceeded the program's growth benchmark, with overall academic performance increasing by 23.6%.** Students demonstrated significant gains in both English Language Arts (ELA) and Mathematics, **with ELA performance increasing by 26.5% and Math performance increasing by 20.3%.**

These results indicate that Learn Kernel effectively strengthened foundational literacy and numeracy skills that are critical for long-term academic success. The findings are particularly important given the well-documented relationship between early literacy and future achievement. Third grade represents a critical milestone as students transition from learning to read to reading to learn. The pilot shows that targeted instructional support can accelerate learning and help students build the foundational skills necessary to succeed in upper elementary grades. Strong gains in reading comprehension, vocabulary development, and mathematical reasoning suggest that students were better prepared to engage with increasingly complex academic content.

The Pilot models the value of providing language-accessible learning opportunities for multilingual learners. Results suggest that many students possessed strong academic potential but faced barriers in demonstrating their knowledge due to language limitations rather than academic ability. By providing instruction and support in both English and Spanish, students were able to access grade-level content more effectively, strengthen comprehension, and demonstrate higher levels of academic achievement. These findings reinforce that many multilingual learners are not limited by ability, but by language access.

In conclusion, the Learn Kernel pilot demonstrates that bilingual, technology-supported instruction can improve student outcomes, strengthen literacy and math achievement, and support more consistent academic growth across diverse learners. These findings highlight the value of investing in early intervention, language-accessible supports, and targeted learning technologies to advance student achievement and educational equity.

Learn Kernel Pilot Performance Report

2026

This report reviews the implementation and outcomes of Learn Kernel's pilot program at Escuela Smart Academy, a Toledo Public School (TPS). It highlights key findings related to student engagement, learning outcomes, language accessibility, and program usage. Additionally, the report examines performance results and lessons learned to inform future program development, implementation, and expansion.

Key Insights

- 1 Improved Student Comprehension
- 2 Accelerated English Language Development
- 3 Growth in English Language Arts (ELA) Achievement
- 4 Improved Mathematics Performance

Transformative Student Outcomes

The Learn Kernel pilot demonstrated meaningful improvements in student comprehension across both grade levels, with students showing stronger understanding of academic content and assessments. Data indicates that nearly half of students required Spanish language support to fully access instruction, reinforcing the importance of bilingual learning environments. Students also showed measurable gains in English Language Arts and Mathematics, reflecting improved literacy development, problem-solving skills, and academic engagement. These findings highlight the value of language-accessible instruction in promoting equitable academic achievement and ensuring students can fully demonstrate their learning.

Key Stats



+23.6%

Overall Improved
Academic Performance



47.2%

Nearly Half Needed
Spanish Support



+26.5%

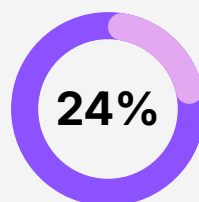
Growth in ELA
Scores



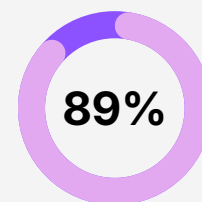
+20.3%

Growth in
Math Scores

KEY Trend Snapshot



Learn Kernel delivered consistent academic gains, resulting in a 23.6% increase in overall performance across Grades 3 and 4 combined.



Learn Kernel produced consistent academic gains, with 89% of Grade 3 and Grade 4 students meeting or exceeding their growth targets.

Campaign Performance Summary

- Stronger Content Comprehension
- Faster English Acquisition
- Higher ELA Performance
- Improved Math Outcomes

LEARN KERNEL DEMOGRAPHICS

Grade 3 Gender Breakdown

Audience Demographic- 3rd

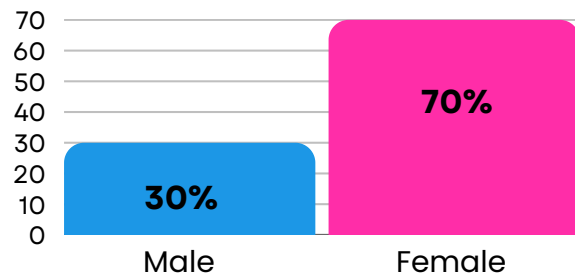


6 Male



14 Female

Gender Distribution



In Grade 3, the Learn Kernel pilot population was predominantly female, with 30% of students identifying as boys and 70% as girls. This distribution provides important context for interpreting engagement and learning outcomes within the cohort.

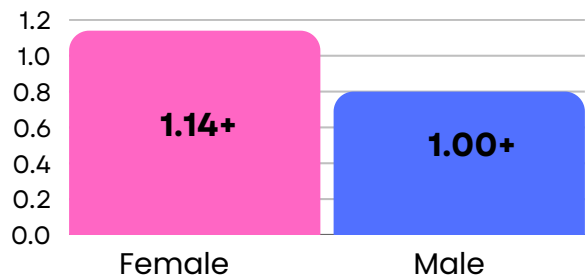
The higher proportion of female students reflects the overall composition of the group rather than a performance difference between genders. Within this structure, both boys and girls participated in the program and demonstrated learning growth, suggesting that Learn Kernel supported academic development across genders. The results indicate that engagement and learning gains were not limited by gender, but rather reflected consistent access to instruction and participation across the full student population.

Performance and compare genders

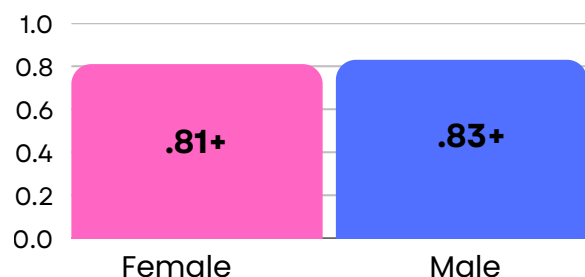
Key Insights

- Both genders demonstrated strong academic growth across ELA and Math.
- Females showed slightly higher overall performance in both ELA and combined scores.
- Males showed nearly equal Math growth, indicating strong parity in numeracy gains.
- Differences between genders were small and consistent, suggesting Learn Kernel supported equitable learning outcomes across gender groups in Grade 3.

ELA Academic Growth by Point Increase



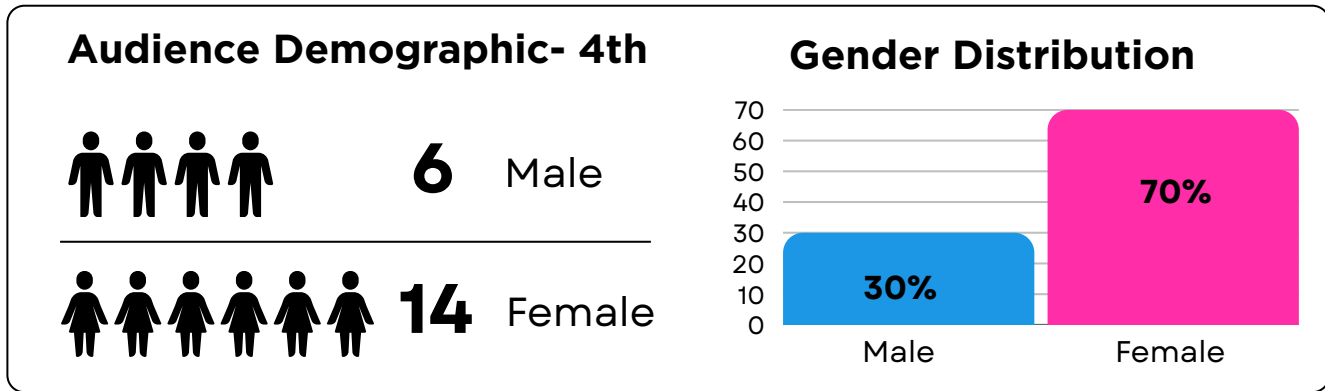
Math Academic Growth by Point Increase



Growth (Pretest → Test 2)

LEARN KERNEL DEMOGRAPHICS

Grade 4 Gender Breakdown



In Grade 4, the gender distribution mirrored Grade 3, with 30% of students identified as boys and 70% as girls. This consistency across both grade levels provides a stable baseline for interpreting overall program outcomes.

The data suggests that Learn Kernel supported learning across a similarly structured student population, allowing for comparable analysis of engagement and achievement. Within this cohort, both male and female students were represented in the learning process and contributed to overall academic gains. These findings indicate that Learn Kernel's impact was applied broadly across gender groups, with no evidence of gender-based disparities in participation or access to learning opportunities.

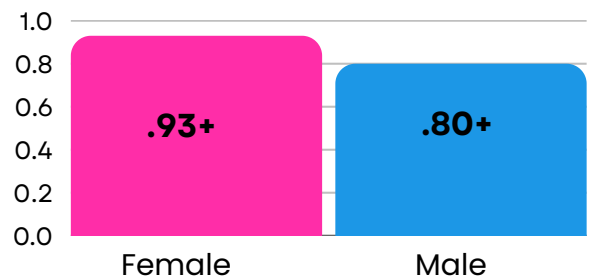
Performance and compare genders

Key Insights

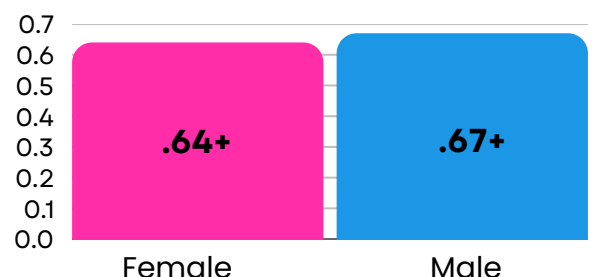
- Both genders demonstrated academic growth across ELA and Math.
- Females showed slightly higher overall performance in ELA and combined scores.
- Males showed comparable Math growth, nearly matching female gains.
- Performance differences between genders were small and not statistically large, suggesting Learn Kernel supported equitable learning outcomes across gender groups.

Growth (Pretest → Test 2)

ELA Academic Growth by Point Increase



Math Academic Growth by Point Increase



3RD AND 4TH GRADE COMBINED DEMOGRAPHICS

Audience Demographic

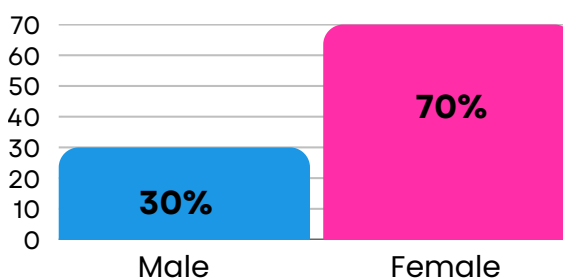


12 Male

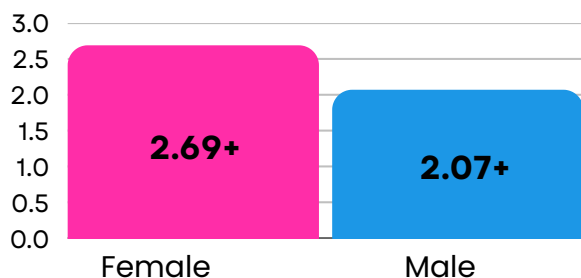


28 Female

Gender Distribution



Growth (Pretest → Test 2)



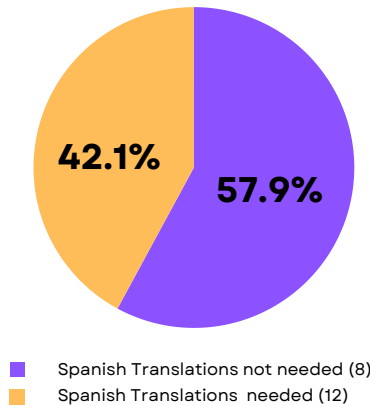
Across Grades 3 and 4, students demonstrated consistent academic growth from pretest to post-assessment, with females showing a +2.69 point increase and males a +2.07 point increase, indicating strong and relatively balanced learning gains across genders.

Key Takeaways

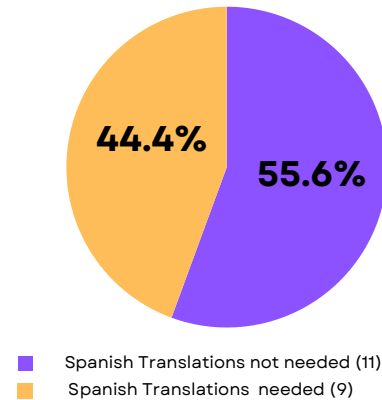
- Both male and female students demonstrated strong academic growth across Grades 3 and 4.
- Females showed slightly higher overall academic gains, with a +2.69 point increase compared to +2.07 for males.
- Males also demonstrated meaningful improvement, exceeding a 2-point average growth threshold.
- The difference in growth is modest, suggesting Learn Kernel supported equitable academic improvement across genders.

GRADE 3 AND 4 SNAPSHOTS

3rd grade Spanish Support for Comprehension



4th grade Spanish Support for Comprehension



Language Access as a Key Driver of Performance

There were a total of 40 kids (20 in each grade). The data suggests that students who had access to bilingual, language-supported instruction were better able to demonstrate their academic knowledge. Many multilingual learners showed stronger comprehension and higher performance when language barriers were reduced, reinforcing that observed gaps were largely related to language access rather than academic ability.

The data indicates that nearly half of students across Grades 3 and 4 required Spanish language support to fully comprehend instructional content and assessments, highlighting the importance of bilingual instructional access in accurately measuring student knowledge and supporting academic success.

Grade 3

- **57.9% of students reported Spanish was not needed for comprehension**
- **42.1% required Spanish support.**

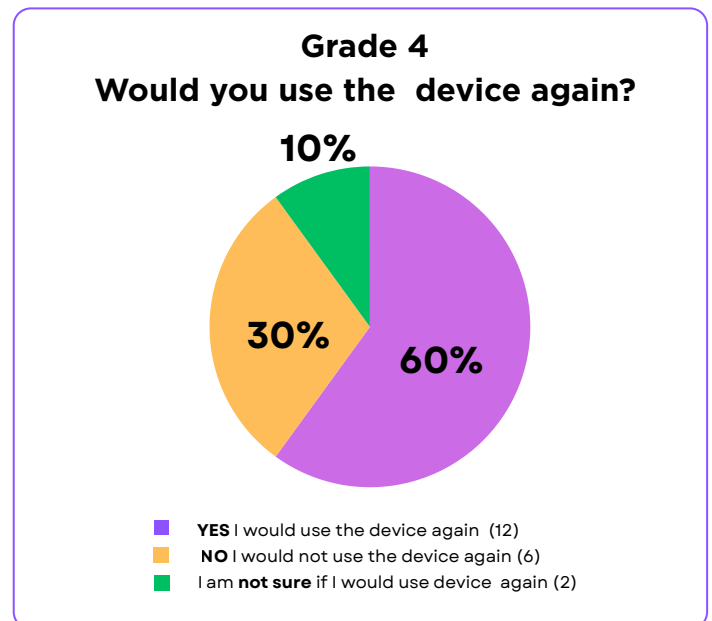
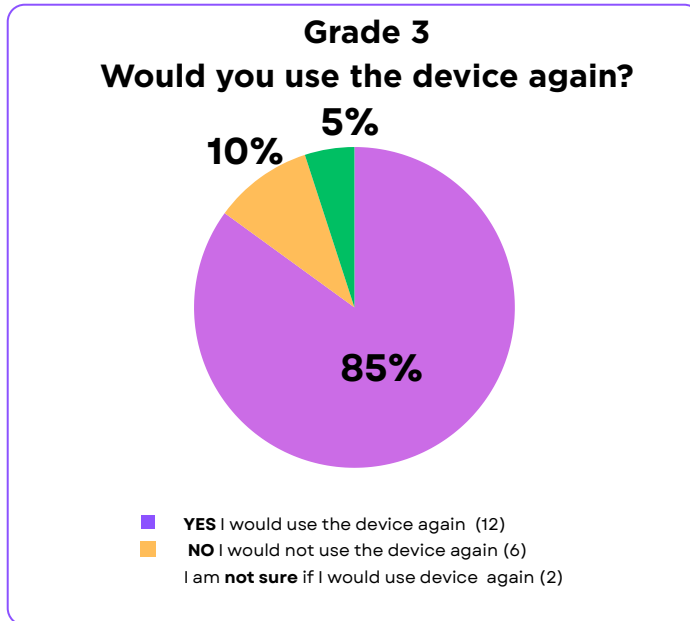
**42.1%**

Grade 4

- **55.6% of students reported Spanish was not needed for comprehension**
- **44.4% required Spanish support.**

**44.4%**

GRADE 3 AND 4 SNAPSHOTS



Learn Kernel Device Usage and Student Engagement (Grades 3 & 4)

The data shows strong overall acceptance of the Learn Kernel device across both grade levels, **with 72.5% of students overall indicating they would choose to use it again**. In Grade 3, **85% of students reported they would reuse the device**, reflecting very high engagement, strong satisfaction, and strong perceived learning value during a critical early literacy stage. In Grade 4, 60% of students also indicated they would use the device again, representing a clear majority and demonstrating continued relevance and usefulness of the device at a more advanced grade level.

These results highlight a strong overall pattern of student acceptance and usability across both grade levels. Grade 3 students showed higher engagement, which aligns with their stage of development where foundational literacy and numeracy skills are rapidly developing and students benefit significantly from structured, guided digital learning tools. Grade 4 students, while operating in a more advanced academic environment with higher expectations for independence and content mastery, still demonstrated majority willingness to reuse the device, indicating that Learn Kernel remained a meaningful and supportive learning resource even at a higher grade level.

Importantly, the findings suggest that increased engagement in Grade 3 is strategically significant, as early and consistent exposure to learning tools at this stage supports the development of core reading and math skills before students transition into more complex academic demands in fourth grade. At the same time, the Grade 4 results confirm that the platform maintains instructional value beyond early intervention, reinforcing its adaptability across grade levels.

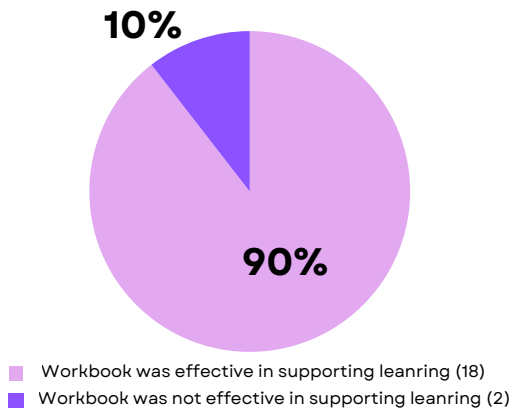
Overall, the results indicate strong cross-grade acceptance of Learn Kernel, with particularly high engagement in Grade 3 and solid majority adoption in Grade 4. These findings support the usability, relevance, and scalability of the platform as an instructional tool capable of supporting student learning across multiple elementary grade levels.

Grade 3 → **85% yes**

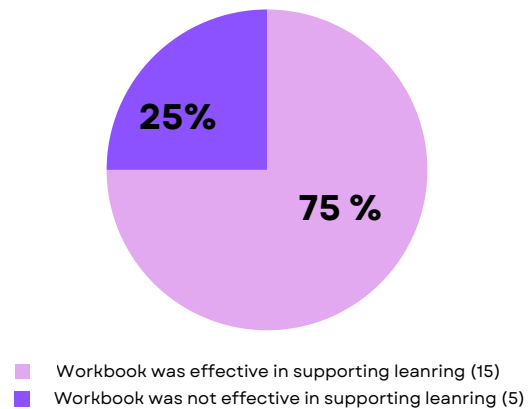
Grade 4 → **60% yes**

GRADE 3 AND 4 SNAPSHOTS

3rd-Grade Workbook Effectiveness: Supporting Student Achievement



4th-Grade Workbook Effectiveness: Supporting Student Achievement



Student Engagement and Workbook Effectiveness

There were a total of 40 kids (20 in each grade). The data indicates strong student engagement and perceived value of the Learn Kernel workbook across both grade levels. **In Grade 3, 90% of students reported that the workbook helped their learning and confirmed that they actively used it, demonstrating high levels of adoption and perceived instructional support.**

In Grade 4, 75% of students reported the same positive impact, showing meaningful but comparatively lower engagement. Across both grades, students also reported that video lessons paired with workbook follow-along activities helped maintain engagement and supported sustained attention during learning tasks. **Together, these results suggest that the combination of structured workbook practice and guided video instruction was effective in supporting student engagement and perceived learning, with stronger uptake observed in Grade 3 compared to Grade 4.**

Grade 3

- 90% of students reported workbook was effective for learning engagement
- 10% did not need the workbook

→ 90%

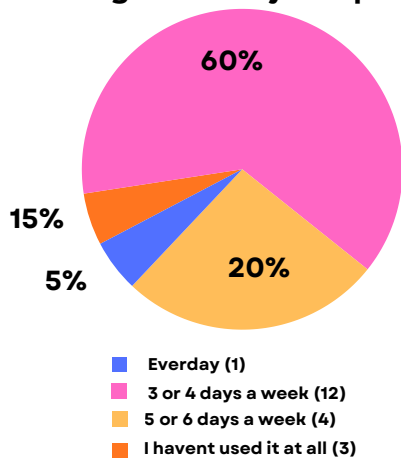
Grade 4

- 75% of students reported workbook was effective for learning engagement
- 25% did not need the workbook

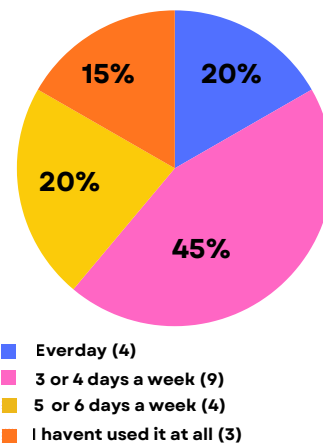
→ 75%

GRADE 3 AND 4 SNAPSHOTS

3rd grade -Percentage of Students Using the Learning Device by Frequency



4th grade -Percentage of Students Using the Learning Device by Frequency



Learn Kernel was actively used multiple days per week and supported consistent engagement linked to measurable academic growth.

Grade 4

A majority of grade 4 students reported they would use the Learn Kernel device again, indicating strong overall acceptance and sustained engagement with the platform. **In terms of usage frequency, 85% of students used the device 3–7 days per week, with the largest group (45%)**

using it 3 to 4 days weekly, and 20% reporting daily use or 5 to 6 days a week. This pattern suggests that Learn Kernel was not only well received but also regularly integrated into student learning routines, supporting consistent practice beyond single-session exposure.

Higher frequency of use was associated with stronger academic growth in ELA and Math. Students reporting higher device usage also demonstrated stronger academic improvement trends across both subjects. This suggests that sustained engagement with the platform may contribute to improved learning outcomes when used consistently over time. The pattern of repeated use indicates formation of consistent learning routines and shows that students built a repeated learning habit through ongoing interaction with the device.

Overall, the findings support consistent daily or near-daily integration of Learn Kernel and suggest that the device works best when embedded into weekly instruction rather than used intermittently. From an instructional perspective, the results align with key school priorities, including reading proficiency by Grade 3, intervention efficiency, multilingual learner support, and reduced learning gaps. These outcomes highlight Learn Kernel's potential role as a scalable instructional tool that supports both consistent engagement and measurable academic improvement across core subjects.

Grade 3

A majority of grade 3 students reported they would use the Learn Kernel device again, indicating strong overall acceptance and sustained engagement with the platform. Nearly 90% of Grade 3 students (85%) used the Learn Kernel device at least 3–7 days per week, with the largest group (60%) using it 3 to 4 days per week. An additional 20% reported using the device 5 to 6 days per week, and 5% reported daily use, demonstrating strong and sustained engagement across the cohort. **This pattern indicates that Learn Kernel was consistently integrated into Grade 3 students' learning routines, supporting frequent practice beyond isolated classroom exposure.**

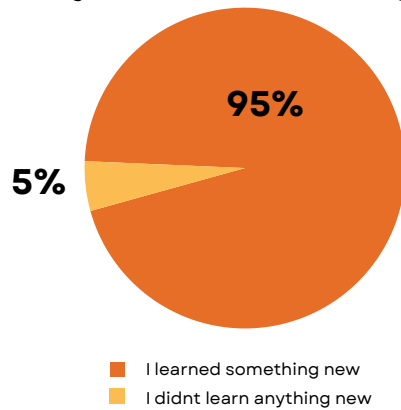
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GRADE 3 AND 4 SNAPSHOTS

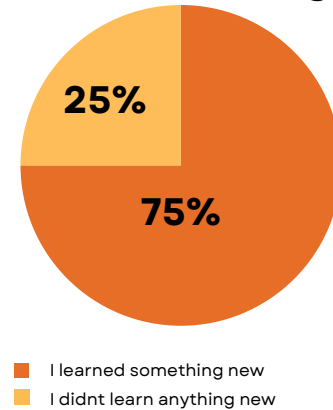
Grade 3

Did you Learn Something New?



Grade 4

Did you Learn Something New?



Grade 3

In Grade 3, student feedback indicates a very strong perceived learning impact from the Learn Kernel program. **95% of students reported that they learned something new**, suggesting that nearly all participants experienced meaningful academic growth and exposure to new concepts.

In contrast, only 5% of students reported that they did not learn anything new, representing a very small subgroup with limited perceived gains.

Overall, these results indicate that **Learn Kernel was highly effective** in supporting new learning for Grade 3 students, reinforcing its role in strengthening foundational literacy and numeracy skills during a critical early learning stage.

↑ 95%

Grade 4

In Grade 4, student feedback indicates generally positive perceived learning impact from the Learn Kernel program. **75% of students reported that they learned something new, suggesting that the majority of participants felt the instruction contributed meaningfully to their academic growth.**

In contrast, 25% of students reported that they did not learn anything new, indicating a small subgroup who did not perceive additional learning gains. Overall, these findings suggest that

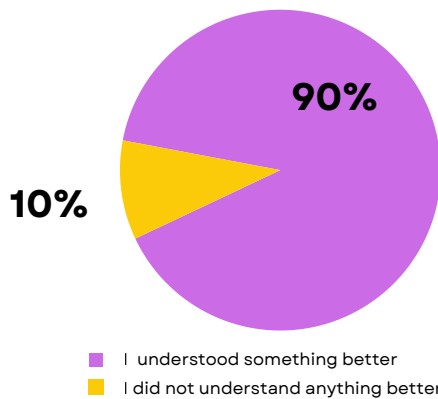
Learn Kernel was effective for a majority of Grade 4 students in supporting new learning and reinforcing academic concepts, while also highlighting an opportunity to further differentiate instruction for students who may already be closer to mastery in certain areas.

↑ 75%

GRADE 3 AND 4 SNAPSHOTS

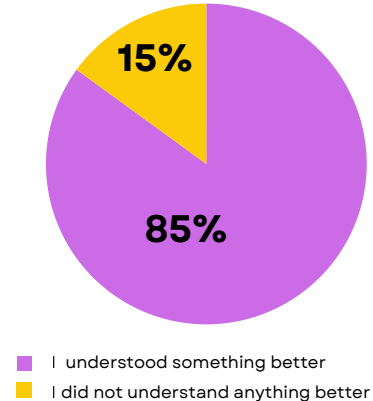
Grade 3

Did You understand something better?



Grade 4

Did You understand something better?



Grade 3

In Grade 3, a strong majority of students (90%) reported that the Learn Kernel device helped them understand concepts better, while 10% reported that it did not.

This indicates that most students experienced improved comprehension and found the device to be an effective support for their learning.

The results suggest broad positive impact across the cohort, with only a small group not reporting the same benefit. **Overall, these findings highlight that Learn Kernel was highly effective in strengthening understanding and supporting meaningful academic learning outcomes for Grade 3 students.**

↑ 90%

Grade 4

In Grade 4, a strong majority of students (85%) reported that the Learn Kernel device helped them understand concepts better. This indicates that most students experienced improved comprehension and found the device to be a meaningful support in their learning process.

However, a smaller portion of students did not report the same level of benefit, suggesting variability in how individual learners engaged with or benefited from the tool.

Overall, these findings demonstrate that Learn Kernel was effective for most Grade 4 students in strengthening understanding and supporting positive academic outcomes.

↑ 85%



Grade 3 Learn Kernel - Student Performance Table

Student	Gender	Pretest ELA	Pretest Math	Test 1 ELA	Test 1 Math	Test 2 ELA	Test 2 Math	Notes
Kid 1	Female	12/15	12/24	6/10	8/10	8/10	9/10	Passed
Kid 2	Female	6/15	20/24	7/10	8/10	9/10	8/10	Passed
Kid 3	Female	8/15	17/24	4/10	5/10	7/10	6/10	Passed
Kid 4	Male	8/15	18/24	5/10	8/10	7/10	8/10	Passed
Kid 5	Female	10/15	18/24	6/10	6/10	8/10	8/10	Passed
Kid 6	Female	9/15	15/24	7/10	5/10	8/10	6/10	Passed
Kid 7	Female	10/15	13/24	6/10	6/10	7/10	8/10	Passed
Kid 8	Male	9/15	12/24	5/10	6/10	8/10	6/10	Passed
Kid 9	Male	10/15	16/24	6/10	6/10	2/10	3/10	Failed Possible invalid effort
Kid 10	Female	10/15	19/24	6/10	3/10	7/10	4/10	Passed
Kid 11	Female	12/15	18/24	7/10	5/10	9/10	6/10	Passed
Kid 12	Female	9/15	19/24	10/10	8/10	9/10	10/10	Highest consistent scorer
Kid 13	Female	9/15	17/24	6/10	4/10	8/10	5/10	Passed
Kid 14	Male	7/15	13/24	10/10	7/10	10/10	9/10	Passed
Kid 15	Female	9/15	17/24	7/10	7/10	6/10	5/10	Failed Possible invalid effort
Kid 16	Female	8/15	15/24	6/10	4/10	5/10	7/10	Passed
Kid 17	Male	8/15	12/24	5/10	8/10	8/10	7/10	Passed
Kid 18	Female	9/15	14/24	4/10	5/10	8/10	9/10	Passed
Kid 19	Female	10/15	16/24	6/10	7/10	3/10	8/10	Failed Possible invalid effort
Kid 20	Male	9/15	17/24	6/10	6/10	7/10	8/10	Passed

Grade 4 Learn Kernel - Student Performance Table

Student	Gender	Pretest ELA	Pretest Math	Test 1 ELA	Test 1 Math	Test 2 ELA	Test 2 Math	Notes
Kid 1	Female	12/15	12/24	5/10	6/10	6/10	3/10	Failed
Kid 2	Male	6/15	20/24	7/10	7/10	8/10	7/10	Passed
Kid 3	Male	8/15	17/24	8/10	5/10	7/10	8/10	Passed
Kid 4	Male	8/15	18/24	3/10	6/10	5/10	7/10	Passed
Kid 5	Female	10/15	18/24	8/10	7/10	9/10	8/10	Passed
Kid 6	Male	9/15	15/24	5/10	4/10	6/10	6/10	Passed
Kid 7	Female	10/15	13/24	6/10	5/10	6/10	5/10	Failed
Kid 8	Female	9/15	12/24	5/10	5/10	7/10	5/10	Passed
Kid 9	Female	10/15	16/24	5/10	5/10	7/10	7/10	Passed
Kid 10	Female	10/15	19/24	5/10	6/10	8/10	7/10	Passed
Kid 11	Female	12/15	18/24	5/10	7/10	7/10	8/10	Passed 
Kid 12	Female	9/15	19/24	7/10	9/10	8/10	10/10	Passed Highest consistent scorer
Kid 13	Female	9/15	17/24	7/10	5/10	8/10	7/10	Passed
Kid 14	Female	9/15	17/24	3/10	7/10	5/10	7/10	Passed
Kid 15	Female	7/15	13/24	5/10	5/10	6/10	7/10	Passed
Kid 16	Female	8/15	15/24	6/10	6/10	7/10	8/10	Passed
Kid 17	Female	8/15	12/24	5/10	4/10	7/10	6/10	Passed
Kid 18	Female	9/15	14/24	4/10	5/10	5/10	5/10	Failed
Kid 19	Male	10/15	16/24	9/10	7/10	6/10	7/10	Failed: Did not use LK
Kid 20	Male	9/15	17/24	5/10	6/10	7/10	7/10	Passed

Conclusion

The Learn Kernel pilot resulted in measurable academic growth across 100% of participating grade levels, with consistent gains in English Language Arts (ELA) and Mathematics and sustained student engagement throughout both Grade 3 and Grade 4.

Learn Kernel produced consistent academic gains, with 89% of students

meeting the growth target across Grades 3 and 4, demonstrating strong overall program effectiveness.



Across both grade levels, students demonstrated strong engagement with the platform and consistently reported improved understanding of academic concepts. The pilot showed that students not only used the Learn Kernel devices regularly, but also experienced meaningful improvements in comprehension and skill development across core academic areas, reinforcing Learn Kernel's role in supporting sustained learning routines.

Findings indicate that language access was a key driver of performance, enabling multilingual learners to more accurately demonstrate academic knowledge. **This suggests Learn Kernel helps reduce opportunity gaps for multilingual learners by improving access to grade-level content.**

These results support district-wide adoption and justify full implementation across Grade 3–4 classrooms. Overall, the pilot outcomes meet criteria for scale-up, confirming Learn Kernel as a scalable instructional intervention for accelerating academic growth and improving equity in learning outcomes.

Bridging the Educational and Digital Divide

**Contact Information :**

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Thank you for your participation in the Learn Kernel pilot program and for your continued support throughout the implementation process. Your engagement and feedback were essential in helping us evaluate impact and understand how the program supports student learning and growth.



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