Texas ST Math Findings

Spring 2023 - Spring 2024

Repeatable Success in STAAR Math Scores
Math Progress for Every Student, Every Year.

From closing equity gaps to driving consistent performance improvements, ST Math has redefined what's possible in math education.
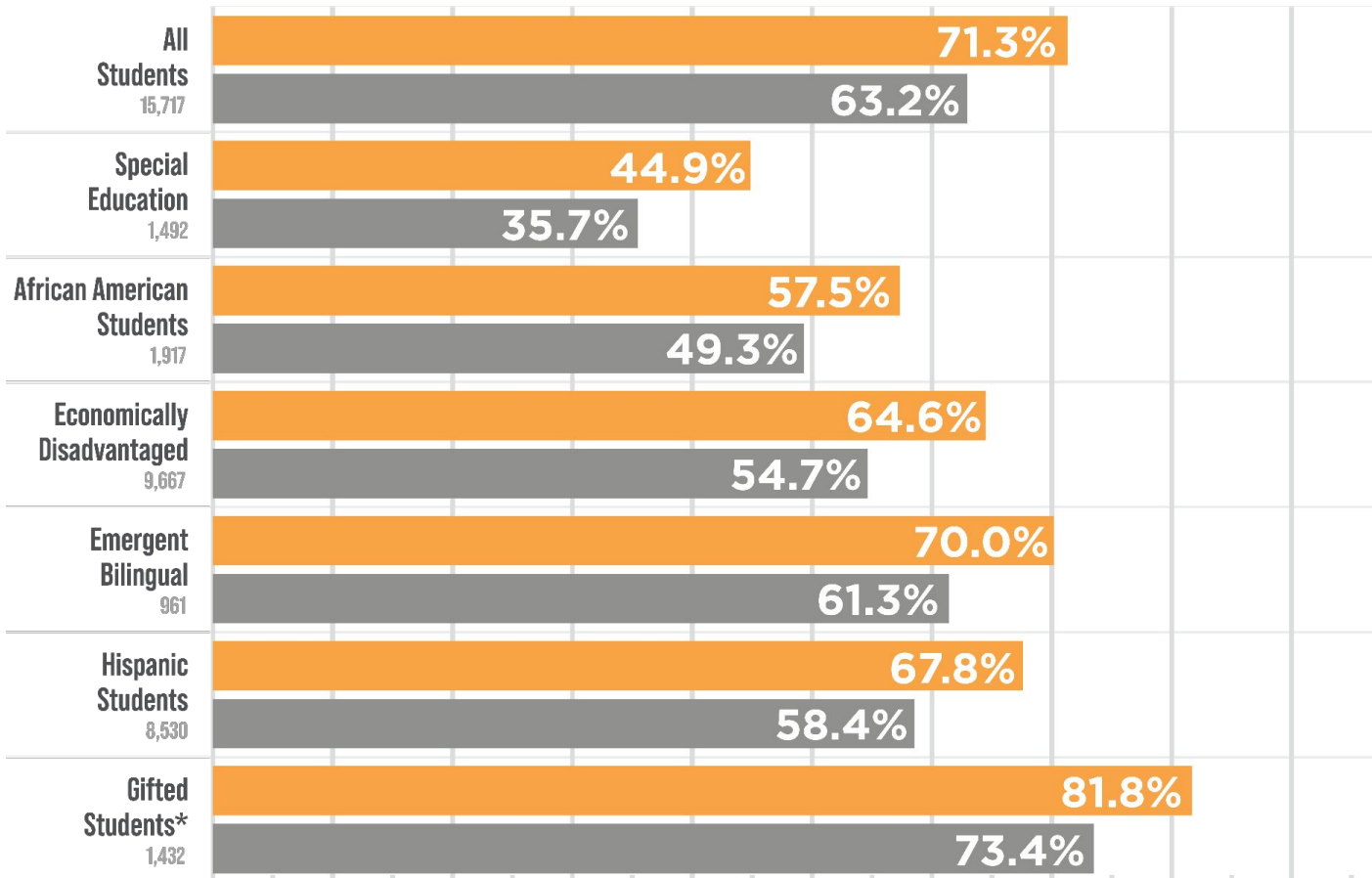
ST Math Delivers Consistent Gains in Math Proficiency Across All Demographics and Districts

- **Math Equity for All Students**: ST Math levels the playing field for all students, ensuring every student group, including ESL, economically disadvantaged, and underperforming learners, has full access, productive focus and progress to achieve significant gains.

- **Proven, Reliable Results**: ST Math consistently delivers significant, repeatable gains in math proficiency across all district types – urban, suburban, and rural – driving higher STAAR performance for all students, year after year.

- **Consistent Success Across Years:** Three consecutive years of study confirm the remarkable repeatability and robustness of the unique, patented ST Math visual approach.

- **Accelerate Longitudinal Impact**: Students who use the ST Math program at a consistent level across all three studies grade levels (Grade 3 to 4 to 5) realize more growth each year, including a halving of students at the lowest performance level –showing consistent use leads to a dramatic rise in 'Meets' and 'Masters,' and a reduction in 'Did Not Meet' scores.

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ST Math Drives Equity: Higher STAAR Scores for Every Student Group
Students Using ST Math Outperform Their Peers Across All Demographics

Students Across All Groups Who Use ST Math Score Higher on 2024 STAAR

All Students 15,717
- Texas Students using ST Math: 71.3%
- Matched Comparison Group: 63.2%

Special Education 1,492
- Texas Students using ST Math: 44.9%
- Matched Comparison Group: 35.7%

African American Students 1,917
- Texas Students using ST Math: 57.5%
- Matched Comparison Group: 49.3%

Economically Disadvantaged 9,667
- Texas Students using ST Math: 64.6%
- Matched Comparison Group: 54.7%

Emergent Bilingual 961
- Texas Students using ST Math: 70.0%
- Matched Comparison Group: 61.3%

Hispanic Students 8,530
- Texas Students using ST Math: 67.8%
- Matched Comparison Group: 58.4%

Gifted Students* 1,432
- Texas Students using ST Math: 81.8%
- Matched Comparison Group: 73.4%

Students scoring Meets or Masters on 2024 STAAR
Students using ST Math completed >1,500 puzzles
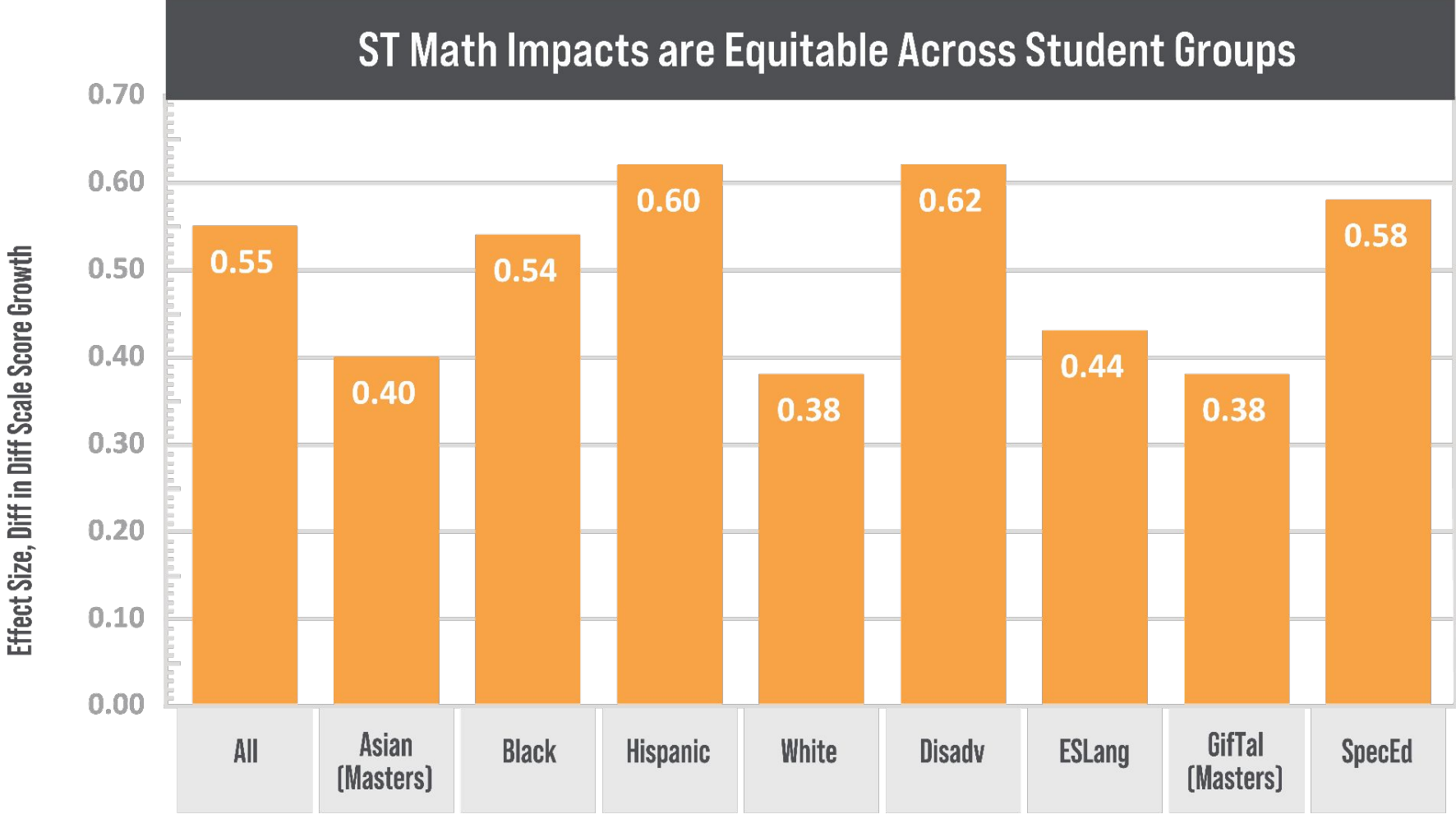(* % Gifted scoring Masters with 2,500 puzzles completed)

- ■ Texas Students using ST Math
- ■ Matched Comparison Group

> ST Math is the only program that ensures consistent growth for all student groups, regardless of starting point or demographic. These results are not just significant - they're repeatable and equitable year after year.

Impact Equity: Percent Meets/Masters Advantage at High Usage Level (1,500 puzzles)
- Comparing Spring 2024 percent of student group Meets or Masters
- Control group % Meets/Masters was matched to treatment group in Spring 2023

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Achieving True Equity: Consistent Math Gains for Every Student, Every Year

ST Math Impacts are Equitable Across Student Groups

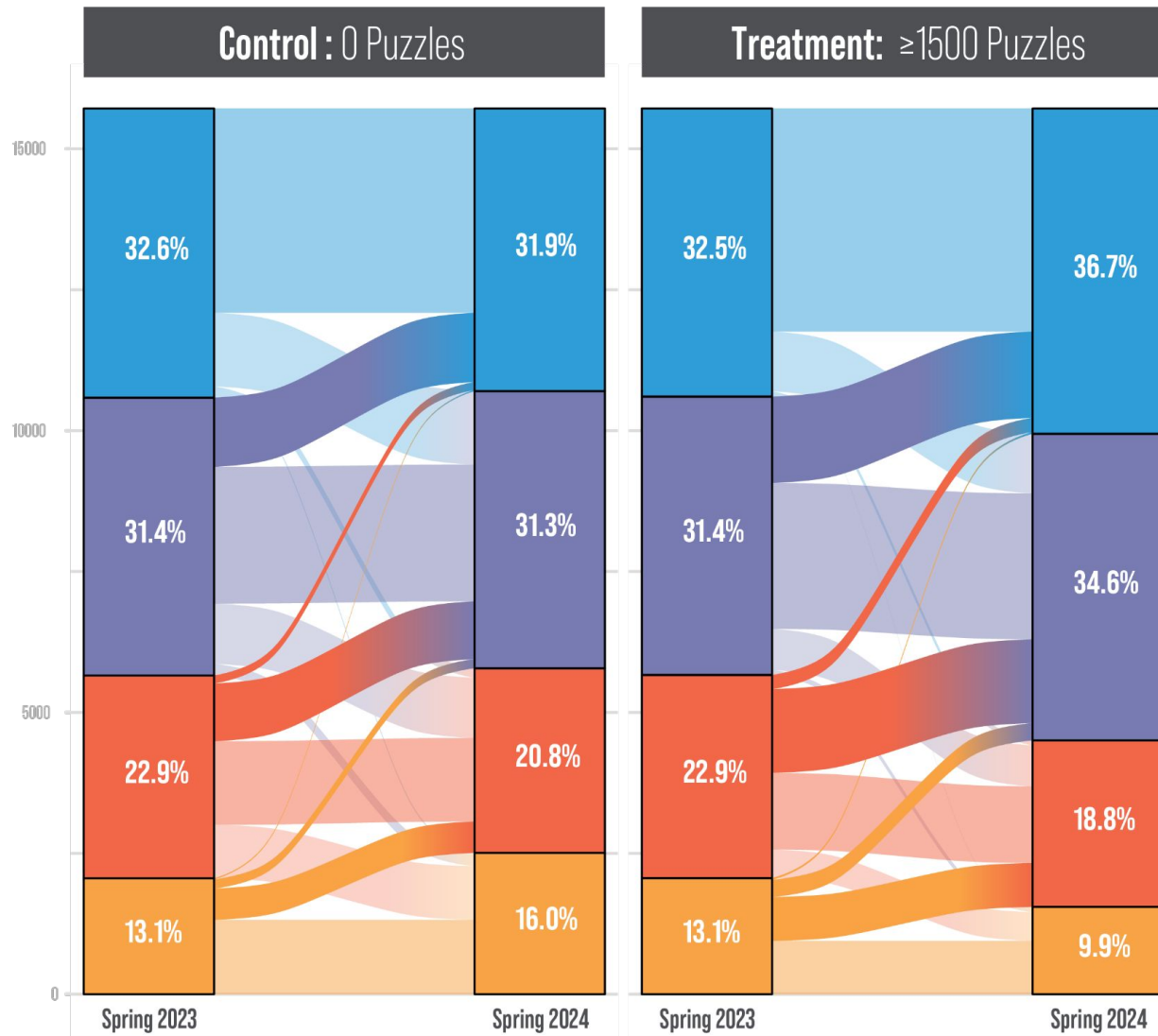| Group	Effect Size, Diff in Diff Scale Score Growth
All	0.55
Asian (Masters)	0.40
Black	0.54
Hispanic	0.60
White	0.38
Disadv	0.62
ESLang	0.44
GifTal (Masters)	0.38
SpecEd	0.58

ST Math ensures equity by delivering significant gains in STAAR performance at any performance level and for all demographic groups, including traditionally underserved populations.

ST Math accelerates performance gains for lower performing student groups

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ST Math Reverses Statewide Declines:
Students Achieve Higher Performance Levels

Control : 0 Puzzles — Spring 2023 to Spring 2024: 32.6%, 31.4%, 22.9%, 13.1% → 31.9%, 31.3%, 20.8%, 16.0%

Treatment: ≥1500 Puzzles — Spring 2023 to Spring 2024: 32.5%, 31.4%, 22.9%, 13.1% → 36.7%, 34.6%, 18.8%, 9.9%

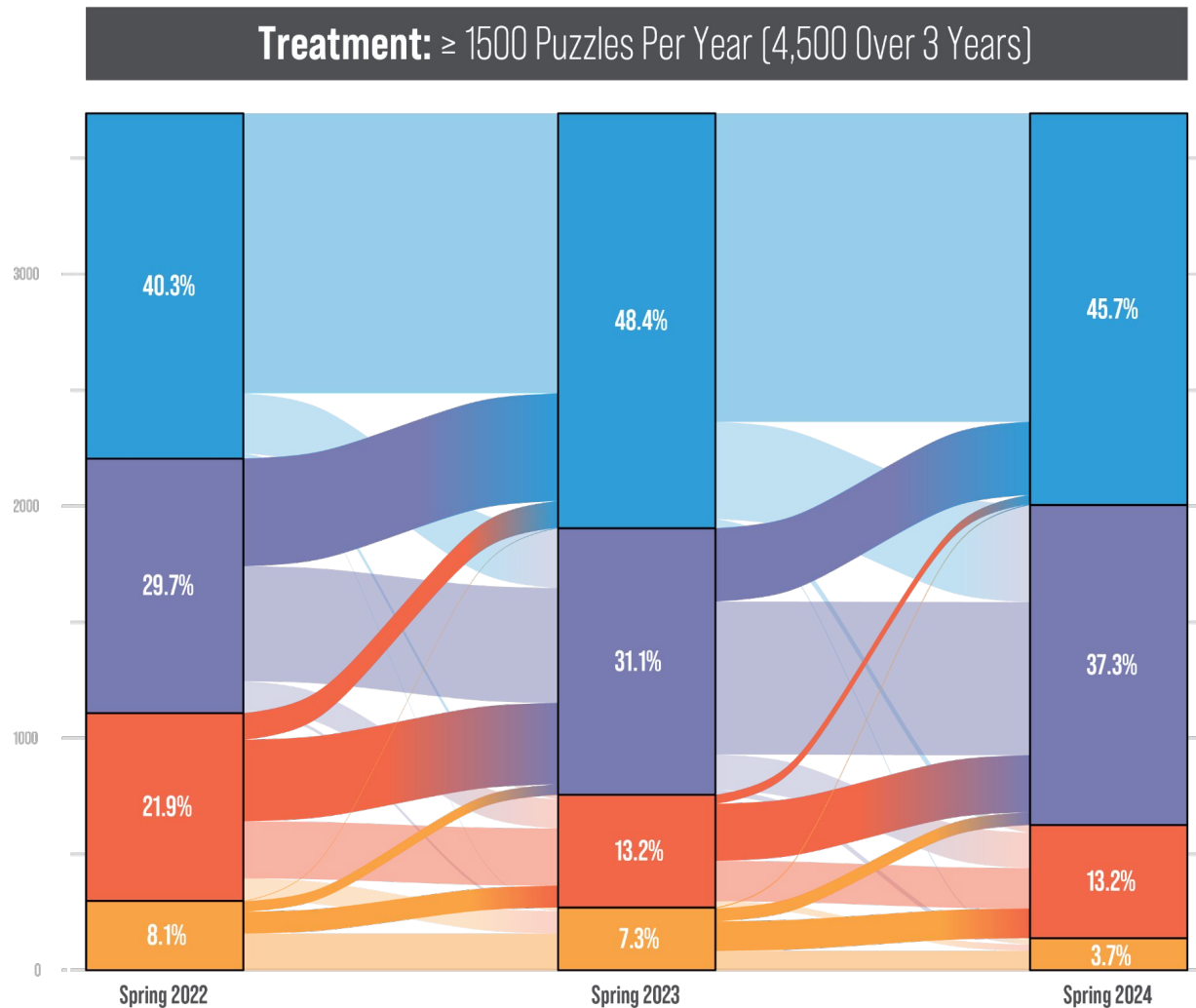| Change	Control	Treatment	Diff
Did Not Meet → Approaches +	35.9% (738)	54.1% (1116)	18.2%
Meets → Masters	24.9% (1228)	31.0% (1532)	6.1%
Net Performance Level +	-3.8% (-599)	12.1% (1905)	15.9%
Net Meets + *	-0.8% (-129)	7.4% (1161)	8.2%

* Cohen's h = 0.55

Proficiency Levels
- Masters
- Meets
- Approaches
- Did Not Meet

In 2023-24, while statewide performance declined, students using ST Math consistently improved across all performance levels, demonstrating the robustness of the unique visual approach.

Students most in need demonstrated clear success using ST Math, reversing the backslide by elevating over half of the 2023 Did Not Meet students to higher levels.

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Consistent Use of ST Math Continues to Elevate 'Meets' and Nearly Eliminates 'Did Not Meet'
Students Using in Grades 3 and 4 and 5 Achieve Higher Performance Levels

Treatment: ≥ 1500 Puzzles Per Year (4,500 Over 3 Years)

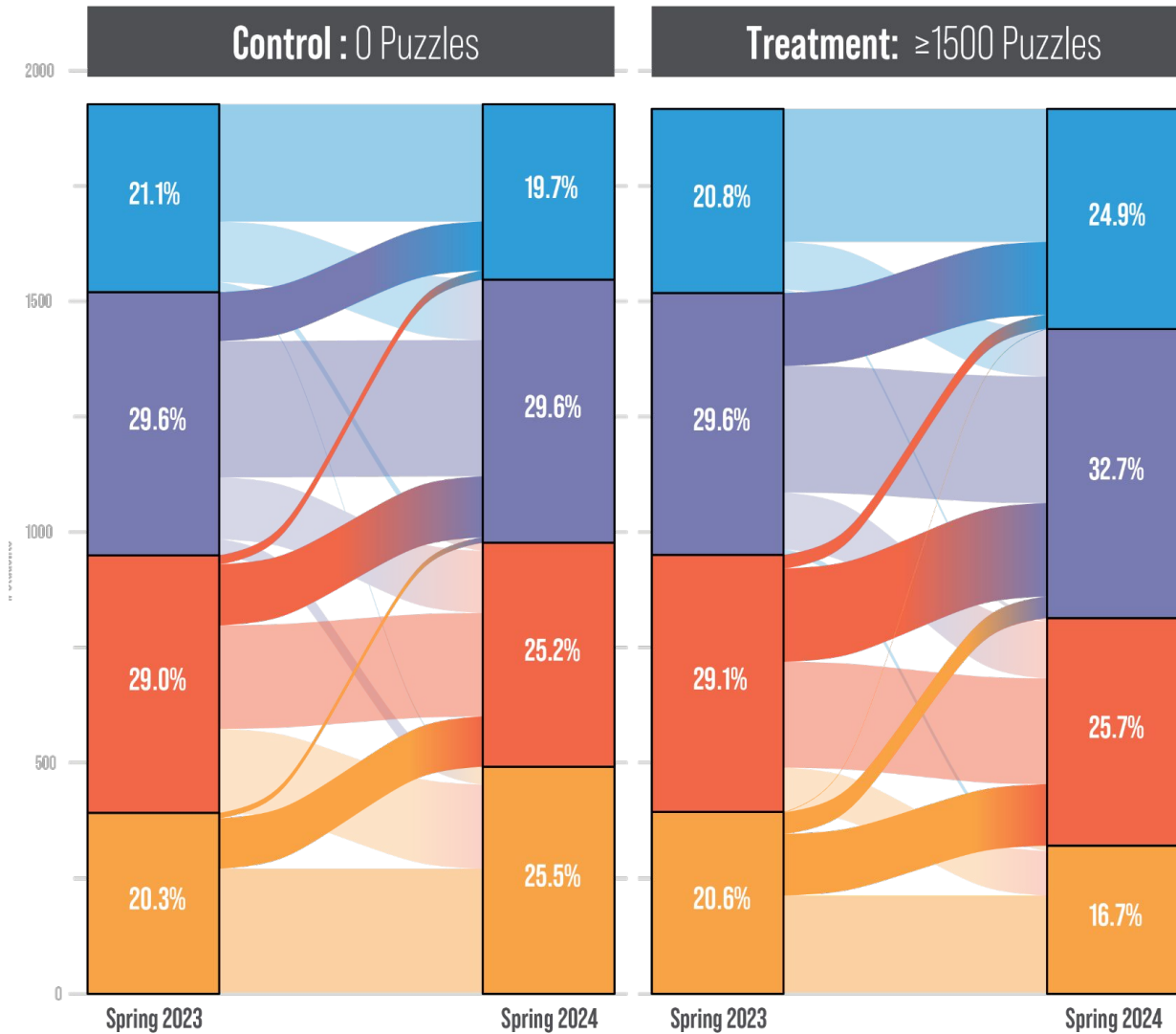| Change		Control	Treatment	Diff
Did Not Meet → Approaches +		55.5% (167)	72.9% (218)	17.4%
Meets → Masters		25.2% (276)	39.3% (431)	14.1%
Net Performance Level +		-4.5% (-165)	18.7% (689)	23.2%
Net Meets + *		0.6% (22)	13.1% (482)	12.5%

* Cohen's h = 0.58

Proficiency Levels
- Masters
- Meets
- Approaches
- Did Not Meet

Proven Repeatability: Students using ST Math for three consecutive years have shown growth at all Performance Levels, with fewer than 4% remaining at the 'Did Not Meet' level.

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ST Math Shows Dramatically Different Growth for African American Students
0.54 Effect Size: 8.5 Points More Growth in Students Scoring Meets or Masters

Control : 0 Puzzles

	Spring 2023	Spring 2024
Masters	21.1%	19.7%
Meets	29.6%	29.6%
Approaches	29.0%	25.2%
Did Not Meet	20.3%	25.5%

Treatment: ≥1500 Puzzles

	Spring 2023	Spring 2024
Masters	20.8%	24.9%
Meets	29.6%	32.7%
Approaches	29.1%	25.7%
Did Not Meet	20.6%	16.7%

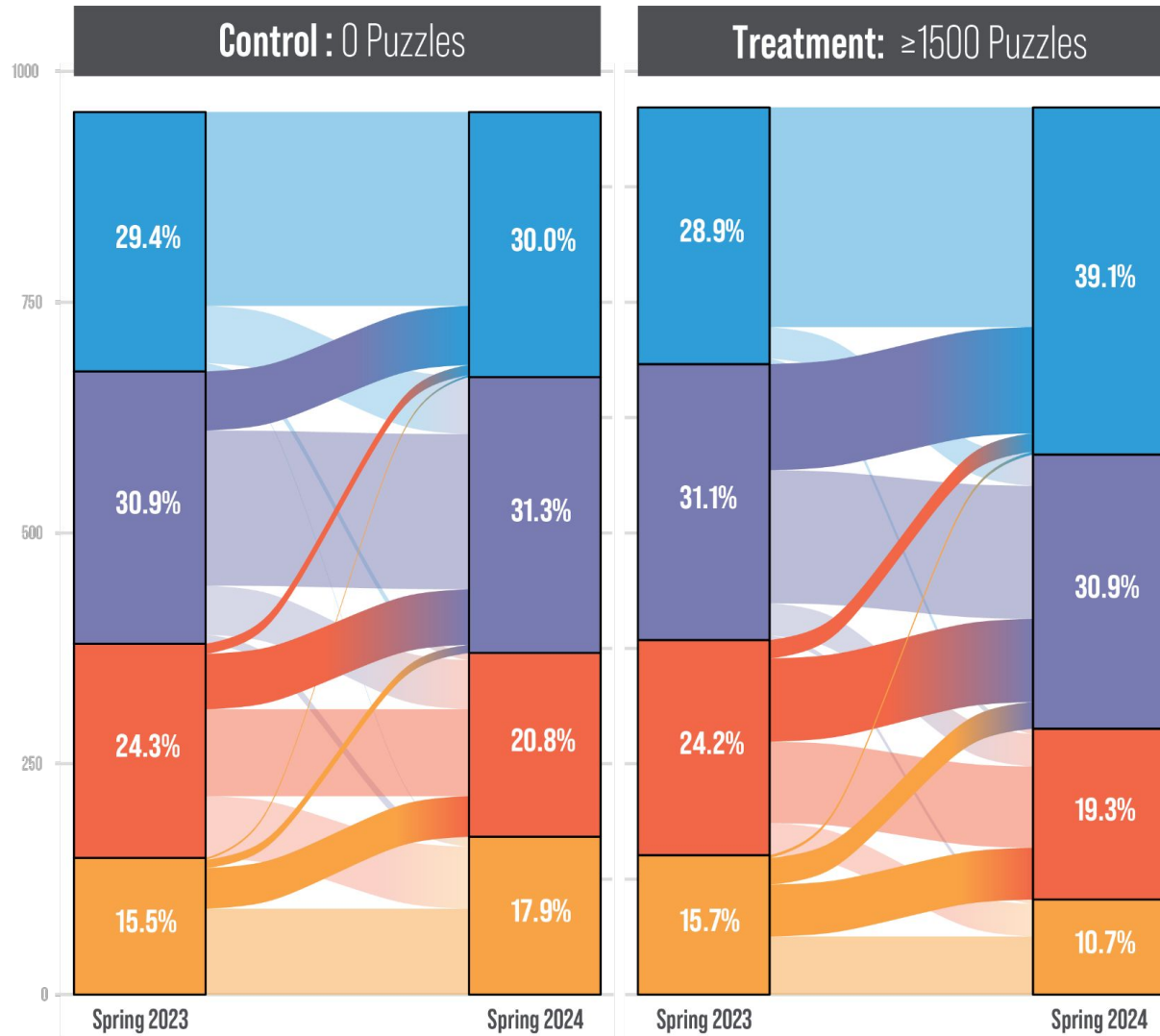| Change	Control	Treatment	Diff
Did Not Meet → Approaches +	30.9% (121)	45.9% (181)	15.0%
Meets → Masters	18.6% (106)	27.9% (158)	9.3%
Net Performance Level +	-6.5% (-125)	12.0% (229)	18.5%
Net Meets + *	-1.4% (-27)	7.2% (137)	8.6%

* Cohen's h = 0.54

Proficiency Levels
- Masters
- Meets
- Approaches
- Did Not Meet

African American students using ST Math achieve significant growth, with a 0.54 effect size, and a complete reversal of Did Not Meet issues for those without ST Math.

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Visual, Game-Based Learning with ST Math Drives ESL Gains
+10.0% Meets and +10.2% Increase in Masters for ESL students using ST Math

Control : 0 Puzzles

	Spring 2023	Spring 2024
	29.4%	30.0%
	30.9%	31.3%
	24.3%	20.8%
	15.5%	17.9%

Treatment: ≥1500 Puzzles

	Spring 2023	Spring 2024
	28.9%	39.1%
	31.1%	30.9%
	24.2%	19.3%
	15.7%	10.7%

Change	Control	Treatment	Diff
Did Not Meet → Approaches +	37.2% (55)	58.3% (88)	21.1%
Meets → Masters	21.7% (64)	38.5% (115)	16.8%
Net Performance Level +	-1.2% (-11)	20.6% (198)	21.8%
Net Meets + *	1.1% (10)	10.0% (96)	8.9%

* Cohen's h = 0.44

Proficiency Levels
- Masters
- Meets
- Approaches
- Did Not Meet

By using a visual learning approach, ST Math breaks down language barriers and supports English as a Second Language (ESL) students in achieving significant gains in STAAR Meets and Masters levels.

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