Summer Mathematics Tutoring at the Proficiency Cut: A Regression Discontinuity Study

An Action Research

[Copy for blind review: the researchers' names, positions, and school are removed. The final copy lists them here.]

Conducted March to July 2026

Abstract

This action research estimated the effect of the 2026 Academic Recovery and Accessible Learning (ARAL) Summer-Mathematics on the mathematics proficiency of incoming Grades 2 to 4 learners of a large public elementary school. DepEd Order No. 010, s. 2026 offered the 20-day program to learners rated Not Proficient or Low Proficient, below 50% correct, on the end-of-school-year (EOSY) Rapid Mathematics Assessment (RMA). Learners on either side of the cut were alike but for the offer, a natural experiment. A fuzzy regression discontinuity design used the EOSY 2025–2026 RMA score as the running variable and the beginning-of-school-year (BOSY) 2026–2027 RMA score as the outcome, for the 812 learners who finished Grades 1 to 3 and took both assessments. Of the 163 learners below the cut, 145 took part, and 20 learners above it joined; participants attended a mean of 12.6 of 15 sessions. Local linear regression with a mean squared error-optimal bandwidth and robust bias-corrected inference (rdrobust) estimated that the program raised the June scores of learners who took part because they fell below the cut by 8.3 percentage points, robust 95% CI [2.5, 14.1], $p = .005$. A density test found no sorting at the cut, five characteristics fixed before the program did not jump at it, the estimate stayed near 8 points at wider bandwidths, and four false cuts showed no jumps. The effect holds near the cut, not for the lowest scorers. The school will run and evaluate its ARAL-Mathematics sessions the same way.

Keywords: ARAL Program, summer remediation, Rapid Mathematics Assessment, regression discontinuity, local linear regression

Acknowledgment

The researchers thank the eighteen tutors of the 2026 ARAL Summer-Mathematics, who kept the daily attendance on which this study rests; the class advisers of School Year 2025–2026 and 2026–2027, who gave the Rapid Mathematics Assessment and encoded its scoresheets; the master teacher in mathematics, who rechecked a tenth of the scoresheets; the parents who told the tutors why their children missed the sessions; the Schools Division Research Committee, whose reviewers asked that the reasons for absence be recorded; and the learners. The study was funded by the Basic Education Research Fund (BERF) for 2026.

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Context and Rationale

The Academic Recovery and Accessible Learning (ARAL) Program Act made national tutoring the law for learners who fall behind in reading, mathematics, and science (Republic Act No. 12028, 2024), and DepEd's implementing guidelines put school heads in charge of it at the school (Department of Education [DepEd], 2025). For mathematics, the program began in the summer of 2026. DepEd Order No. 010, s. 2026 offered a 20-day ARAL Summer-Mathematics, from May 6 to June 2, 2026, to incoming Grades 2, 3, and 4 learners rated Not Proficient or Low Proficient on the end-of-school-year (EOSY) Rapid Mathematics Assessment (RMA) of School Year (SY) 2025–2026 (DepEd, 2026b). The same order reported that 10% of Key Stage 1 learners nationwide were at those two levels at the EOSY assessment (DepEd, 2026b).

Our school had twice that share. Of the 812 learners who finished Grades 1 to 3 in SY 2025–2026 and stayed for SY 2026–2027, 163 (20.1%) scored below 50% on the EOSY RMA. Every one of them was offered the summer program, and the school spent 18 tutors' summer, its classrooms, and its share of the program's funds on it. When the learners came back in June, the school needed to know whether the sessions had made a difference, because the regular ARAL-Mathematics sessions would begin in Term 2 of SY 2026–2027 (DepEd, 2026d) and the school would have to decide how to run them.

The obvious comparison cannot answer that. The learners who took part were chosen because they scored low, so their June scores would be lower than the others' whatever the program did. A comparison of their March and June scores cannot answer it either, because June scores move for reasons of their own: learners forget over a summer (Cooper et al., 1996), and the BOSY assessment is given in the new grade. Holding back a group of identified learners to serve as a control would have been unethical and against the order, which made attendance mandatory for identified learners (DepEd, 2026b).

The rule itself offers a better comparison. Because the program was offered to learners below 50% and not to those at 50% or above, a learner who scored 48% and one who scored 50% differed by one item on the test and by the offer of the program. If the learners just below the cut scored higher in June than the trend of the learners above it predicts, the difference is the program's doing. This is the regression discontinuity design, first used in education to study a merit award given above a test score (Thistlethwaite & Campbell, 1960), and since used to evaluate summer schools that school districts in the United States assigned by test scores (Jacob & Lefgren, 2004; Matsudaira, 2008). It answers the school's question without denying the program to anyone. This study addresses the Teaching and Learning theme of the Basic Education Research Agenda (DepEd, 2016).

Innovation, Intervention, and Strategy

The intervention studied is the 2026 ARAL Summer-Mathematics as DepEd Order No. 010, s. 2026 set it and the school carried it out. The

innovation of this study is in how the program was evaluated: the school used the program's own cut to measure its effect, with the records it already kept, and with free statistical software.

The Program as the School Ran It

The program ran from May 6 to June 2, 2026, Monday to Friday, with Fridays for home-based learning (DepEd, 2026b). With the holiday of May 27, 2026 (Proclamation No. 1264, 2026), it held 15 face-to-face sessions of 2 hours each. Eighteen tutors, eleven of the school's teachers and seven pre-service teachers from a nearby teacher education institution, each handled a group of at most 10 learners, the ratio the order sets (DepEd, 2026b). Groups were formed by grade and, within each grade, by EOSY RMA score. Each session reviewed a target competency with concrete materials, gave guided practice, and closed with a short check whose result went into the learner's Individualized Intervention Plan, as the order requires (DepEd, 2026b). The tutors kept the daily attendance and sent weekly progress reports to the school head.

Who Was Offered the Program

The class advisers gave the EOSY RMA from March 9 to 20, 2026, and encoded each learner's percentage of correct responses in the RMA scoresheet. A learner below 50% correct, the Not Proficient and Low Proficient levels (DepEd Regional Office VIII, 2025), was identified for the program, and the school head sent the parents a letter and met them at an orientation before the program began. DepEd's rules also let schools serve other learners in summer once the identified learners had places: DO 018 counts Nearly

Proficient learners among those below the minimum proficiency level in mathematics, and lets learners who meet that level join summer classes after those below it (DepEd, 2025; Republic Act No. 12028, 2024). Twenty other learners, 18 of them Nearly Proficient, joined at their parents' request or their adviser's recommendation.

Strategy and Evaluation Plan

The school head planned the evaluation in April 2026, after the EOSY scores were in and before the program began, and wrote the cut, the outcome, the analysis, and its checks into the proposal the research committee approved. The outcome was the BOSY RMA of SY 2026–2027, which every learner takes, so that learners who did and did not take part could be compared on the same assessment. The analysis, its checks, and the sample size were fixed before any June score was seen.

Action Research Questions

The study answered four questions:

1. How many learners were identified for the 2026 ARAL Summer-Mathematics, how many took part, and how many sessions did they attend?
2. What was the effect of the program on the BOSY RMA scores of the learners who took part because they scored below the 50% cut?
3. Do the regression discontinuity design's checks hold: no sorting of scores at the cut, no jump at the cut in learner characteristics fixed before the program, a stable estimate at other bandwidths, and no jumps at false cuts?

4. Why did identified learners miss the program, according to their parents?

One null hypothesis was tested at the .05 level of significance:

H_0: The 2026 ARAL Summer-Mathematics had no effect on the BOSY RMA scores of the learners who took part because they scored below the 50% cut.

Action Research Methods

Research Design

The study used a fuzzy regression discontinuity design (Hahn et al., 2001; Imbens & Lemieux, 2008). The running variable was the learner's EOSY 2025–2026 RMA score, in percent correct; the cut was 50%; the treatment was taking part in the summer program, defined as attending at least one session; and the outcome was the learner's BOSY 2026–2027 RMA score, in percent correct. The design is fuzzy because the cut changed the chance of taking part without deciding it: some identified learners did not come, and some learners above the cut joined. The jump in the BOSY score at the cut, divided by the jump in the share who took part, estimates the program's effect on the learners who took part because they scored below the cut (Hahn et al., 2001).

Participants and Other Sources of Data and Information

The participants were the learners who took the EOSY RMA in Grades 1, 2, and 3 of the school in March 2026 and the BOSY RMA in Grades 2, 3, and 4 in June 2026. Of the 841 learners who took the EOSY RMA, 29 transferred out before June and have no BOSY score: 6 of the 169 below the

cut (3.6%) and 23 of the 672 above it (3.4%). The study's 812 learners were 276 in Grade 1, 270 in Grade 2, and 266 in Grade 3 of SY 2025–2026; 378 were girls and 434 boys.

The data came from the school's records: the EOSY and BOSY RMA scoresheets; the tutors' daily attendance of the summer program; the learners' final grades in Mathematics and attendance rates in SY 2025–2026, from their report cards; the roster of the ARAL Summer-Reading, which some learners attended as well (DepEd, 2026b); and the tutors' follow-up notes on learners who did not come.

Data Gathering Methods

The Rapid Mathematics Assessment

The RMA is DepEd's assessment of learners' foundational mathematics skills against grade-level competencies, used to identify learners for ARAL-Mathematics (DepEd, 2026d). Its scoresheet records each learner's percentage of correct responses, which places the learner in one of five levels: Not Proficient (below 25%), Low Proficient (25% to 49%), Nearly Proficient (50% to 74%), Proficient (75% to 84%), and Highly Proficient (85% and above) (DepEd Regional Office VIII, 2025). The study used the percentages, not the levels, because a regression discontinuity needs the score itself. Scores fell on steps of 2 percentage points, so many learners shared each score.

The class advisers gave the EOSY RMA from March 9 to 20, 2026, and the BOSY RMA of the learners' new grade from June 10 to 19, 2026, within DepEd's BOSY window of June 8 to July 10, 2026 (DepEd, 2026c). The master teacher in mathematics rechecked a random tenth of each class's scoresheets

against the answer sheets; three of 168 rechecked scores were corrected, none across the cut.

Attendance and Follow-Up Notes

The tutors marked each learner present or absent at every session. When an identified learner missed the first two sessions, the tutor called or visited the parent and wrote down the reason given.

Sample Size and Power

Before the program began, the school head simulated the study 500 times for each of several effect sizes, using the 812 EOSY scores the school already had and planning values from its records: 85% of identified learners attending, 10% of the learners just above the cut joining, and the BOSY score predicted from the EOSY score with a slope of 0.85 and a residual standard deviation of 7.5 points, the relation between the BOSY and EOSY RMA scores of SY 2025–2026. Each simulated school was analyzed with the study's fuzzy rdrobust estimate, without the grade covariate, which the simulation did not model. The school judged a gain of 10 percentage points, a tenth of the test, to be the smallest worth the program's cost. With 812 learners, the study had a power of .86 to detect such a gain at the .05 level; for a gain of 8 points, the power was .72 (Table 1). A regression discontinuity needs several times as many learners as a randomized experiment to estimate an effect as precisely, because the offer is tied to the score itself (Schochet, 2009).

Table 1

Simulated Power of the Study Before the Program

Gain for learners who attend (points)	Power with 812 learners	School size	Power for a 10-point gain
4	.28	300	.44
6	.50	400	.54
8	.72	600	.67
10	.86	812	.86
12	.94	1,200	.93

Note. Each power is the share of 500 simulated schools in which the fuzzy regression discontinuity estimate was significant at the .05 level. Smaller and larger schools were simulated by drawing EOSY scores from the school's own.

Ethical Considerations

The Schools Division Research Committee approved the proposal before the program began; its reference number is withheld for blind review. The study changed nothing about who received the program: the cut was DepEd's, every identified learner was offered the program, and any other learner whose parent asked could join. It used only records the school keeps for the program. Parents were told by letter and at the June 2026 general assembly that the learners' assessment scores and attendance, without names, would be studied, and that they could ask for their child's records to be left out; no parent did. Information about a learner's education is sensitive personal information (Republic Act No. 10173, 2012, Sec. 3[l][2]); the records were coded before analysis, and the key linking codes to names stayed with the school head on a password-protected computer. The researchers declared their use of an artificial intelligence (AI) tool in Appendix E (DepEd, 2026a).

Data Analysis

The participation counts and the session attendance answered the first question. For the second, the program's effect was estimated by local linear

regression on each side of the cut, with a triangular kernel that weights learners more the closer they are to the cut, a bandwidth chosen to minimize the mean squared error of the estimate, and robust bias-corrected confidence intervals, which correct the bias of the local lines and widen the interval to account for the correction (Calonico et al., 2014). The estimation used the rdrobust package for Python (Calonico et al., 2017), with the learner's grade as a covariate and the same bandwidths for the jump in the BOSY score (the intention-to-treat effect), the jump in taking part (the first stage), and their ratio (the fuzzy estimate). rdrobust detects scores shared by many learners and adjusts its bandwidth selection for them. The conventional estimate was reproduced by weighted least squares in statsmodels (Seabold & Perktold, 2010) and with LINEST in Excel. As a contrast, the BOSY scores of learners who did and did not take part were compared with Welch's t test and with a regression on the EOSY score over the whole school.

The third question had four checks. A density test examined whether learners' scores bunched on one side of the cut, which would suggest that scores had been nudged to place learners in or out of the program (Cattaneo, Jansson, & Ma, 2020; McCrary, 2008). Five characteristics fixed before the program (age, sex, the final grade in Mathematics, the attendance rate, and enrollment in the ARAL Summer-Reading) were each run through rdrobust as if they were the outcome; none should jump at the cut. The fuzzy estimate was recomputed at half to twice the chosen bandwidth, without the learners at 48% and 50%, with a quadratic instead of a linear fit (Gelman & Imbens, 2019), and without the grade covariate. Jumps in the BOSY score were

estimated at four false cuts where nothing changed, 40% and 44% among the learners below the cut and 56% and 60% among those above it. The reasons for missing the program were counted.

All analyses were run in Python 3.12 with pandas, statsmodels, rdrobust 2.1.1, and rddensity 3.0, free software that a school can use without buying a license; the notebook and the Excel data set reproduce every result (Appendix A).

Discussion of Results and Reflection

Implementation

The program held all 15 face-to-face sessions and four home-based Fridays as planned. No session was lost to a class suspension. Each tutor's group stayed at or under ten learners.

Question 1: Who Was Identified and Who Took Part

Of the 812 learners, 163 scored below the cut: 8 Not Proficient and 155 Low Proficient (Table 2). Of these, 145 (89.0%) took part, and 20 of the 649 learners at or above the cut (3.1%) joined, all with scores from 50% to 78%. The 165 learners who took part attended a mean of 12.6 of the 15 face-to-face sessions (*SD* = 1.5); 128 (77.6%) attended 12 or more, and 14 attended all 15. Thirty-two of them also attended the ARAL Summer-Reading.

Table 2

Identification and Participation by Grade

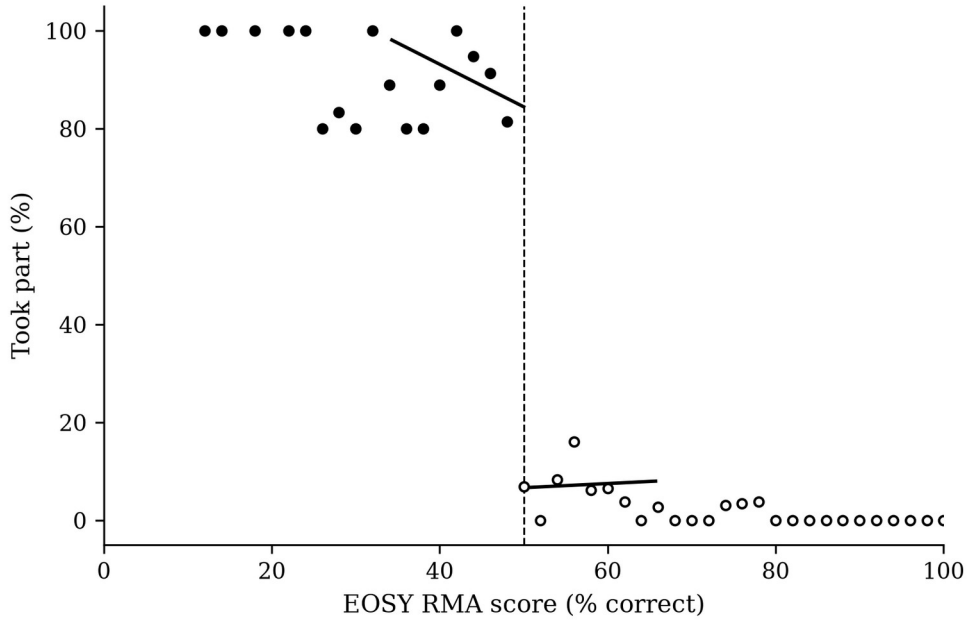
Grade, SY 2025–2026	Learners	EOSY *M* (%)	EOSY *SD*	Below 50%	Took part	Below 50%, took part	Below 50%, did not	At or above 50%, took part
Grade 1	276	63.6	18.5	65	64	58	7	6
Grade 2	270	64.2	17.2	49	55	45	4	10
Grade 3	266	66.3	17.7	49	46	42	7	4

Grade, SY 2025–2026	Learners	EOSY *M* (%)	EOSY *SD*	Below 50%	Took part	Below 50%, took part	Below 50%, did not	At or above 50%, took part
Total	812	64.7	17.8	163	165	145	18	20

Note. EOSY = end-of-school-year Rapid Mathematics Assessment, March 2026, in percent correct.

Figure 1

Share of Learners Who Took Part, by EOSY RMA Score



Note. Each marker shows the learners at one score; filled markers are below the 50% cut. The lines are local linear fits within 15.7 points of the cut.

At the cut, the share who took part dropped from 84.5% just below to 6.7% just above, a jump of 0.778, robust 95% CI [0.54, 0.95] (Figure 1). The cut decided most, but not all, of who came.

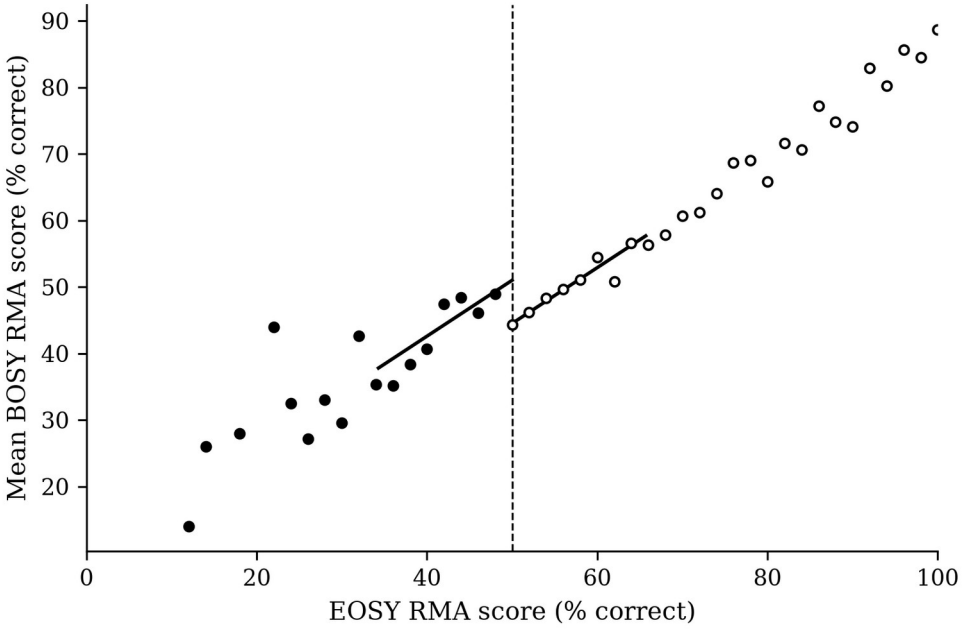
Question 2: The Effect of the Program at the Cut

Taken at face value, the program seemed to do harm. The learners who took part averaged 45.4% on the BOSY RMA (*SD* = 12.1) and those who did not, 61.1% (*SD* = 14.6), a difference of −15.7 points, Welch's $t(297.1) = -14.24$,

$p < .001$. That difference compares learners chosen for low scores with learners who were not, and says nothing about the program.

Figure 2

Mean BOSY RMA Score by EOSY RMA Score



Note. Each marker shows the mean June score of the learners at one March score; filled markers are below the 50% cut. The lines are local linear fits within 15.7 points of the cut, with the learners' grade held at the school's mix.

At the cut, the June scores jumped. Learners just below 50% in March scored 6.5 points higher in June than the trend of the learners above the cut predicts, robust 95% CI [1.1, 11.2], $p = .016$ (Figure 2). Because the cut raised the share who took part by 0.778, not by 1, this jump was shared among learners who did and did not come. Divided by the jump in taking part, it gives the effect on the learners who took part because they scored below the cut: 8.3 percentage points, robust 95% CI [2.5, 14.1], $p = .005$ (Table 3). The null hypothesis is rejected. The estimate used the 370 learners within 15.7 points of the cut, 124 below it and 246 above it. Weighted least squares in

statsmodels and LINEST in Excel gave the same conventional estimates, 6.49 points, 0.778, and 8.34 points.

Table 3

Estimates of the Program's Effect on the BOSY RMA Score

Comparison	Estimate	95% CI	*p*	Learners
Took part minus did not (Welch's *t* test)	−15.7	[−17.9, −13.5]	< .001	812
Took part, adjusted for EOSY score and grade (OLS, whole school)	8.9	[7.2, 10.5]	< .001	812
Jump in the BOSY score at the cut (intention to treat)	6.5	[1.1, 11.2]	.016	370
Jump in taking part at the cut (first stage)	0.778	[0.54, 0.95]	< .001	370
Effect on learners who took part because of the cut (fuzzy)	8.3	[2.5, 14.1]	.005	370

Note. Estimates are in percentage points except the first stage, a difference in shares. The regression discontinuity estimates (last three rows) are local linear with a triangular kernel, a bandwidth of 15.70 points (bias bandwidth 24.04), and grade as a covariate; their intervals and *p* values are robust bias-corrected (rdrobust). OLS = ordinary least squares.

The regression over the whole school came close to the same number here, but its narrow interval rests on the assumption that one straight line describes every learner from 12% to 100% and that the learners who took part differ from the others in nothing the line leaves out; the regression discontinuity relies only on learners near the cut being alike, which the next question checks.

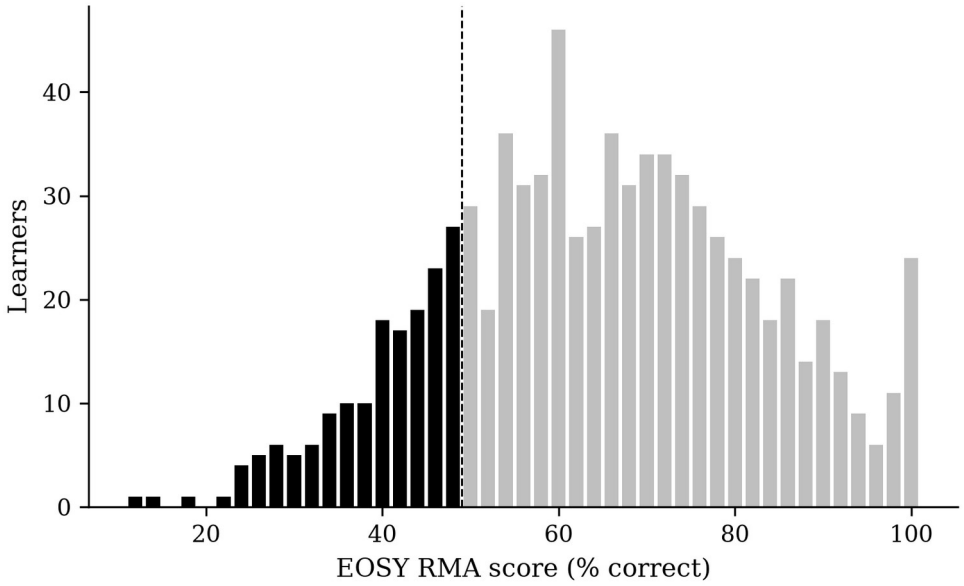
Question 3: The Checks of the Design

No Sorting at the Cut

The learners' scores showed no pile-up on either side of 50%: 27 learners scored 48% and 29 scored 50%, and the density test found no discontinuity, $T = -0.39$, $p = .695$ (Figure 3). Nothing suggests that scores were moved to place learners in or out of the program.

Figure 3

Number of Learners at Each EOSY RMA Score



Note. Each bar counts the learners at one score; filled bars are below the 50% cut.

No Jumps in Characteristics Fixed Before the Program

None of the five characteristics jumped at the cut (Table 4). The largest gaps, a 16-point lower share in the ARAL Summer-Reading and an 18-point higher share of girls just below the cut, were within chance, and with five characteristics tested one such gap is expected.

Table 4

Jumps at the Cut in Characteristics Fixed Before the Program

Characteristic	Jump (below minus above)	Robust 95% CI	*p*
Age on June 1, 2026 (months)	−0.60	[−10.86, 8.01]	.767
Girl (share)	0.18	[−0.11, 0.61]	.179
Final grade in Mathematics, SY 2025–2026	0.40	[−2.51, 2.69]	.946
Attendance rate, SY 2025–2026 (%)	−0.06	[−2.07, 2.04]	.992

Characteristic	Jump (below minus above)	Robust 95% CI	*p*
Also in ARAL Summer-Reading (share)	−0.16	[−0.45, 0.06]	.131

Note. Each row is a local linear regression discontinuity estimate with its own mean squared error-optimal bandwidth (9.7 to 11.8 points), without covariates.

Other Choices

The estimate stayed near 8 points when the bandwidth was widened, and its interval narrowed (Table 5, Figure 4). At narrower bandwidths the estimate was about the same, 8.1 and 7.8 points, but with fewer learners its interval included zero. Without the 56 learners at 48% and 50%, the scores nearest the cut, the estimate fell to 4.5 points, with an interval from −6.9 to 13.9, and a quadratic fit gave 6.1 points, from −8.7 to 16.3. Both checks remove information near the cut and widen the interval; neither points to a different effect.

Table 5

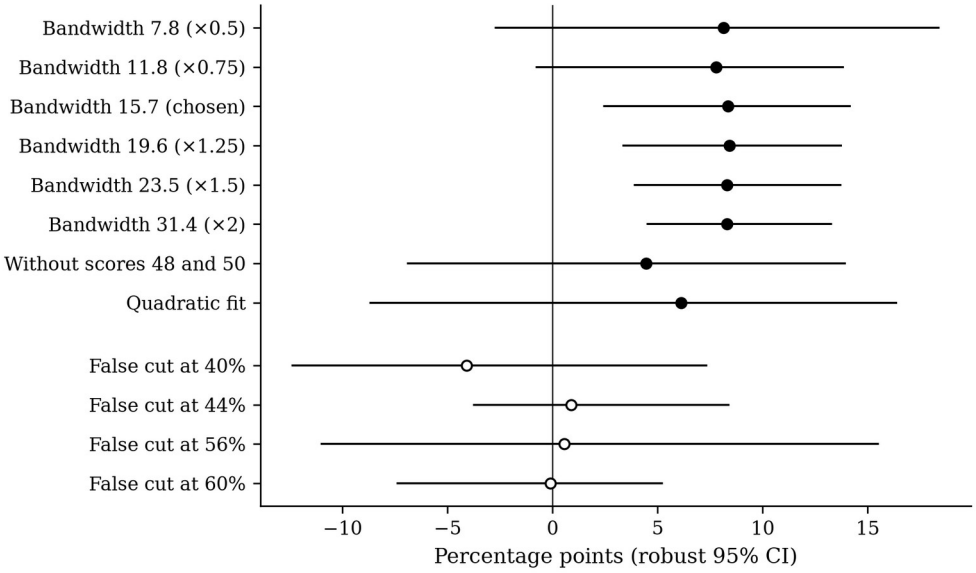
The Fuzzy Estimate Under Other Choices

Choice	Learners	Estimate	Robust 95% CI	*p*
Bandwidth 7.8 (half)	184	8.13	[−2.70, 18.38]	.145
Bandwidth 11.8	297	7.78	[−0.76, 13.82]	.079
Bandwidth 15.7 (chosen)	370	8.34	[2.46, 14.14]	.005
Bandwidth 19.6	452	8.41	[3.36, 13.72]	.001
Bandwidth 23.5	531	8.29	[3.91, 13.69]	< .001
Bandwidth 31.4 (double)	652	8.30	[4.53, 13.26]	< .001
Without the learners at 48% and 50%	241	4.46	[−6.88, 13.91]	.507
Quadratic fit	415	6.11	[−8.68, 16.34]	.548
Without the grade covariate	415	8.05	[2.04, 13.93]	.008

Note. Estimates in percentage points on the BOSY RMA. The bias bandwidth kept its ratio to the chosen bandwidth. The last three rows chose their own bandwidths.

Figure 4

The Estimate Under Other Choices and the Jumps at False Cuts



Note. Markers are estimates and lines robust 95% confidence intervals. Filled markers: the program's effect under other choices; open markers: jumps in the BOSY score at false cuts.

No Jumps at False Cuts

Where nothing changed, the June scores did not jump: −4.1 points at 40% (p = .615), 0.9 at 44% (p = .454), 0.6 at 56% (p = .739), and −0.1 at 60% (p = .734), each estimated among the learners on one side of the real cut (Figure 4).

Question 4: Why Identified Learners Missed the Program

The 18 identified learners who did not attend gave five reasons, according to their parents (Table 6). Seven had gone to stay with relatives in the province for the summer; the others were ill, minded younger siblings, could not pay the fare, or could not be reached.

Table 6

Reasons Identified Learners Did Not Attend

Reason given by the parent	Learners
Staying with relatives in the province for the summer	7
Illness during the program	3
Minding younger siblings while the parents worked	3
Fare to school	3
Parent could not be reached	2
Total	18

Note. From the tutors' follow-up notes after a learner missed the first two sessions.

Reflection

The program worked for the learners it was meant for, near the line DepEd drew. A learner who scored just under 50% in March and came because the rule identified them scored about 8 points higher in June than they would have without the sessions, enough to lift a learner at 45% into Nearly Proficient. The interval is wide, from 2.5 to 14.1 points; the study can rule out no effect, but not a small one. The estimate, about half a standard deviation of the June scores, is larger than the average effect of mandatory summer schools in one large American district, 0.12 standard deviation (Matsudaira, 2008), and of tutoring programs across experiments, 0.29 (Nickow et al., 2024). The June assessment came within weeks of the program, and the lower end of the interval, 0.16 standard deviation, is close to those averages; the school should expect a smaller effect when it measures the regular sessions over a school year.

The result does not say what the program did for the eight Not Proficient learners far below the cut, who may have gained more or less; a regression discontinuity estimates the effect at the cut only (Cattaneo, Idrobo, & Titiunik,

2020). Nor does it say whether the gain lasts into the school year. The 18 identified learners who did not come are the program's clearest loss: most of them missed it for reasons the school can plan for, a summer away, a sibling to mind, a fare.

The design asked nothing of the school that it did not already do. The program's own rule made the comparison, and the records the school keeps for DepEd made the data. What it needed was the score itself, not only the level, and enough learners: with half as many, even a 10-point gain would have had only about an even chance of detection (Table 1).

Action Plan

Table 7

Action Plan for School Year 2026–2027

Action	Purpose	Persons responsible	Time frame	Resources	Indicator of success
Present the findings to the teachers in a learning action cell session and to parents at the general assembly	Share what the program did and for whom	School head, master teacher	October 2026	Results brief	Session held; brief given to parents
Keep each learner's RMA percentage, not only the level, in the school summary	Allow the same evaluation of later programs	Class advisers, master teacher	Every RMA window	Automated scoresheets	Percentages kept for every learner
Run ARAL-Mathematics in Term 2 for learners below 50% on the BOSY RMA, under DepEd Memorandum No. 060, s. 2026	Continue support for learners near and below the cut	School head, ARAL coordinator, tutors	Term 2, SY 2026–2027	Program Support Funds, tutors	Sessions held as scheduled
Follow up every identified learner who misses two sessions; ask the barangay and the parent-teacher association to help with fares	Reach the learners the summer program missed	Tutors, class advisers, PTA	Term 2 onward	Barangay and PTA support	Nine in ten identified learners attend
Evaluate the Term 2 sessions with the same design, using the EOSY 2026–2027 RMA as the outcome	Learn whether the regular sessions work as the summer did	School head, research team	February to April 2027	BERF proposal	Report submitted to the division
Pool the data with nearby schools for the 2027 summer program	Gain the learners needed to study smaller effects and the Not Proficient learners	School head, district	2027	District coordination	Agreement among schools

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Financial Report

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Table 8

Statement of Expenses

Date (2026)	Particulars	Receipt No.	Category	Budget (PhP)	Actual (PhP)
May 4	Letters to parents on the use of records, with the opt-out slip (850 copies)	OR 0504	Reproduction	850.00	850.00
May to July	Prepaid load for the tutors' follow-up calls to parents, three months	OR 2214, 2286, 2341	Communication	900.00	900.00
June 26	Copies of the BOSY RMA scoresheet summaries for coding (120 pages)	OR 0627	Reproduction	150.00	120.00
July 13	Travel to the Schools Division Office to present the preliminary results to the research committee	Acknowledgment receipt	Domestic travel	300.00	300.00
September 28	Printing and binding of the final report (4 copies)	OR 0929	Printing and binding	1,400.00	1,430.00
October 5	Results brief for teachers and parents (900 copies)	OR 1005	Reproduction	900.00	900.00
October 9	Travel to present the findings at the division research colloquium	Acknowledgment receipt	Domestic travel	700.00	700.00

Date (2026)	Particulars	Receipt No.	Category	Budget (PhP)	Actual (PhP)
	Total			5,200.00	5,200.00

Note. Receipt numbers are invented for this sample.

Appendices

Appendix A. Data Set and Notebook

The executive data set is the Excel workbook submitted with this report: every learner's grade, section, sex, age, final grade in Mathematics, attendance rate, EOSY and BOSY RMA scores and levels, participation, sessions attended, and enrollment in the ARAL Summer-Reading; the identification and participation counts, the naive comparison, the counts at each score, and the local linear estimates at the cut as formulas (weighted least squares with LINEST); and the robust intervals, the density test, the balance checks, the other bandwidths, the false cuts, and the power simulation copied from Python. The Jupyter notebook submitted with it reads the workbook and reproduces every result.

Appendix B. Letters and Approvals

The research committee's approval, the school head's letter to parents on the use of records, and the opt-out slip are kept at the school and left out of the archived report.

Appendix C. Summer Session Plan

Each 2-hour session: review of the previous day's target competency (15 minutes); teaching of the day's competency with concrete materials (35 minutes); guided practice in pairs (30 minutes); break (30 minutes); independent practice (5 minutes); and a five-item check recorded in the learner's Individualized Intervention Plan (5 minutes).

Appendix D. Follow-Up Note

1. Learner code; dates of the sessions missed; date and means of contact (call, message, or visit); the reason the parent gave, in the parent's words; whether the learner returned.

Appendix E. Declaration of AI Use

We, the researchers, declare that we used [name of the AI tool] only to check the grammar of the English text of this report, for the purpose of finalizing the research study. The prompt used was: "Check the grammar of this paragraph. Do not change its meaning or add content." We have reviewed, edited, and understood all the content, and we take full accountability for it. No names, codes, scores, or other data from the study were entered into the AI tool.