

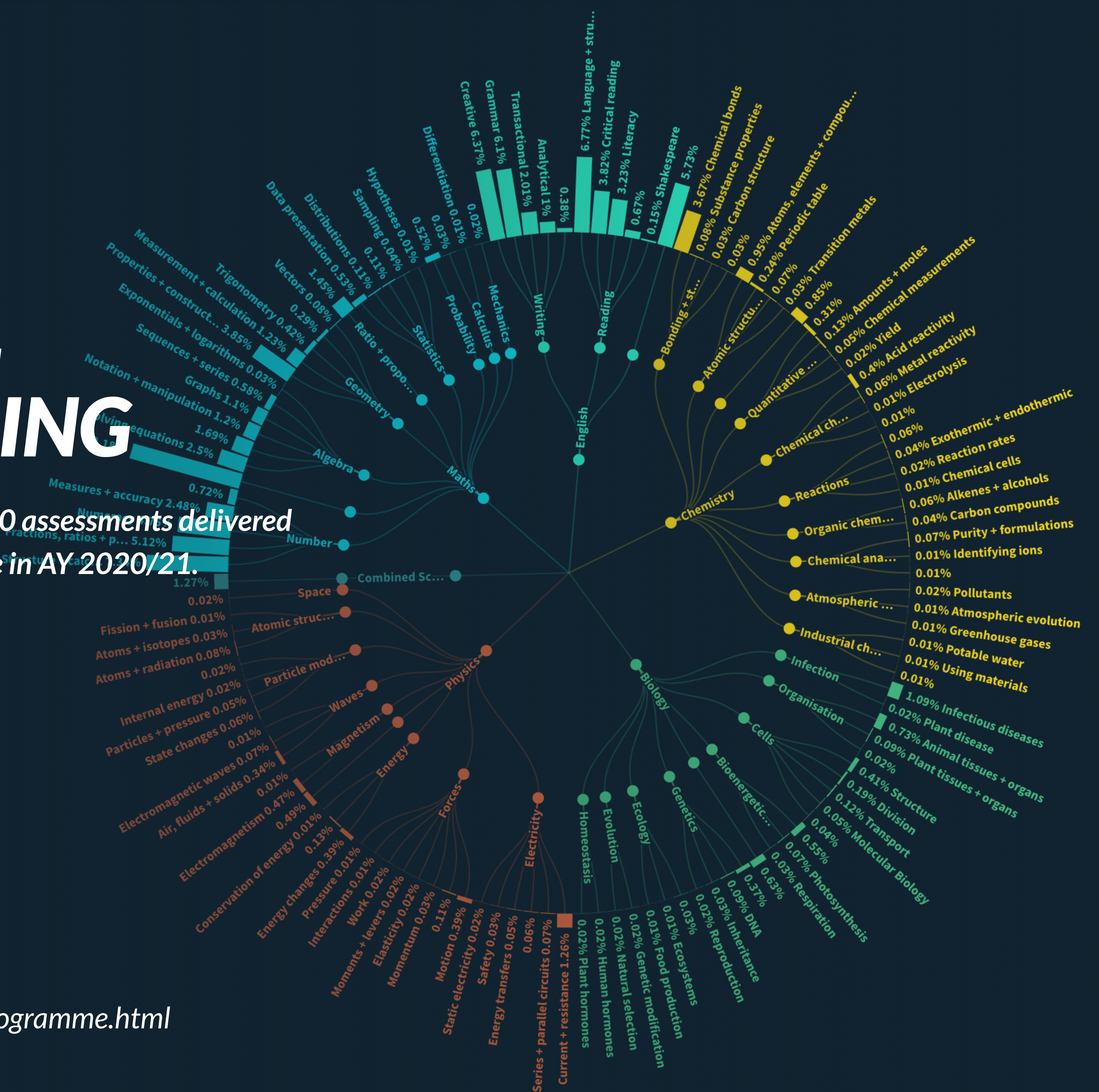
THE IMPACT OF SMALL GROUP ONLINE TUTORING

An analysis based on over 42,000 hours of online tutoring and 3,000 assessments delivered by Pearson via Bramble as part of the National Tutoring Programme in AY 2020/21.



<https://www.pearson.com/uk/educators/schools/pearson-tutoring-programme.html>

<https://about.bramble.io/>



THE IMPACT OF SMALL GROUP ONLINE TUTORING – EXECUTIVE SUMMARY



This report looks at the impact of 42,000 hours of small group online tutoring delivered to 9,100 students by Pearson via Bramble as part of the UK's National Tutoring Programme in the 2020/21 academic year. It combines Pearson assessment data for 1,520 students with a wealth of data from Bramble.

KEY FINDINGS

- *Pre and post tutoring assessments showed that on average – across all subjects, ages and regions – students increased their scores by two thirds (67%).*
- *Younger students made more progress: a 72% increase at KS2 vs 59% at KS4.*
- *The greatest progress was made in maths, with an average increase of 88% across all ages and regions – albeit starting from a lower baseline than English.*
- *KS2 maths students receiving pupil premium doubled their assessment scores before and after tutoring.*
- *West Midlands students made the greatest progress (91%), drawing level with London students who made the least (49%), albeit from the highest baseline.*
- *The most tutoring was delivered in London: 8,558 hours. This was 8x the least, with 1,061 hours delivered in the North East.*
- *Although a small sample, the tutoring that was delivered in the North East did appear to have significant impact – with a 69% increase in scores.*
- *Students were generally highly engaged, with tutors reporting an average engagement score of 82%.*
- *Student confidence, as reported by their tutors, increased by 18% between their first and final tutoring sessions.*
- *The most tutored topics in maths were: number (44% of maths sessions), algebra (15%) and geometry (13%).*
- *Within number, the most tutored subtopics were: structure + calculation (16%), fractions, ratios + percentages (11%) and numeracy (10%).*
- *The most tutored English subtopics were: language + structure (19%), creative writing (18%) and grammar (17%).*
- *Chemistry was the most tutored science (42% of science sessions), followed by biology (27%), physics (24%) and combined science (7%).*

THE IMPACT OF SMALL GROUP ONLINE TUTORING – INTRODUCTION



The data in this report is from small group online tutoring sessions delivered by Pearson via Bramble in the first year of the UK's National Tutoring Programme (NTP). Students typically received 15 one hour sessions of live online tutoring in a specific subject: English, maths or science. These sessions were usually delivered in small groups with three students and one tutor in each session. This report looks at data from four sources.

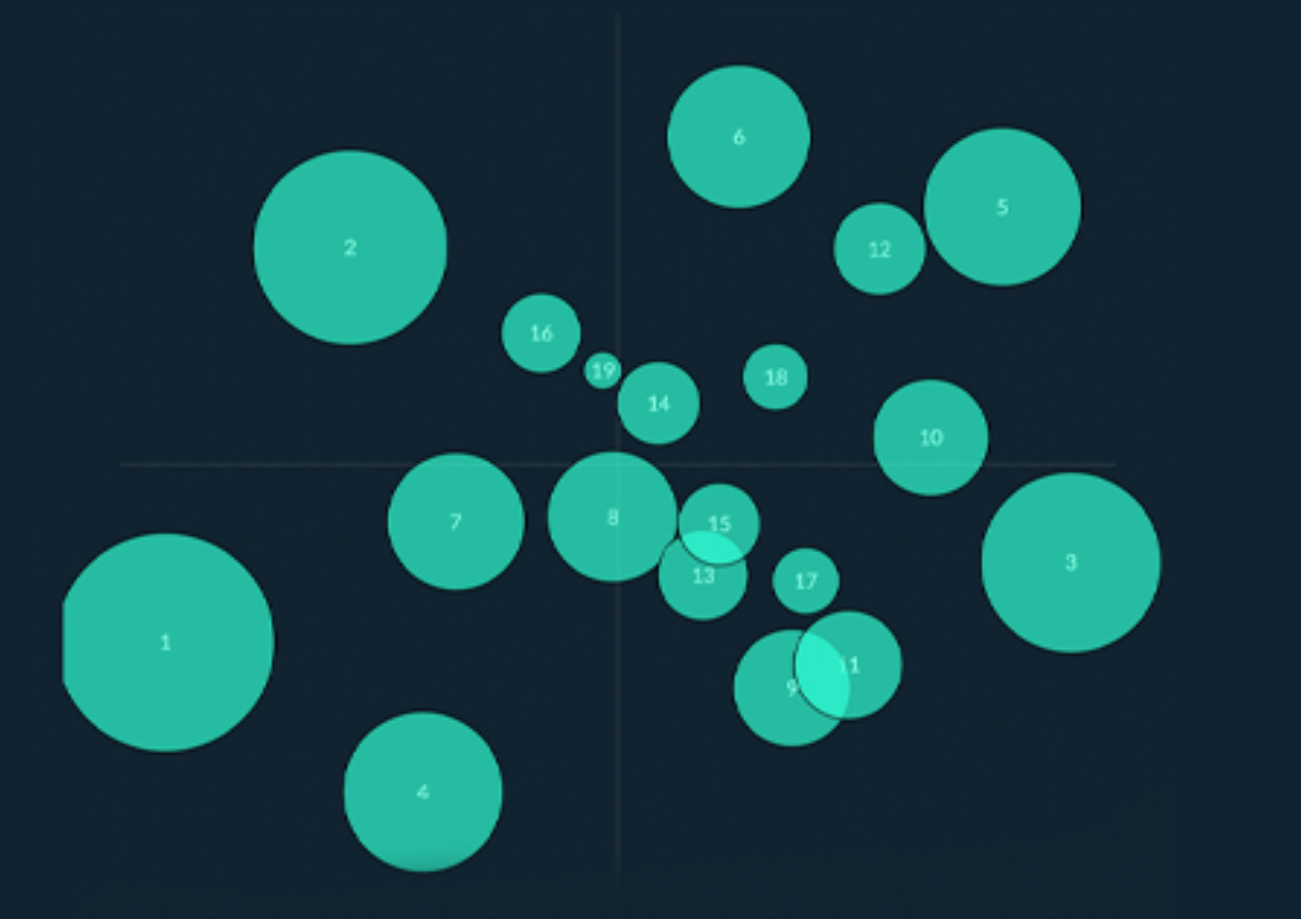
1) PEARSON ASSESSMENT DATA

Students were set a topic based assessment before and after their tutoring programme. We can calculate progress for students who complete a pre + post assessment.



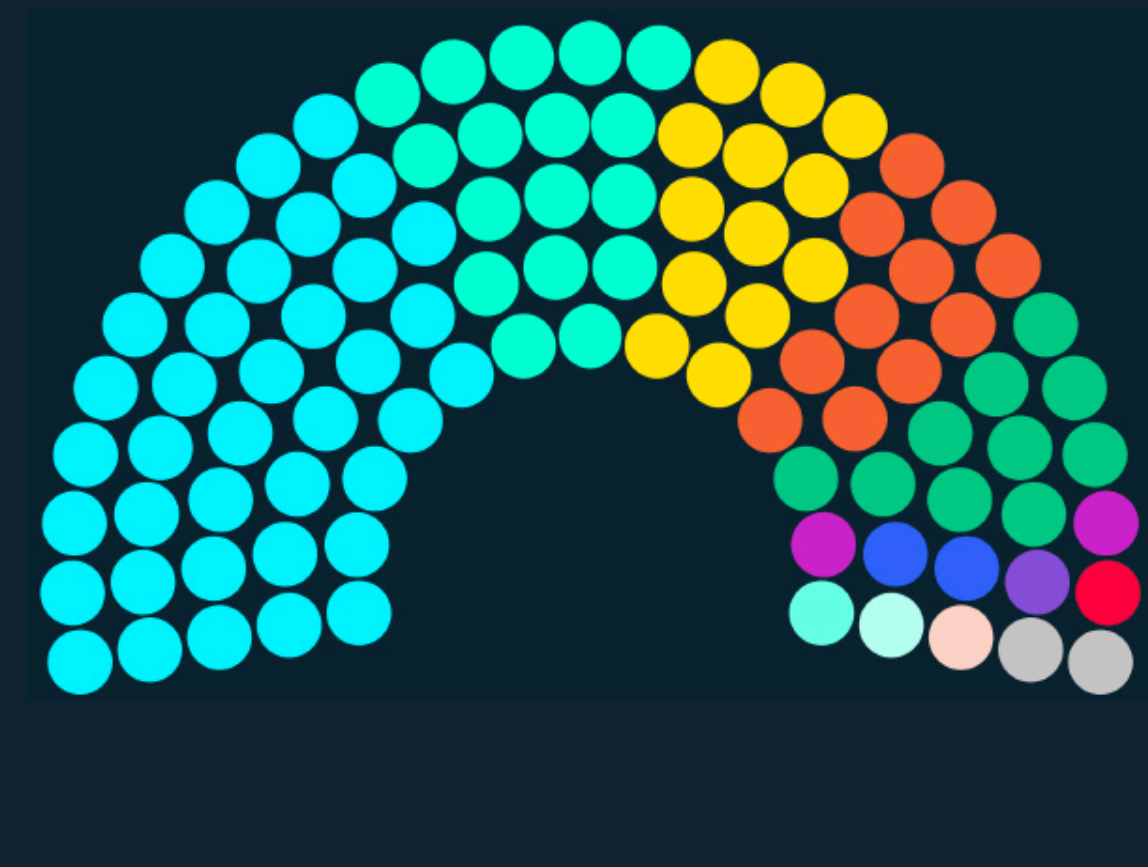
2) BRAMBLE AI SUBTOPIC DETECTION

Bramble's Smart Subtopic detection technology uses AI trained on 1.5 million hours of live online tutoring to automatically detect the subject, topic and subtopic being taught in a session.



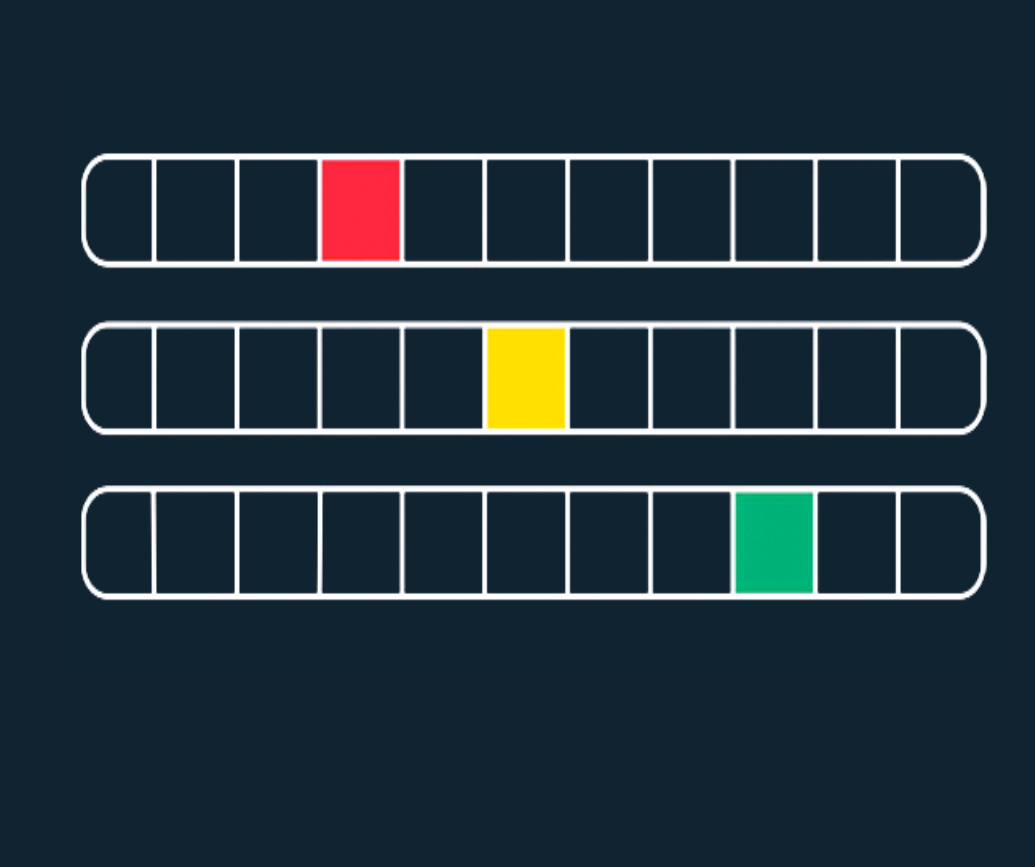
3) BRAMBLE ENGAGEMENT DATA

Every session on Bramble generates thousands of engagement data points: from words spoken and annotations drawn through to resources shared.



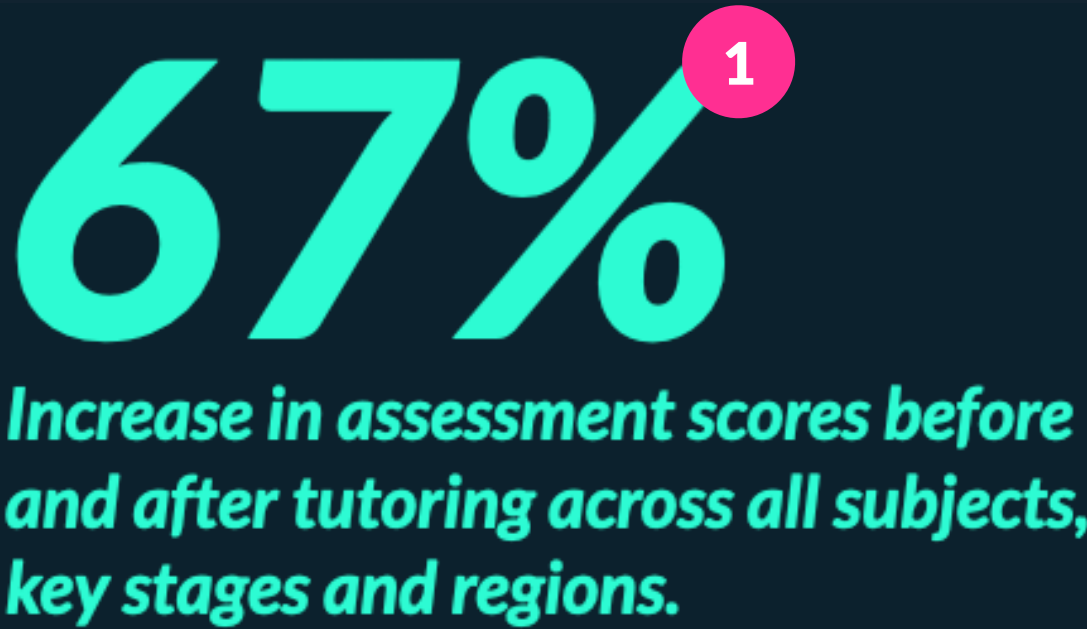
4) BRAMBLE CUE RATINGS

Tutors rate student confidence, understanding and engagement after each session to provide further insight on the progress made.



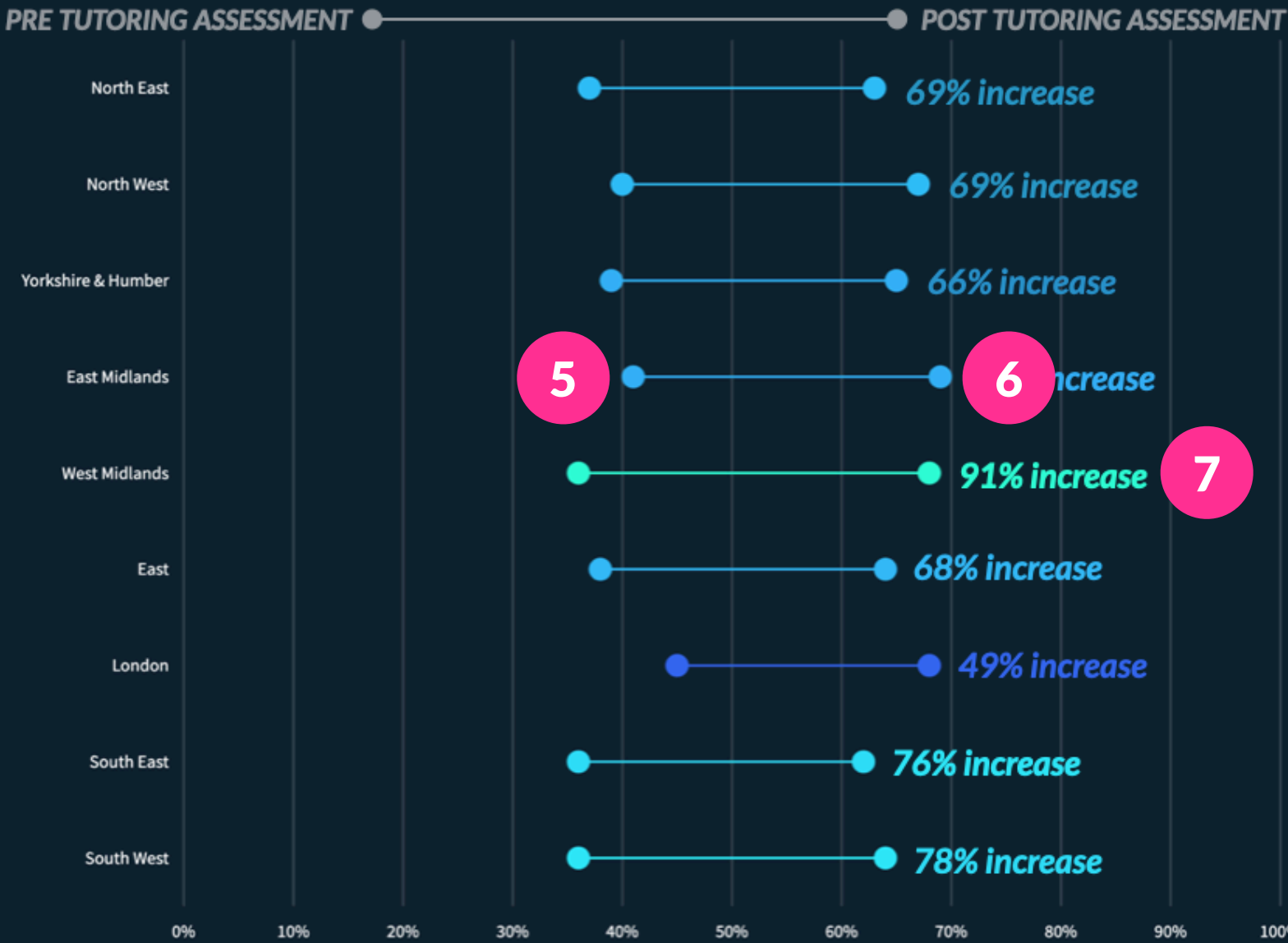
GUIDE TO INTERPRETING THE DATA

- 1) Percentage increase in assessment score calculated by dividing the difference between pre assessment and post assessment by the pre assessment score = (post-pre) / (pre).
- 2) Comparing the increase across different cohorts: Key Stage 2 students not receiving pupil premium (KS2 PP N) vs Key Stage 2 students receiving pupil premium (KS2 PP Y).
- 3) Sample sizes for the different cohorts. 67% was the average progress across all 1,521 students who completed both assessments.
- 4) Breakdown of the subjects, topics and subtopics taught in sessions by % as autodetected by Bramble's Smart Subtopics. 7.3% of sessions = maths > number > structure + calculation. 6.4% of sessions = English > writing > creative.
- 5) Visualising pre and post assessment scores: (5) shows the average pre test score for all students in the East Midlands.
- 6) Visualising pre and post assessment scores: (6) shows the average post test score for all students in the East Midlands.
- 7) The increase in assessment scores as calculated in (1). This visualisation highlights that the greater increase in the West Midlands vs London was partly due to lower starting scores.
- 8) Mapping increases to the NUTS 1 statistical regions across which tutoring was delivered.

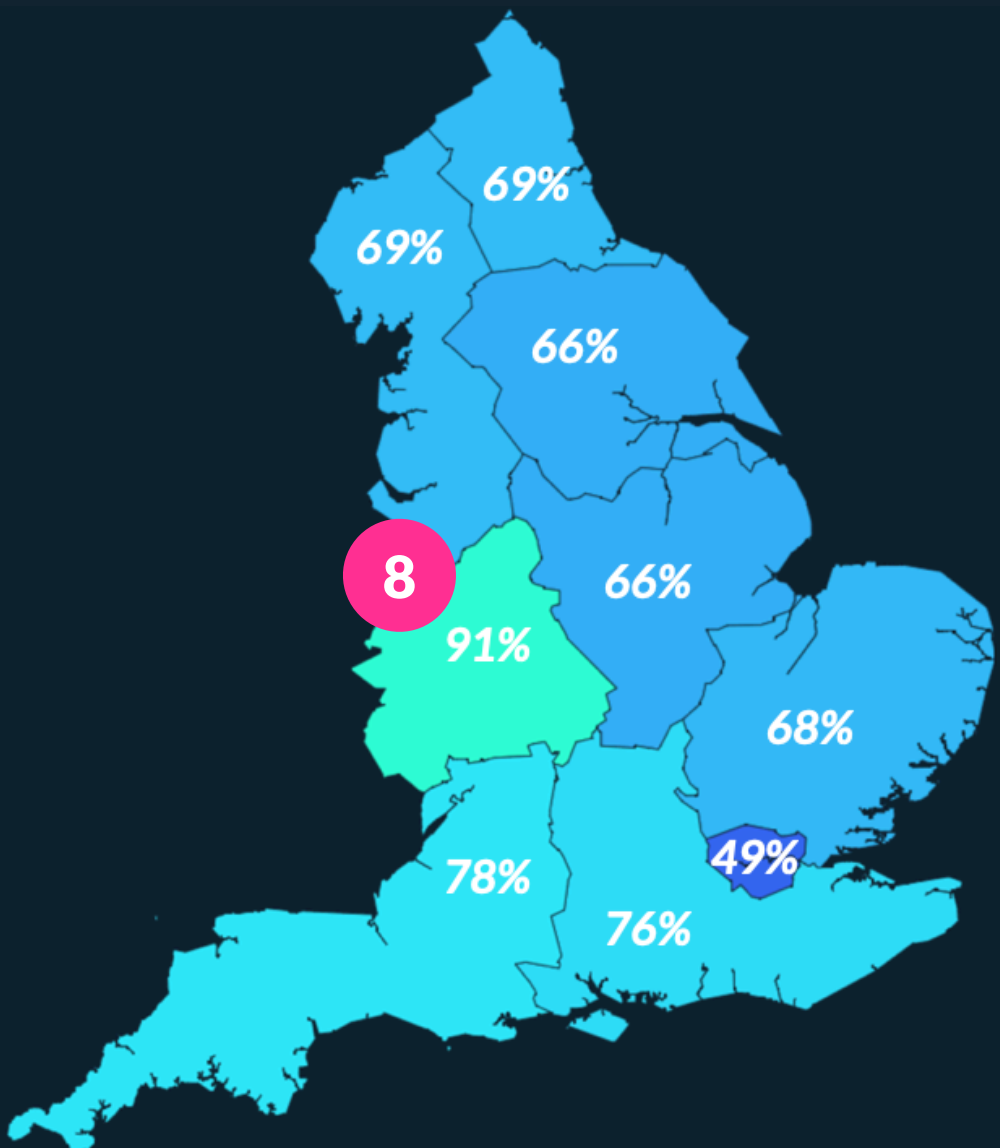
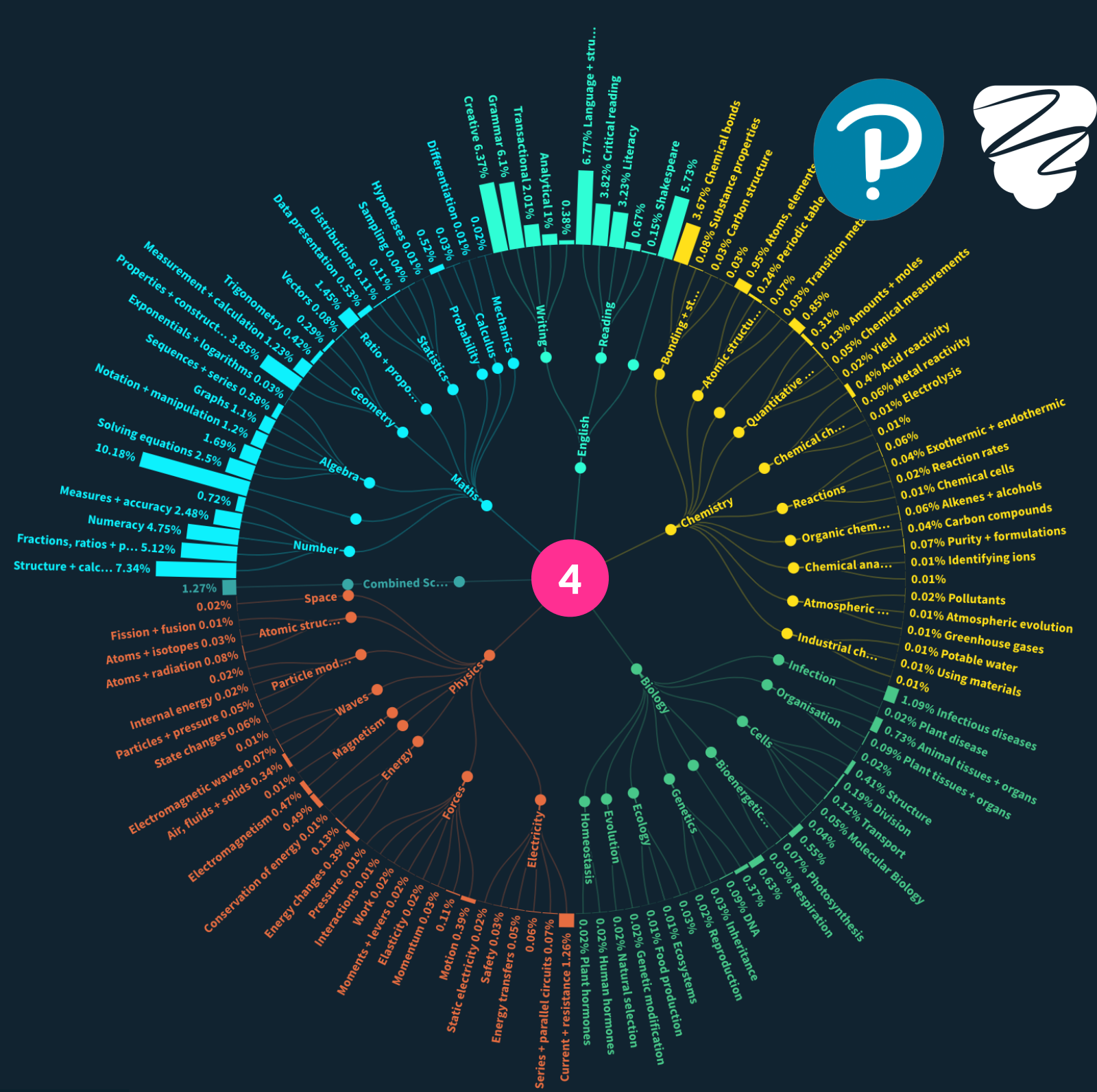


3

Students assessed = 1521.
KS2 PP N = 594. KS2 PP Y = 234. KS4 PP N = 393. KS4 PP Y = 231.



NE = 47 students assessed. NW = 216. Y = 179. EM = 117. WM = 132. E = 226. L = 298. SE = 188. SW = 118.



THE IMPACT OF SMALL GROUP ONLINE TUTORING – PROGRESS + CONTENT



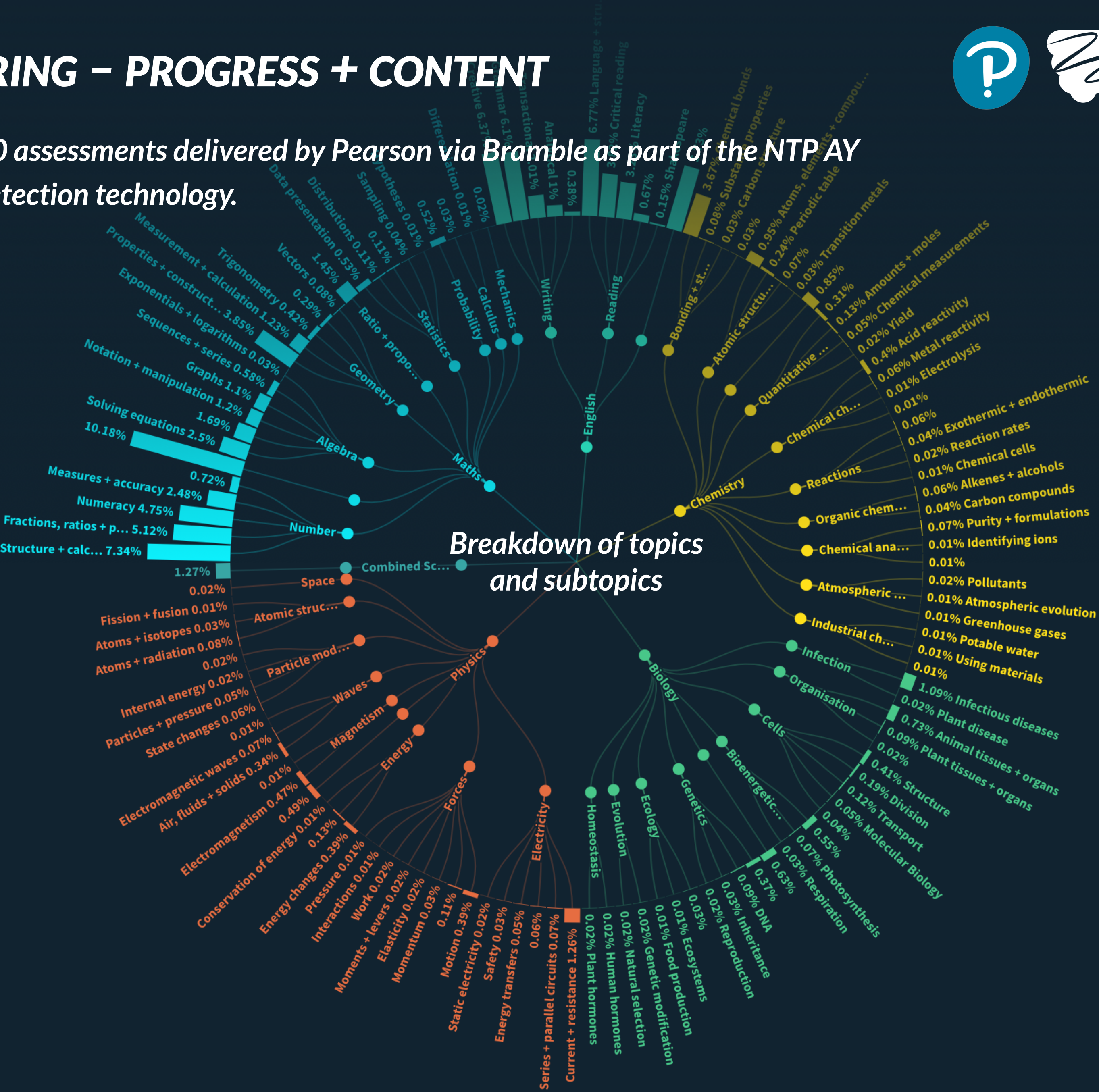
An analysis based on over 42,000 hours of online tutoring and 3,000 assessments delivered by Pearson via Bramble as part of the NTPAY 2020/21. Content insights provided by Bramble’s Smart Subtopic detection technology.

67%

Increase in assessment scores before and after tutoring across all subjects, key stages and regions.

KS2 (PP N)	74%
KS2 (PP Y)	67%
KS4 (PP N)	60%
KS4 (PP Y)	57%

Students assessed = 1521.
KS2 PP N = 594. KS2 PP Y = 234. KS4 PP N = 393. KS4 PP Y = 231.



THE IMPACT OF SMALL GROUP ONLINE TUTORING – ENGAGEMENT + REACH



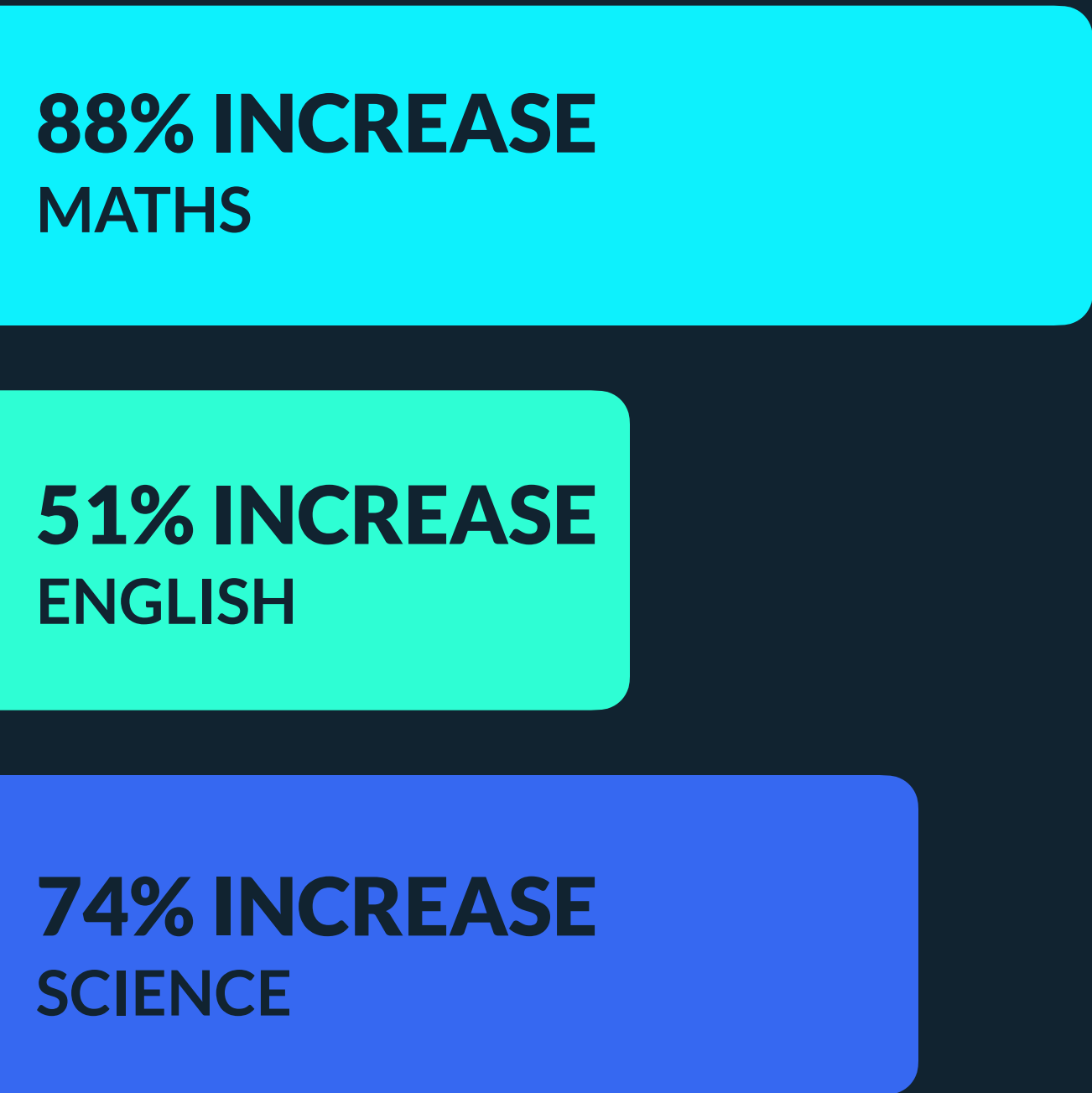
An analysis based on over 42,000 hours of online tutoring delivered by Pearson via Bramble as part of the NTP AY 2020/21.



9,100 STUDENTS REACHED



1,520 STUDENTS ASSESSED



M = 717 students assessed. E = 654. S = 150.

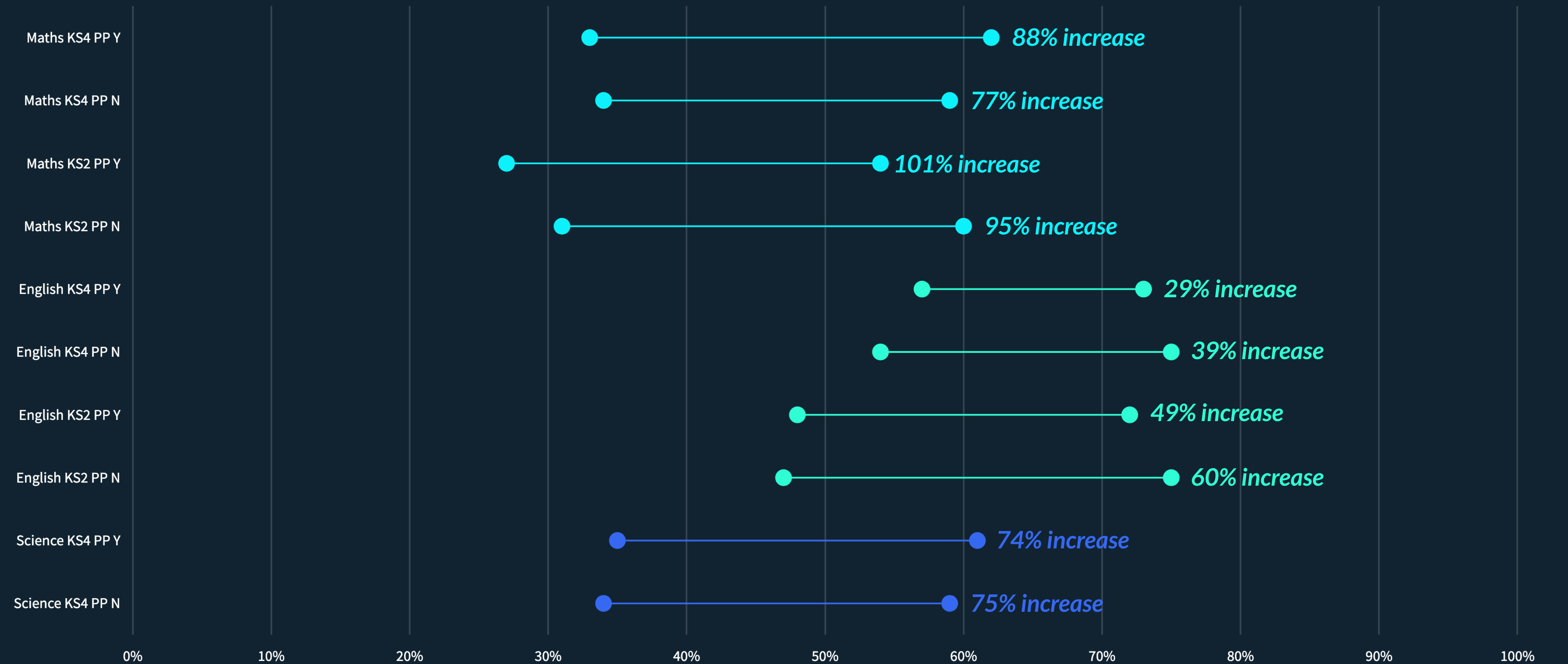
75,400 CUE RATINGS



THE IMPACT OF SMALL GROUP ONLINE TUTORING – PROGRESS BY SUBJECT



The greatest progress was made in maths, with **KS2 PP students doubling their assessment scores** pre and post tutoring. In part, this was due to the low baseline scores for maths. That contrasts with English, where final scores were higher but from a much higher base.



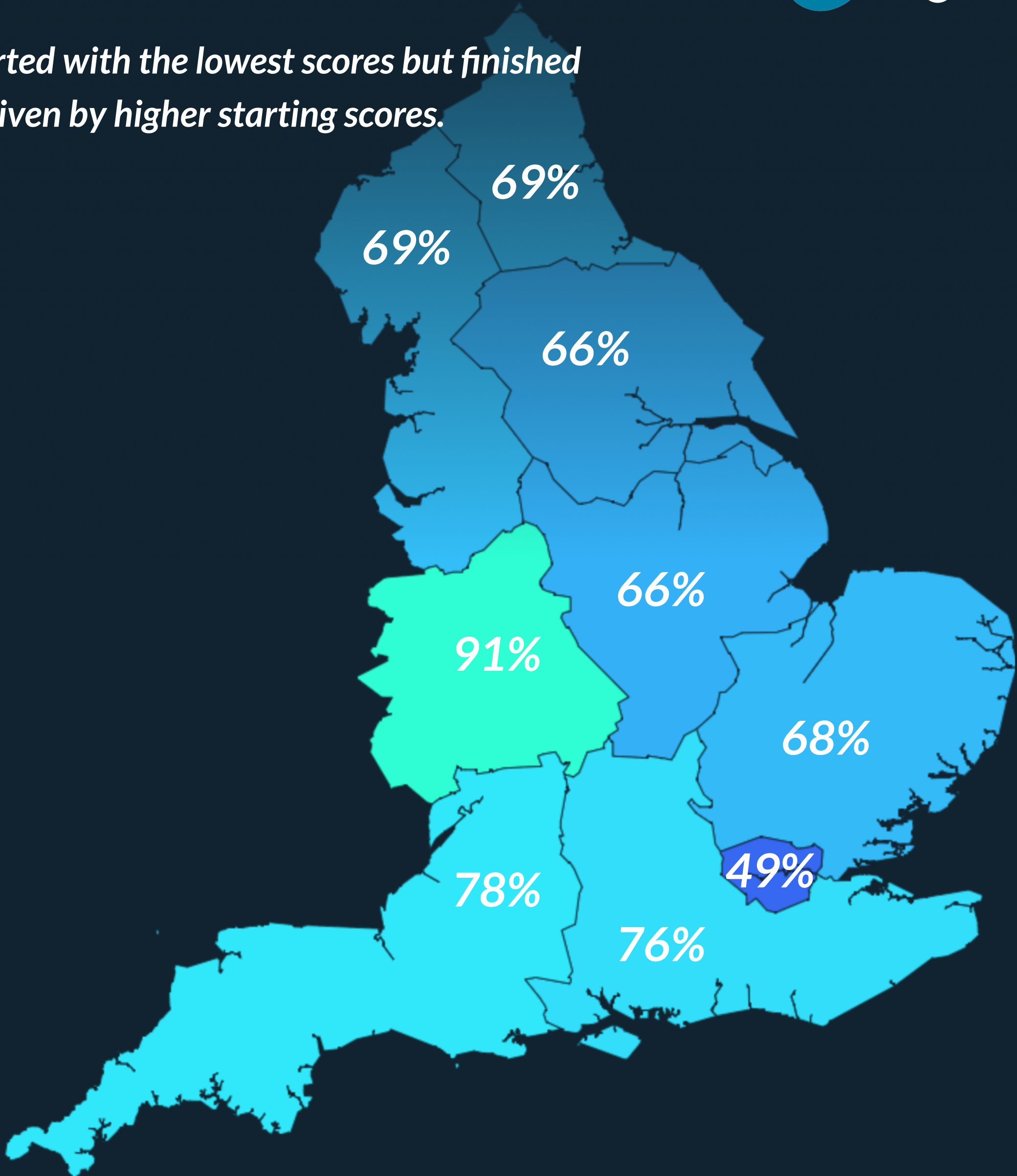
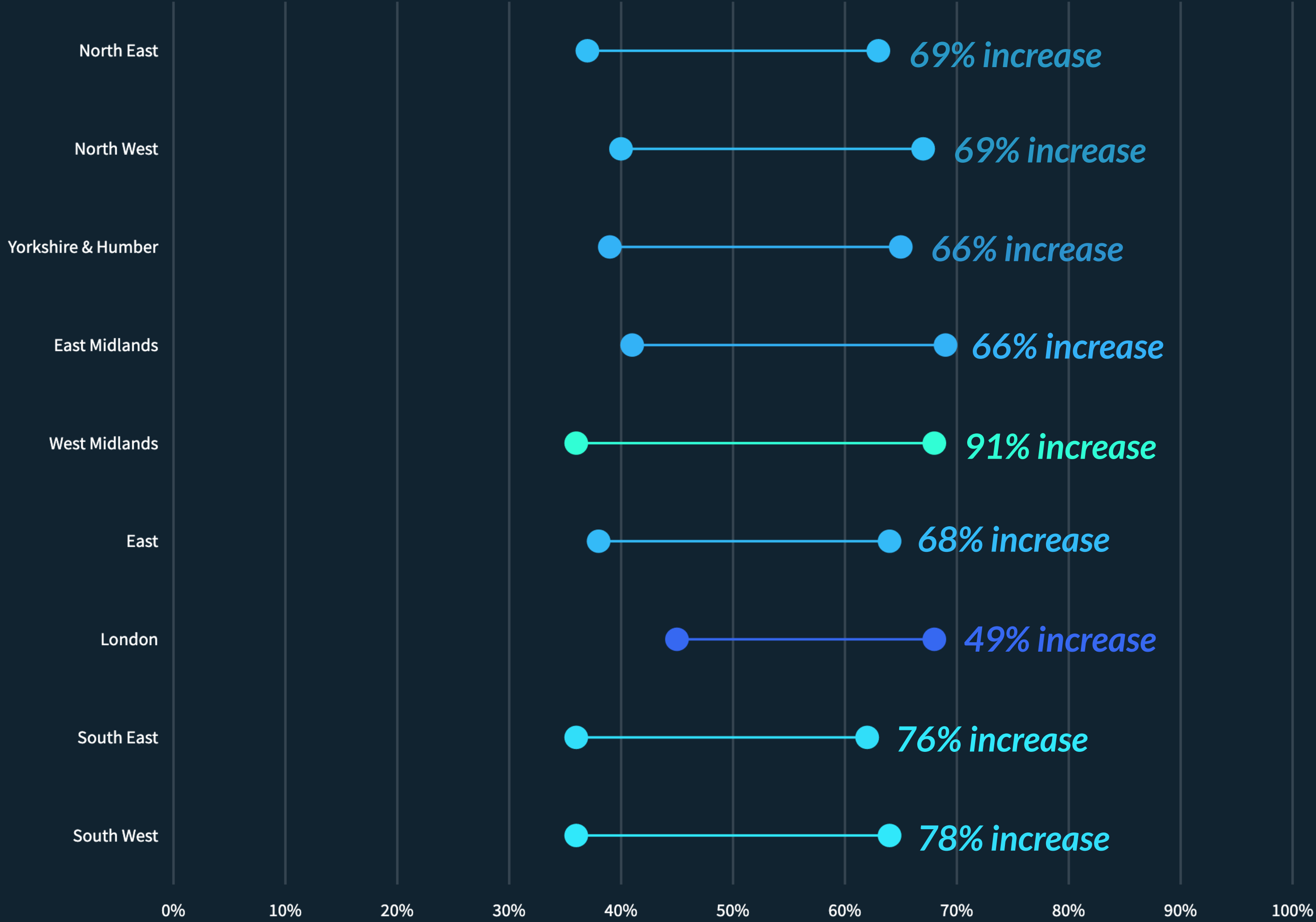
M KS4 PP Y = 86 students assessed. M KS4 PP N = 196. M KS2 PP Y = 113. M KS2 PP N = 294. E KS4 PP Y = 80. E KS4 PP N = 126. E KS2 PP Y = 121. E KS2 PP N = 300. S KS4 PP Y = 65. S KS4 PP N = 71. Learn more at <https://about.bramble.io/>

THE IMPACT OF SMALL GROUP ONLINE TUTORING – PROGRESS BY REGION



The greatest increase in assessment scores was 91% in the West Midlands. Students there started with the lowest scores but finished level with London and behind only the East Midlands. London’s smaller increase was partly driven by higher starting scores.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



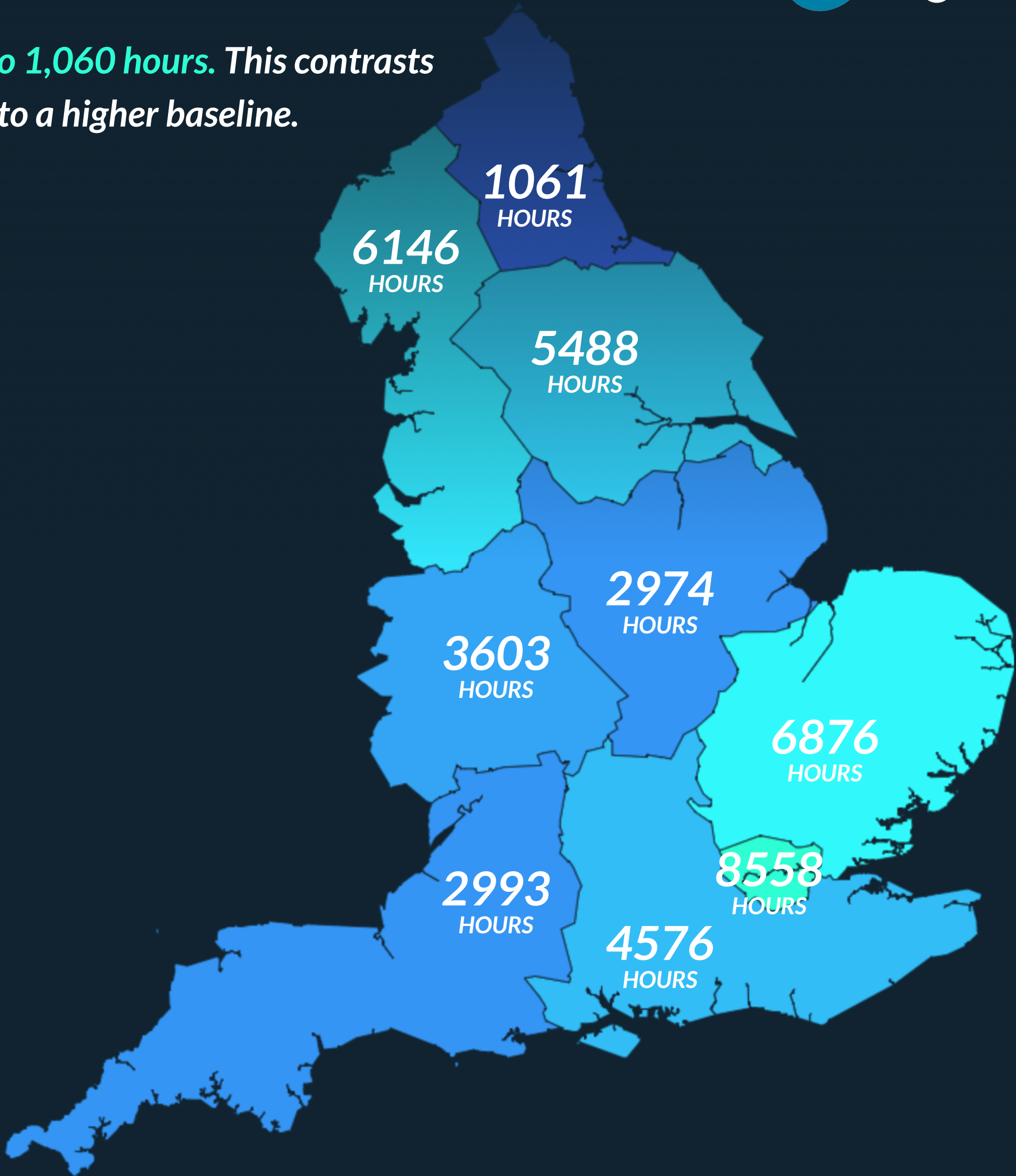
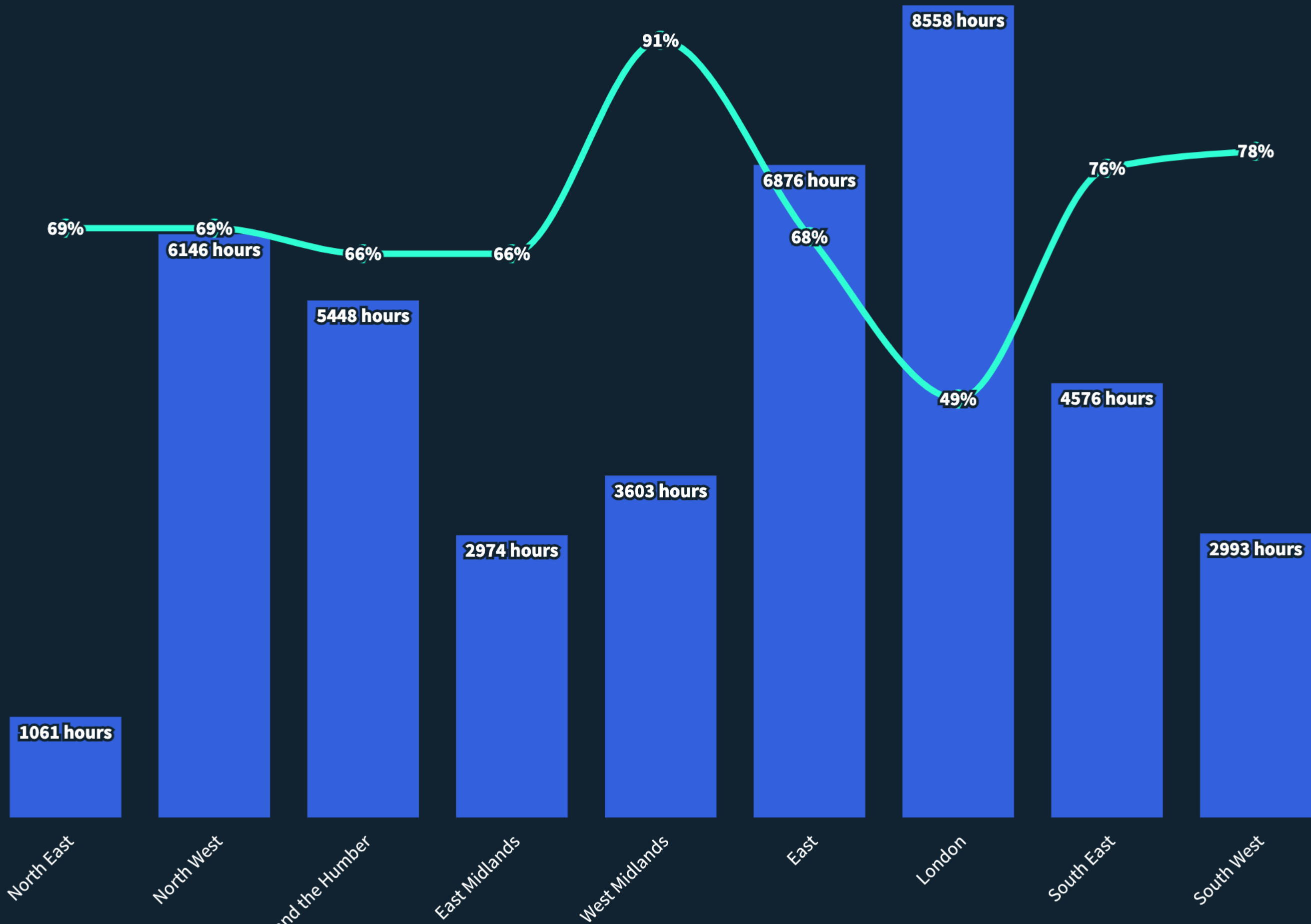
NE = 47 students assessed. NW = 216. Y = 179. EM = 117. WM = 132. E = 226. L = 298. SE = 188. SW = 118.

THE IMPACT OF SMALL GROUP ONLINE TUTORING – REACH BY REGION



Whilst *significant progress (69%)* was made by students in the North East, reach was limited to 1,060 hours. This contrasts with London, which saw the most hours at 8,560 yet the smallest relative progress (49%) due to a higher baseline.

Progress Hours



NE = 47 students assessed. NW = 216. Y = 179. EM = 117. WM = 132. E = 226. L = 298. SE = 188. SW = 118.

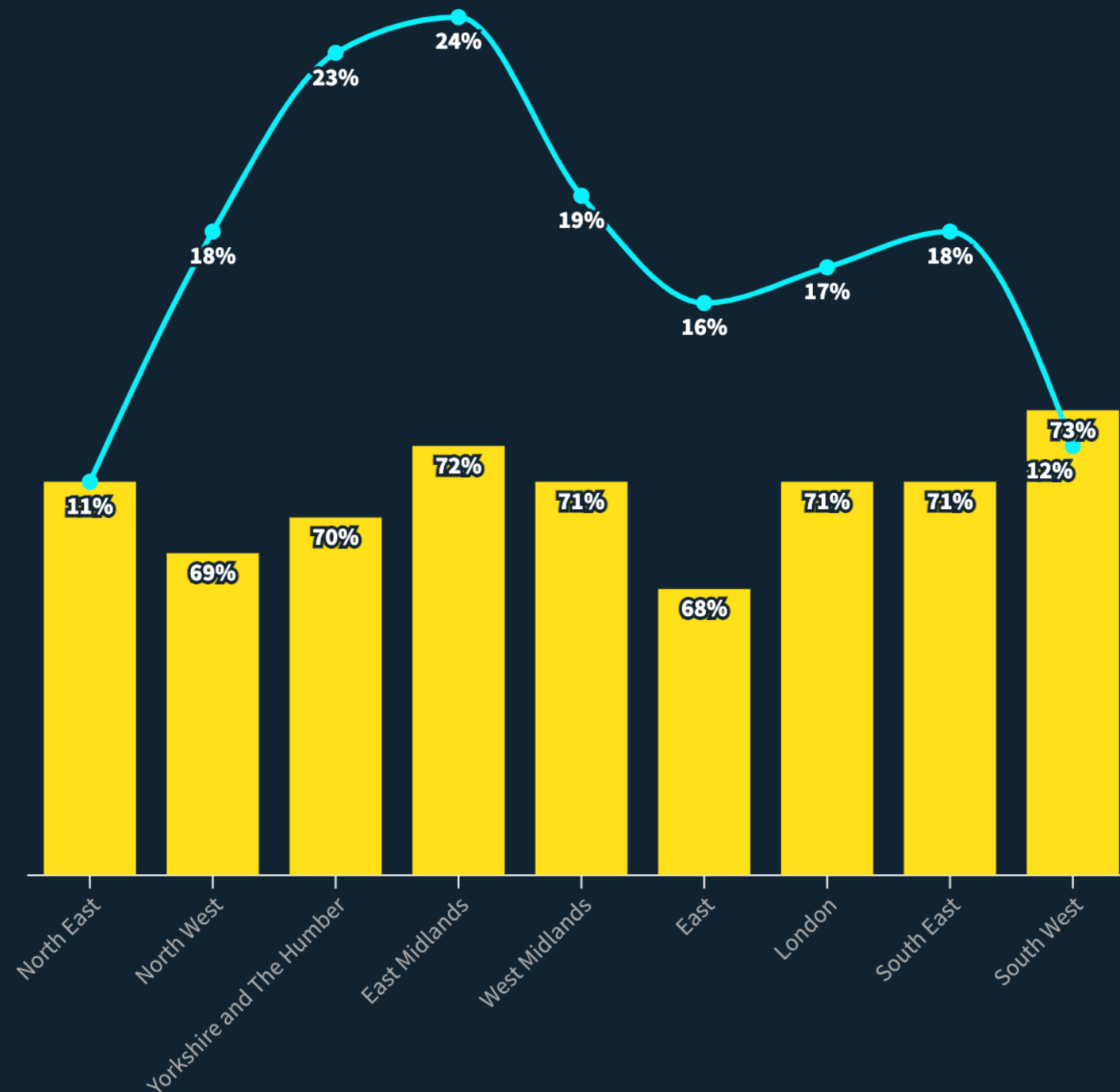
THE IMPACT OF SMALL GROUP ONLINE TUTORING – CUE BY REGION



Tutors are asked to rate student confidence, understanding and engagement after each session on Bramble. These CUE Ratings allow us to compare averages between regions and also observe the increase in confidence, understanding and engagement that occurs over a block of tutoring.

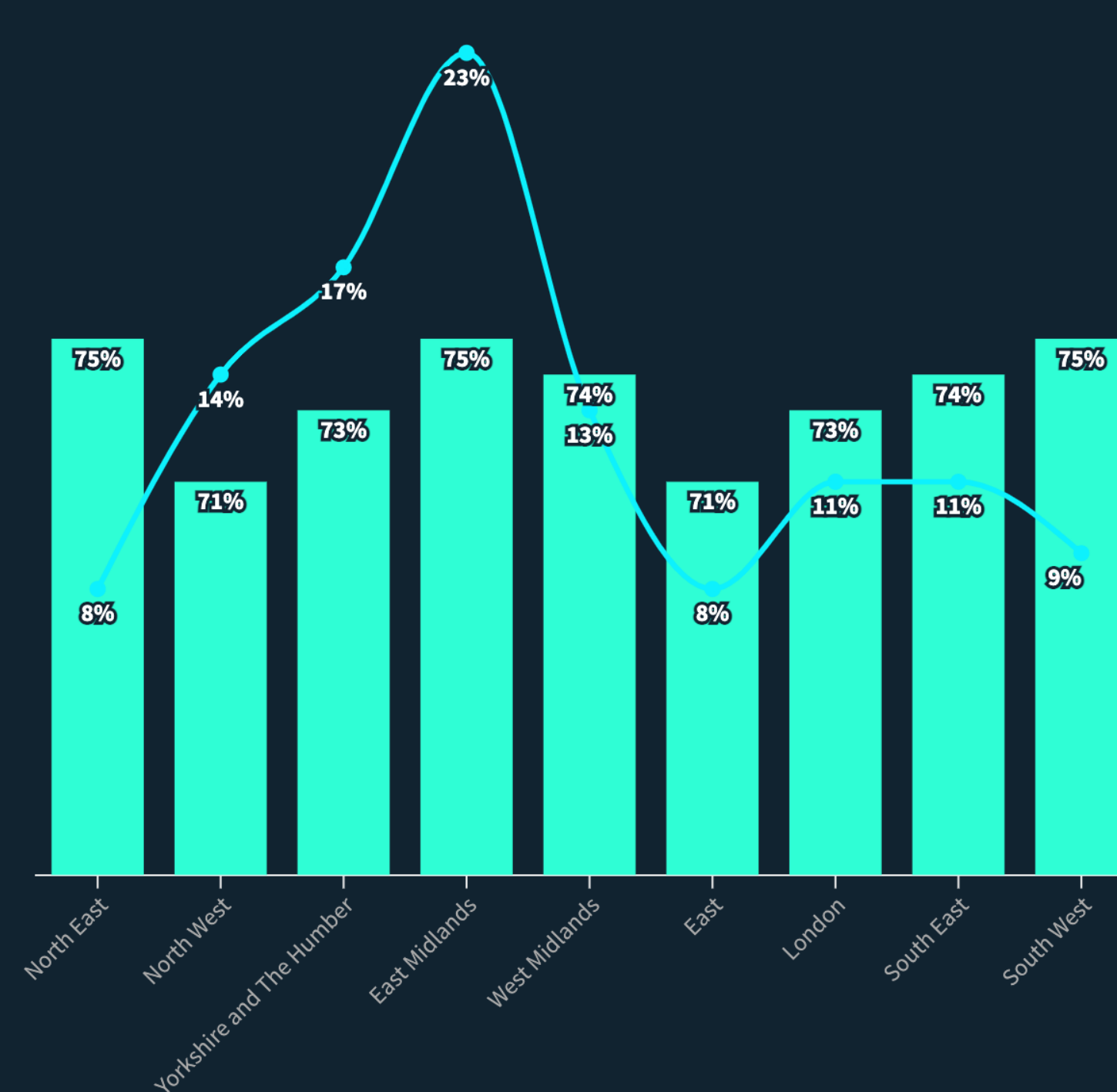
70% CONFIDENCE AVERAGE
18% CONFIDENCE INCREASE

■ Confidence Increase ■ Confidence Average



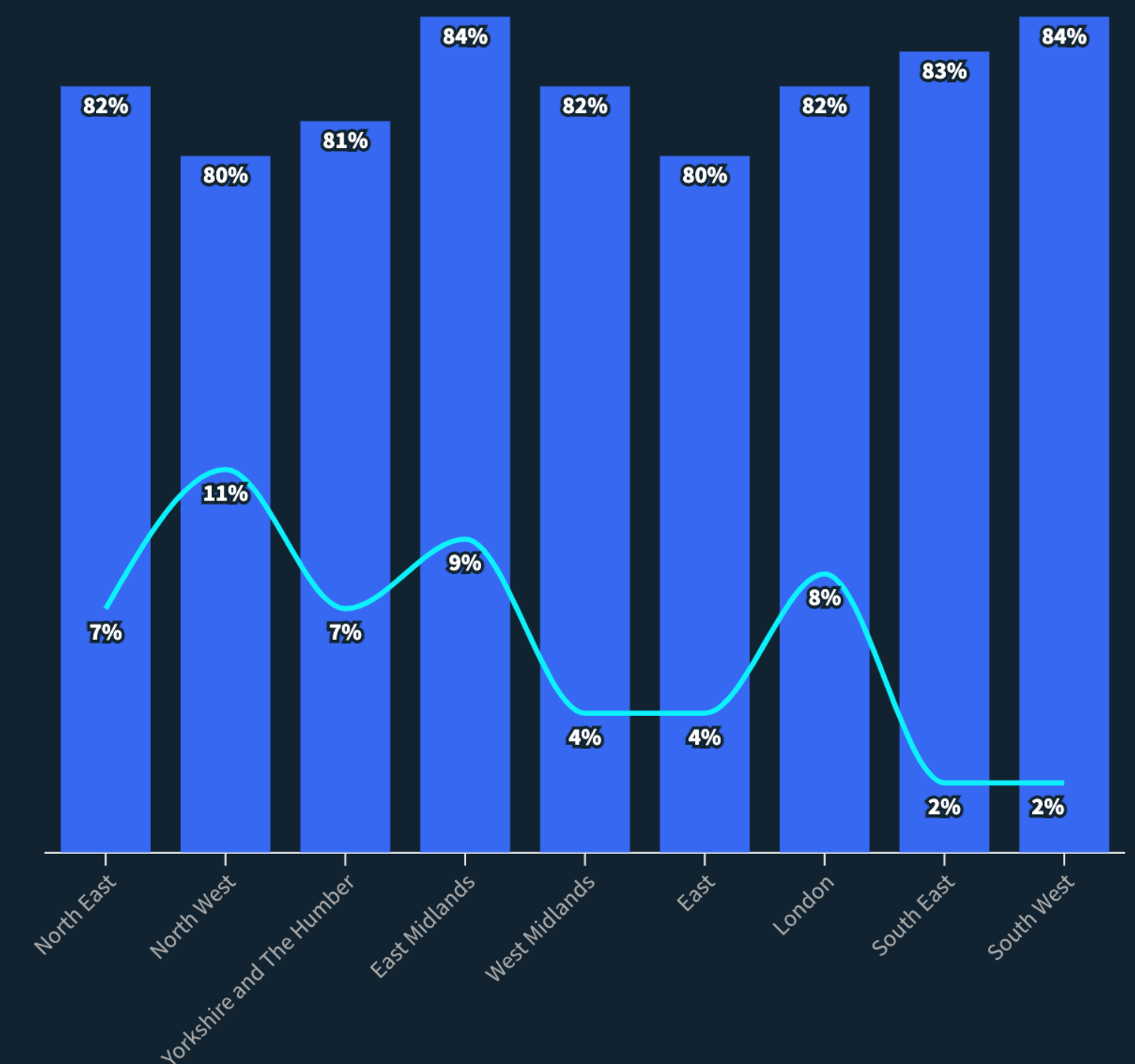
73% UNDERSTANDING AVERAGE
13% UNDERSTANDING INCREASE

■ Understanding Increase ■ Understanding Average



82% ENGAGEMENT AVERAGE
6% ENGAGEMENT INCREASE

■ Engagement Increase ■ Engagement Average

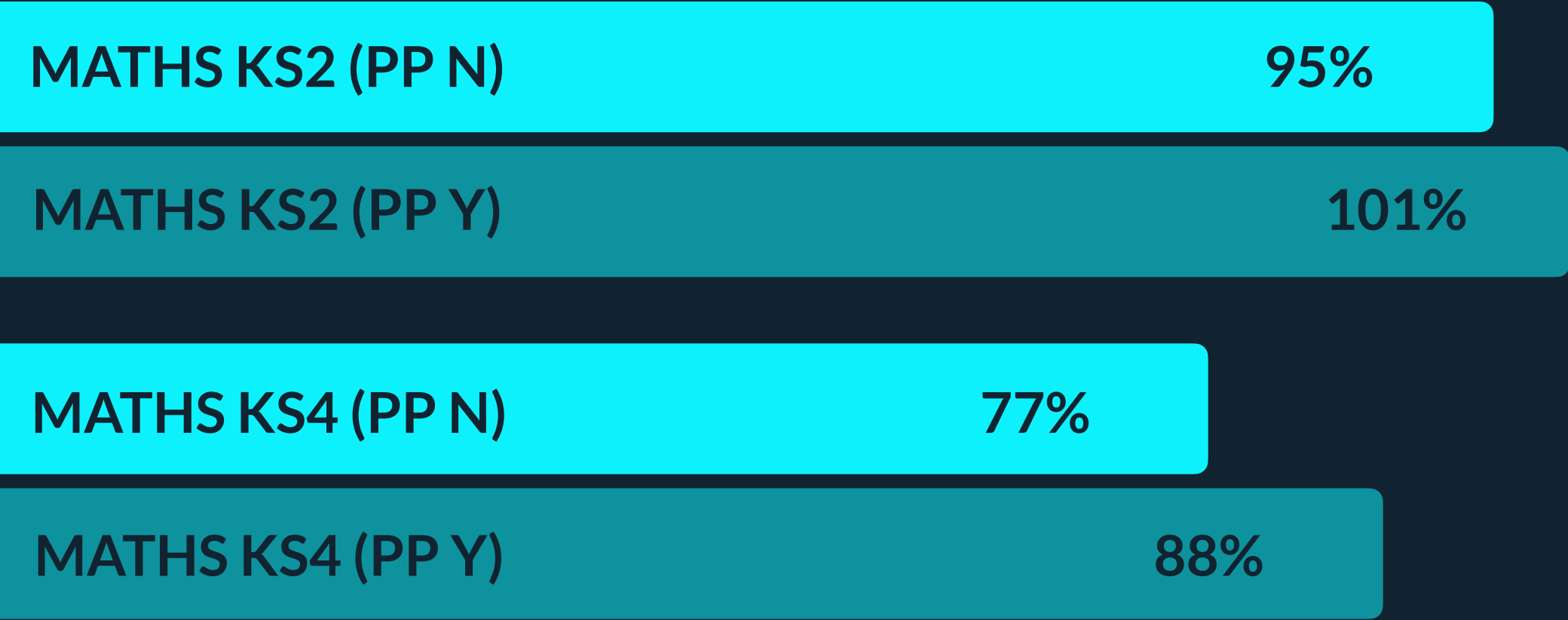


THE IMPACT OF SMALL GROUP ONLINE TUTORING – MATHS

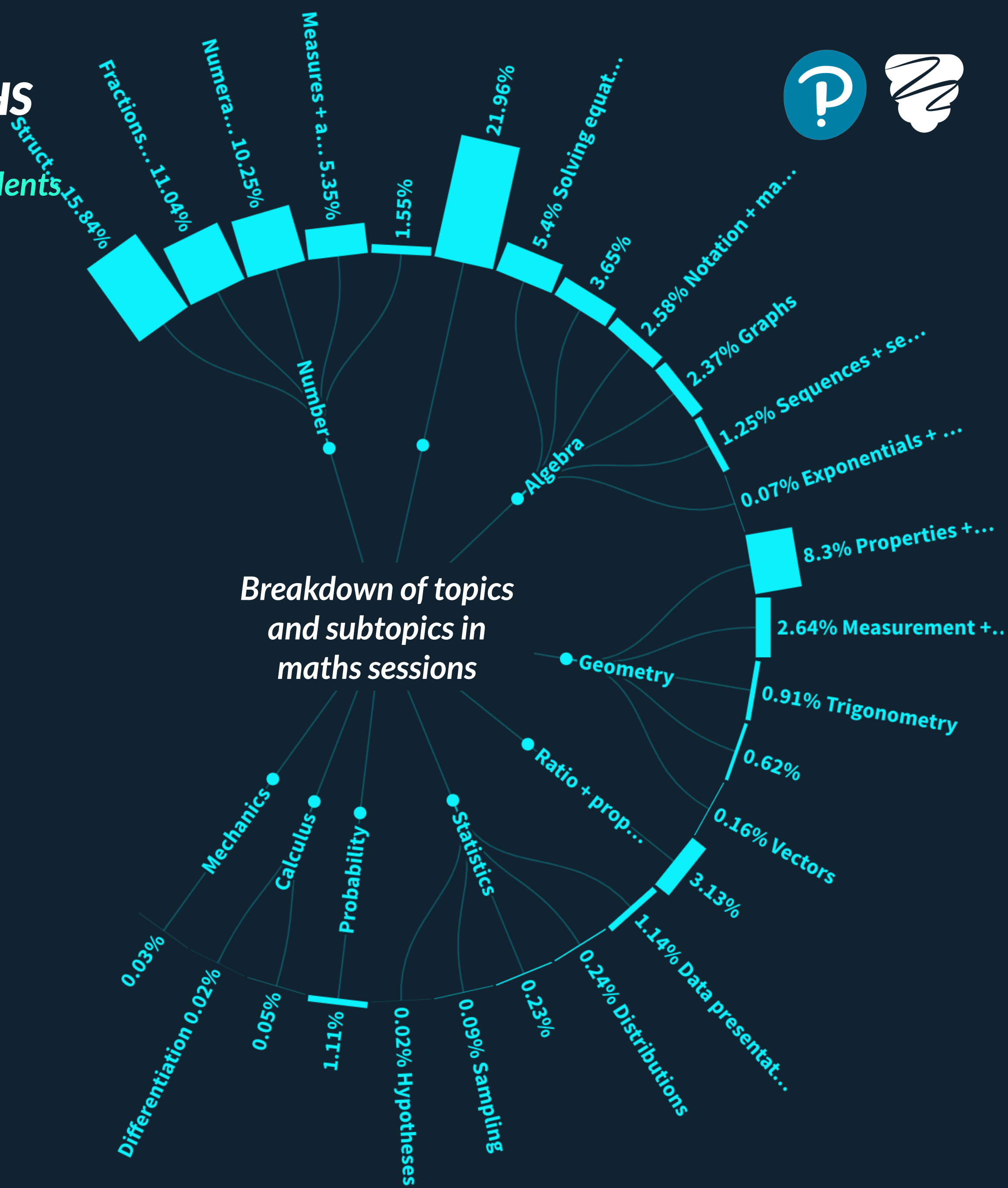
The greatest progress was made in maths, particularly with younger students. **KS2 students receiving pupil premium more than doubled their assessment scores before and after tutoring.** 44% of maths sessions focussed on number, 15% focussed on algebra.

88%

Increase in assessment scores before and after maths tutoring across all key stages and regions.



Students assessed = 717.
KS2 PP N = 294. KS2 PP Y = 113. KS4 PP N = 196. KS4 PP Y = 86.



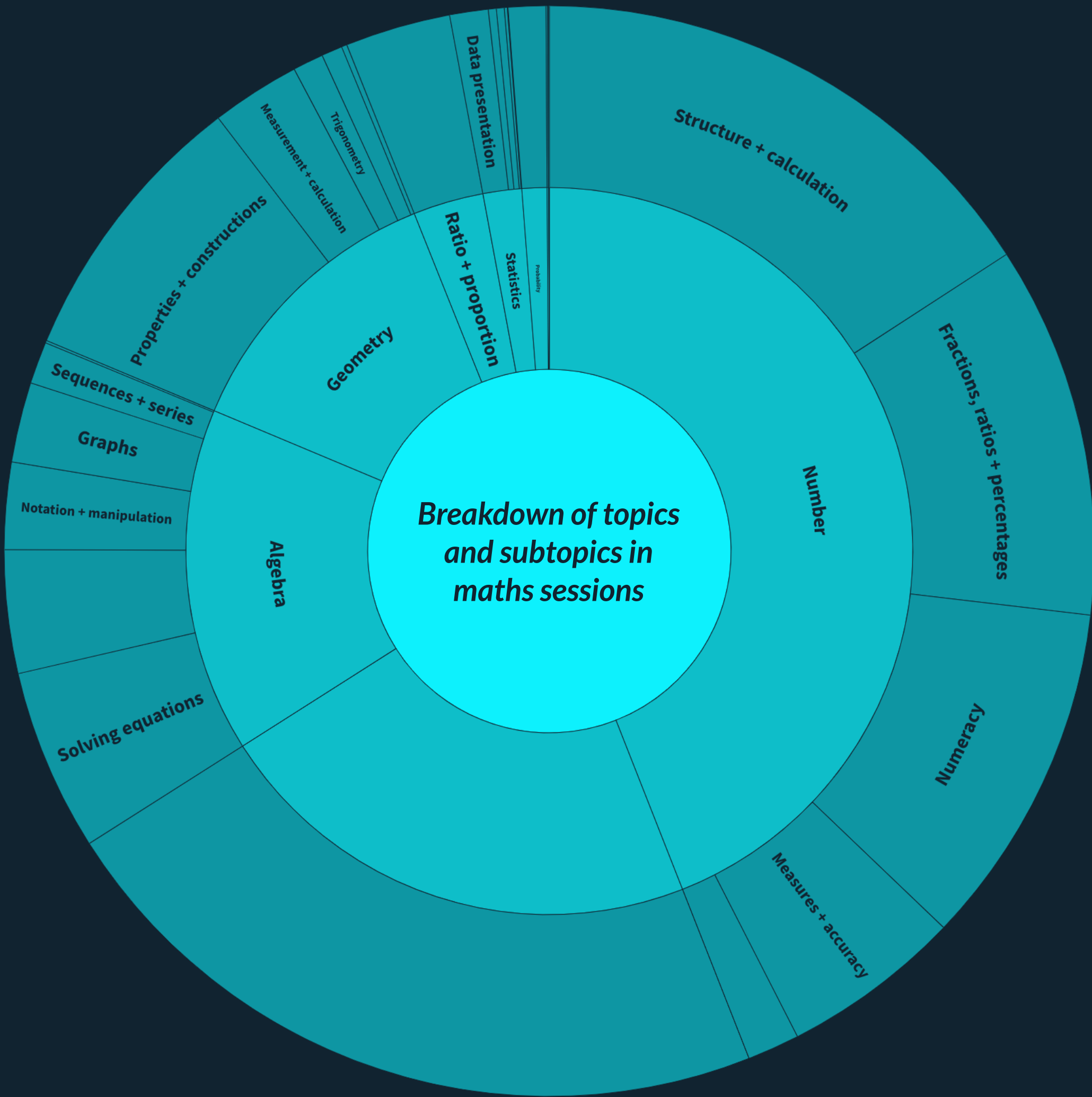
THE IMPACT OF SMALL GROUP ONLINE TUTORING – MATHS CONTENT INSIGHTS



Bramble’s AI powered Smart Subtopic detection provides unprecedented insight into what topics and subtopics students are covering in their tutoring. It shows that in maths students spent **more time working on fractions than solving algebra equations** – 11% of maths sessions covered fractions.

Maths

Number	44.0%
Structure + calculation	15.8%
Fractions, ratios + percentages	11.0%
Numeracy	10.3%
Measures + accuracy	5.4%
Number	1.6%
Algebra	15.3%
Solving equations	5.4%
Algebra	3.7%
Notation + manipulation	2.6%
Graphs	2.4%
Sequences + series	1.3%
Exponentials + logarithms	0.1%
Geometry	12.6%
Properties + constructions	8.3%
Measurement + calculation	2.6%
Trigonometry	0.9%
Vectors	0.2%
Geometry	0.6%
Ratio + proportion	3.1%
Statistics	1.7%
Probability	1.1%
Calculus	0.1%
Mechanics	0.0%
Maths	22.0%

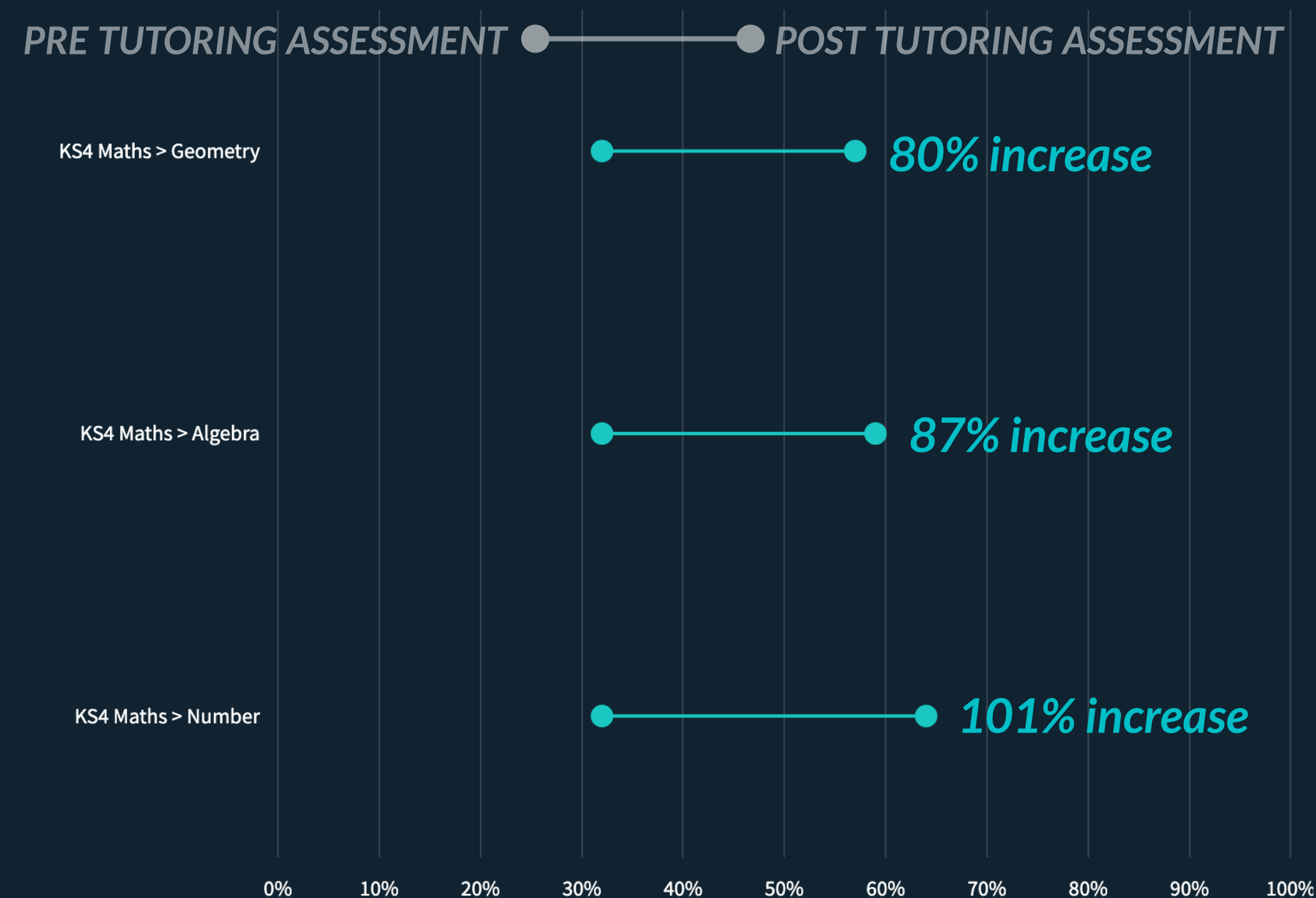


THE IMPACT OF SMALL GROUP ONLINE TUTORING – MATHS TOPIC PROGRESS

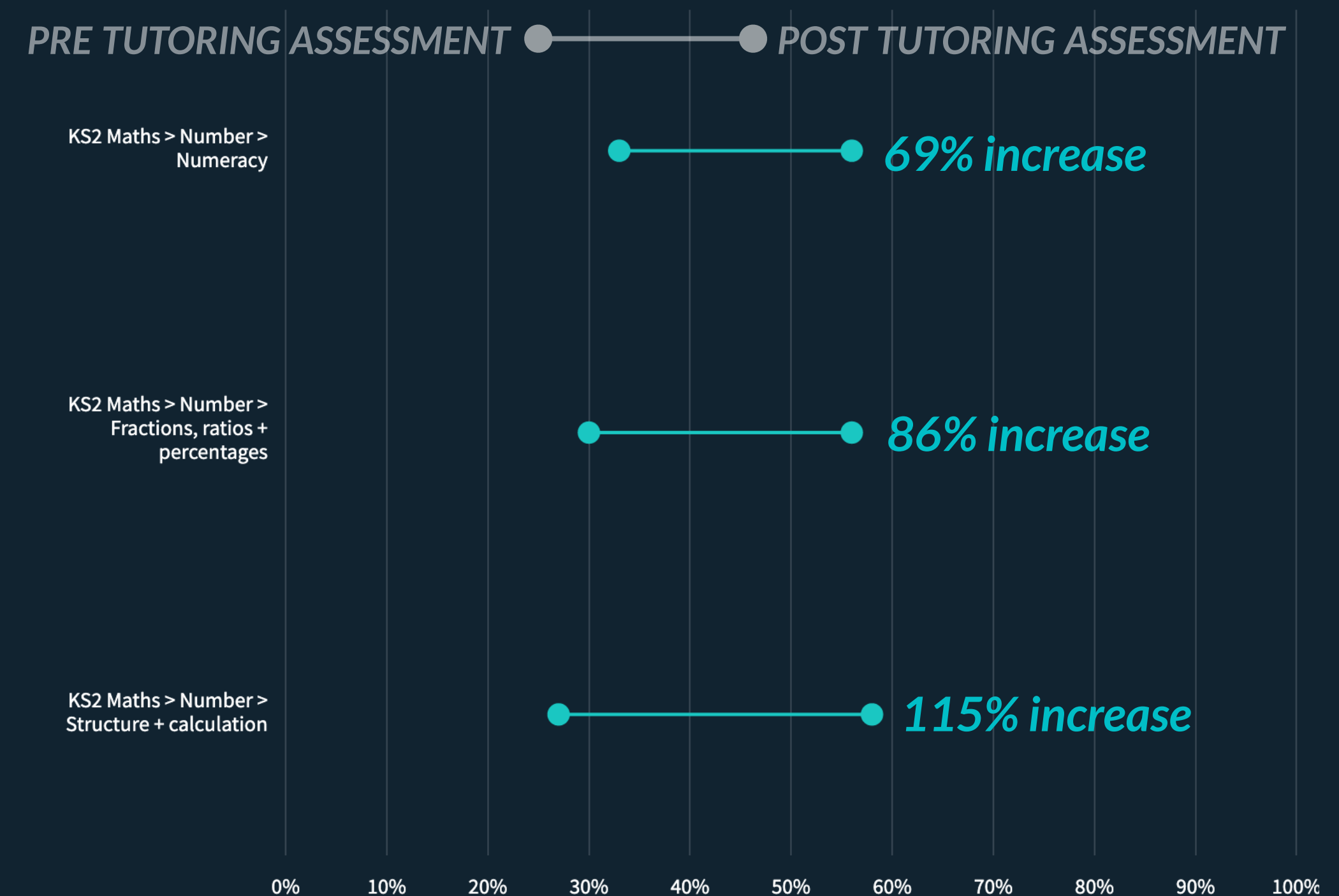


Combining Bramble's Smart Subtopics with the Pearson assessment data gives us a preliminary look at the progress students made in different topic and subtopic areas. At KS4, the most progress was made in number. At KS2, we can interrogate the progress in the subtopics under number.

At KS4, the maths topic that saw the greatest increase was number – assessment scores doubled before and after tutoring.



At KS2, the most popular topic was number. Within number, the subtopic with the greatest progress was structure + calculation.



KS4 Maths > Geometry = 26 students assessed. KS4 Maths > Algebra = 32. KS4 Maths > Number = 37.

KS2 Maths > Number > Numeracy = 59. KS2 Maths > Number > Fractions = 55. KS2 Maths > Number > Structure = 58.

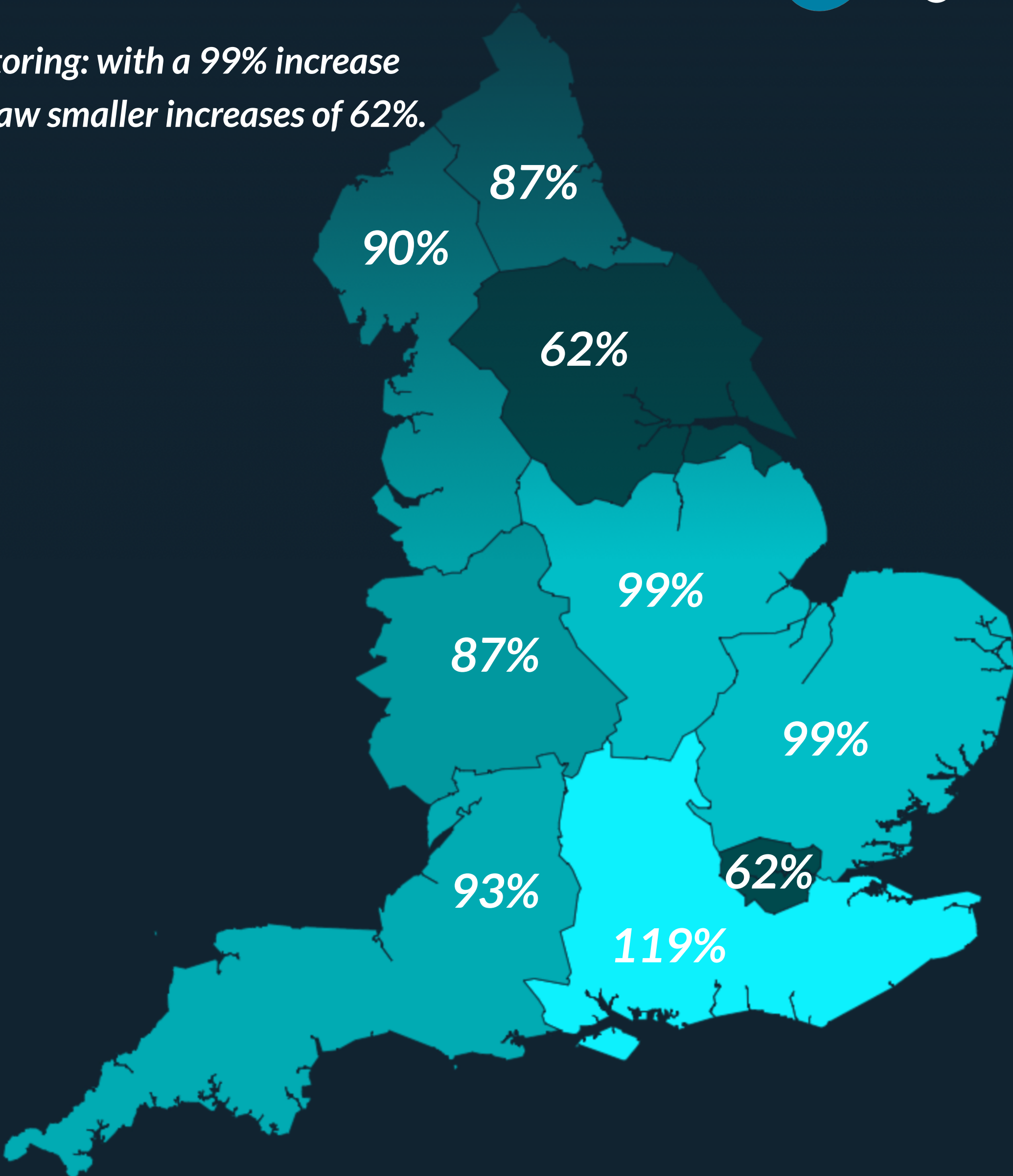
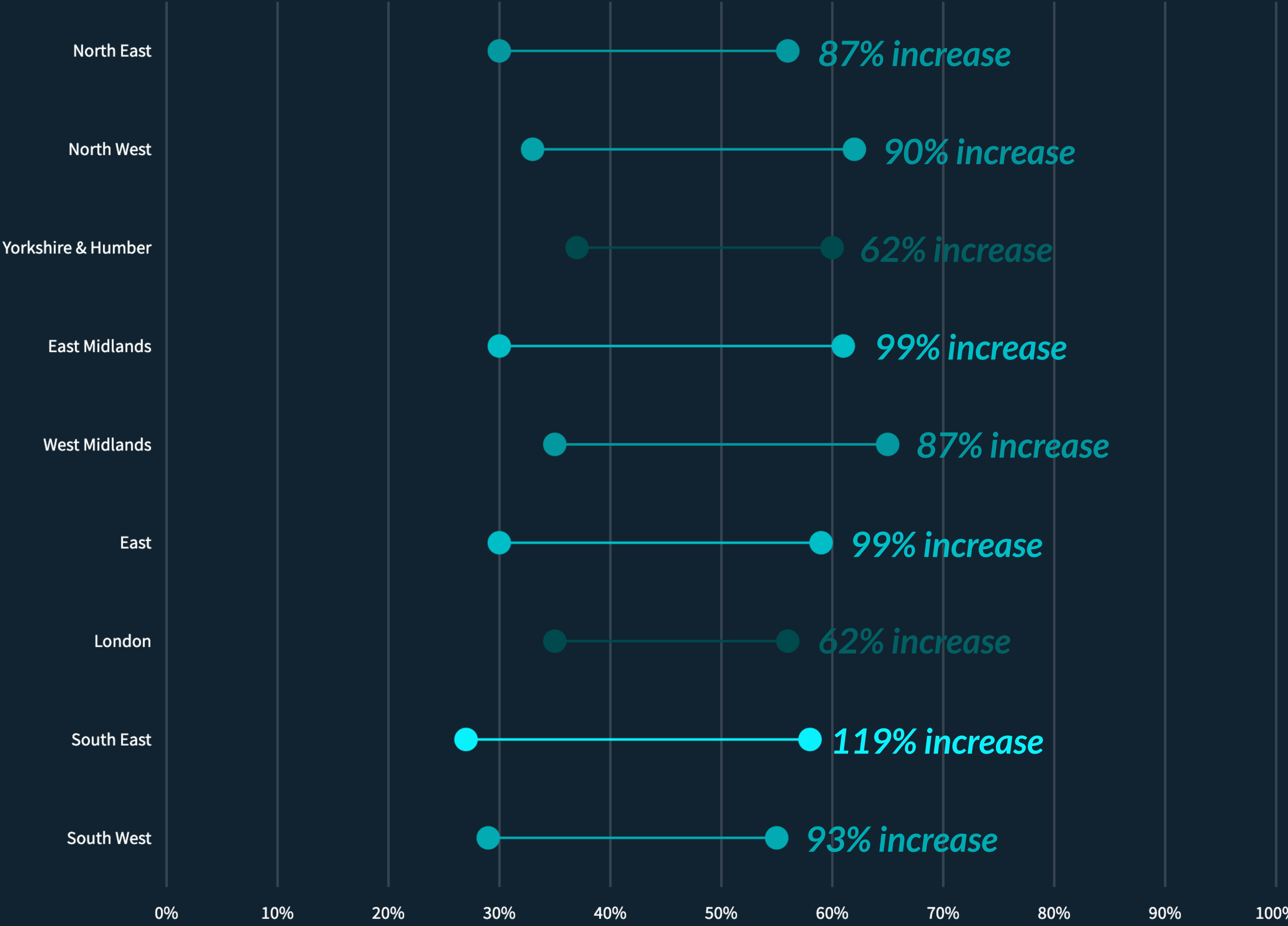
Learn more at <https://about.bramble.io/>

THE IMPACT OF SMALL GROUP ONLINE TUTORING – MATHS BY REGION



Students in three regions doubled or better their maths assessment scores before and after tutoring: with a 99% increase in East Midlands and the East and a 119% increase in the South East. Yorkshire and London saw smaller increases of 62%.

PRE TUTORING ASSESSMENT POST TUTORING ASSESSMENT



NE = 32 students assessed. NW = 108. Y = 79. EM = 56. WM = 58. E = 119. L = 102. SE = 112. SW = 51.

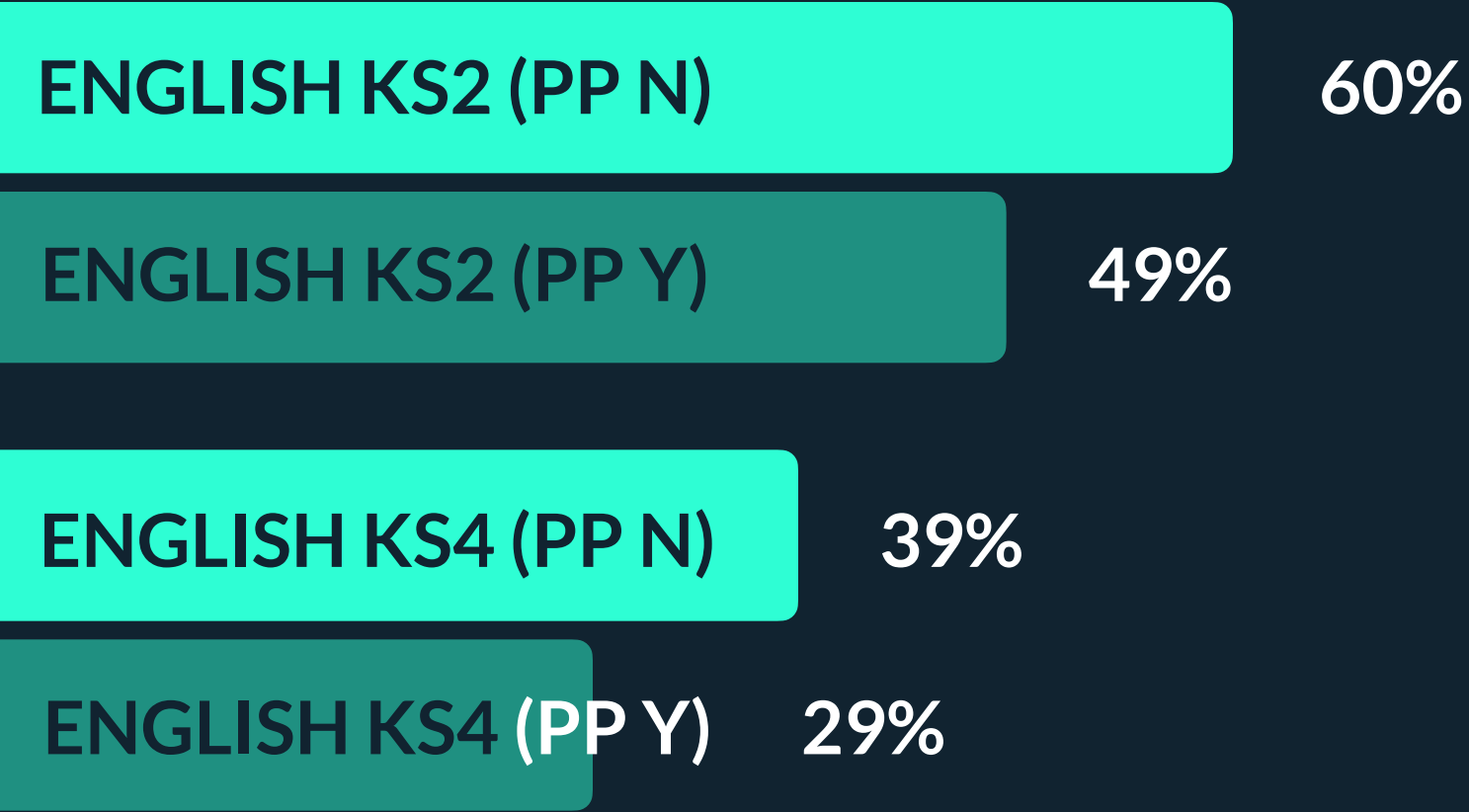
THE IMPACT OF SMALL GROUP ONLINE TUTORING – ENGLISH



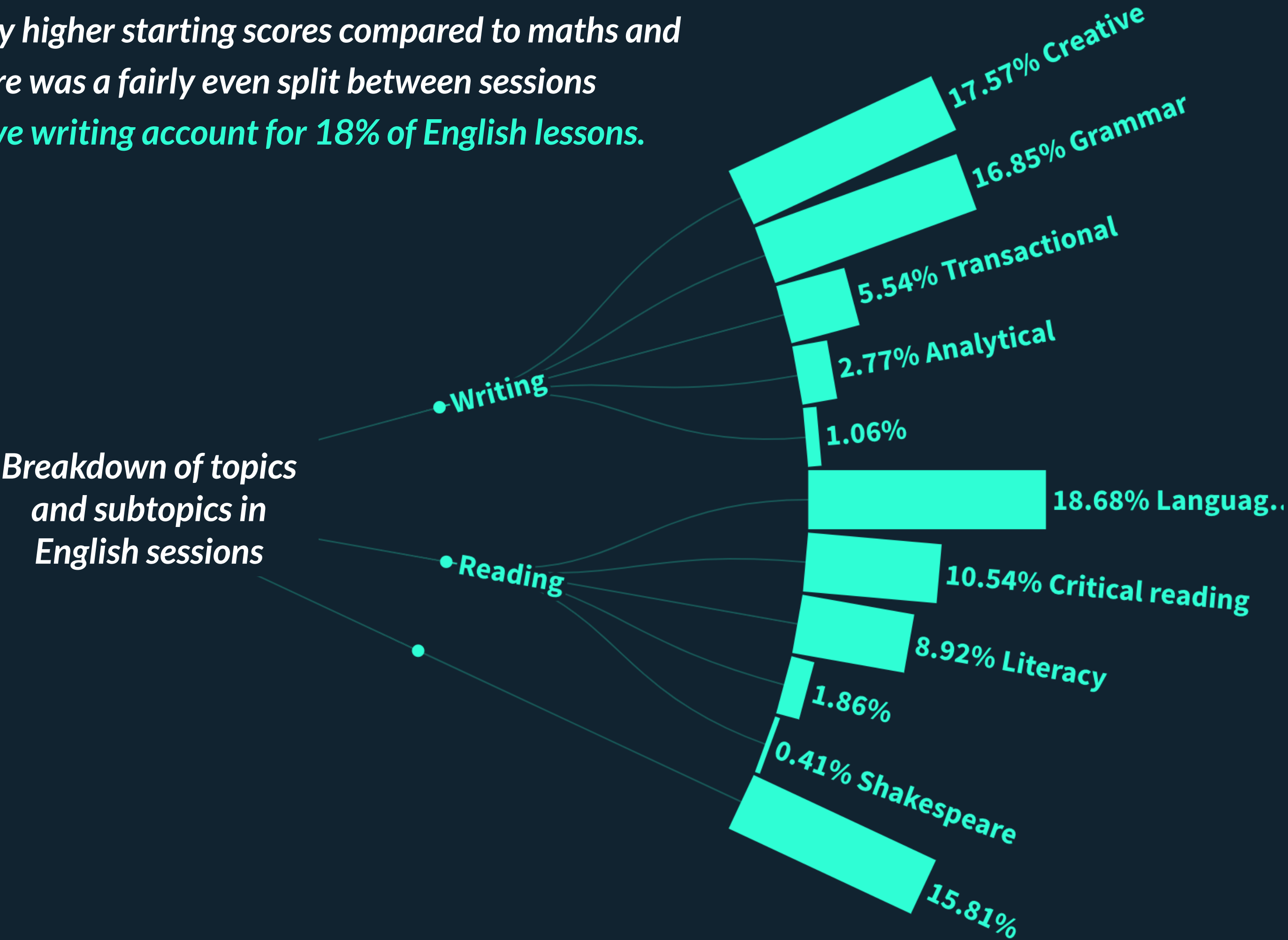
There was smaller relative progress in English, which was partly driven by higher starting scores compared to maths and science. Once again, we see **greater progress with younger students**. There was a fairly even split between sessions focussing on writing (44%) vs reading (41%) but interesting to see **creative writing account for 18% of English lessons**.

51%

Increase in assessment scores before and after English tutoring across all key stages and regions.



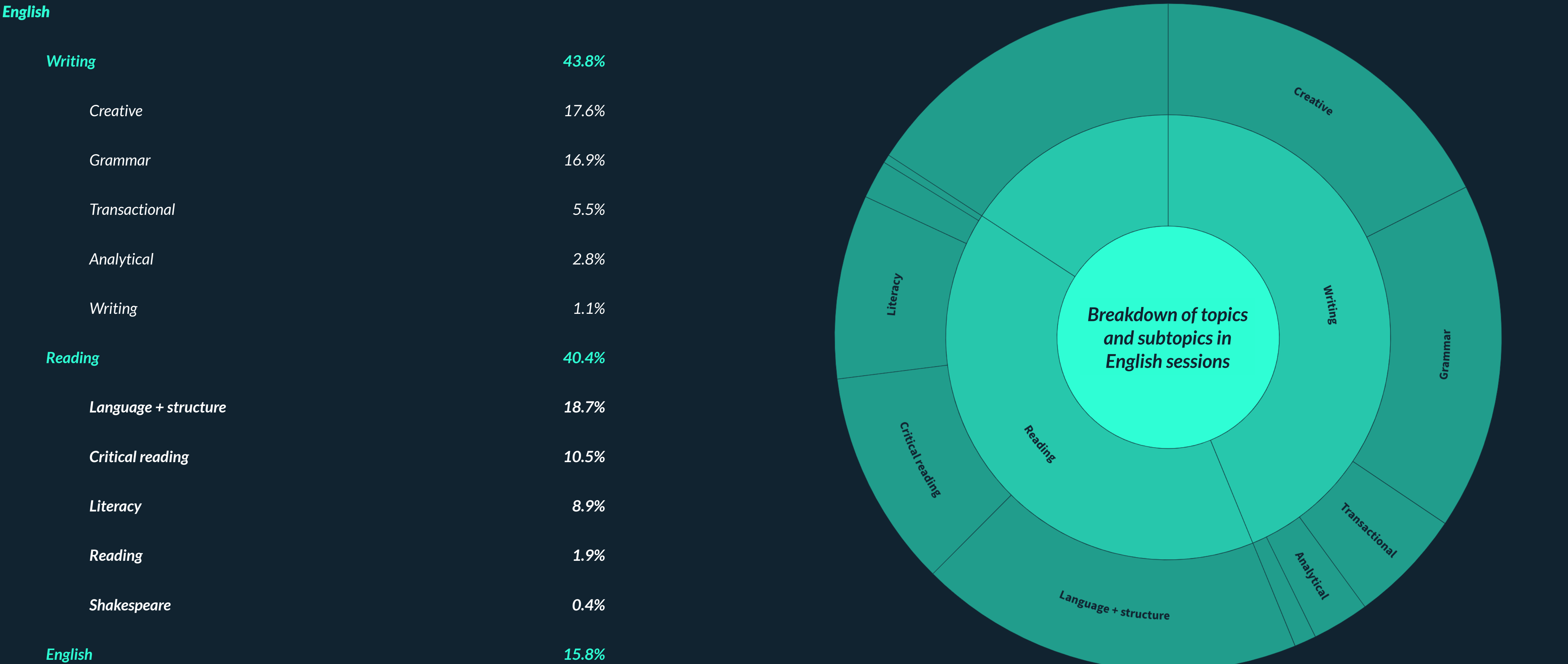
Students assessed = 654.
KS2 PP N = 300. KS2 PP Y = 121. KS4 PP N = 126. KS4 PP Y = 80.



THE IMPACT OF SMALL GROUP ONLINE TUTORING – ENGLISH CONTENT INSIGHTS



Bramble’s AI powered Smart Subtopic detection provides unprecedented insight into what topics and subtopics students are covering in their tutoring. It shows that in English **there is more focus on creative writing than transactional**: 18% of English sessions were on creative writing vs 6% on transactional.

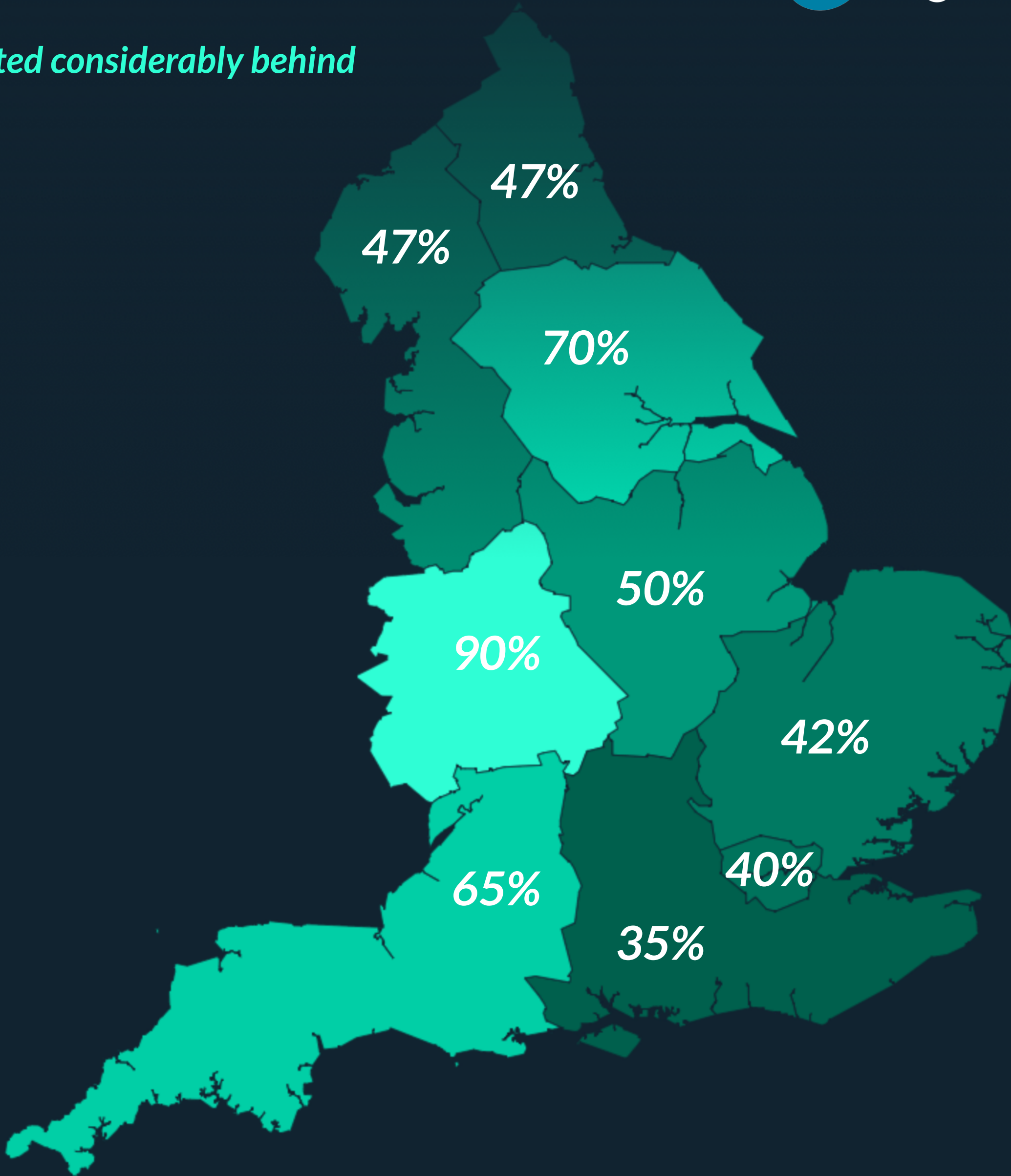
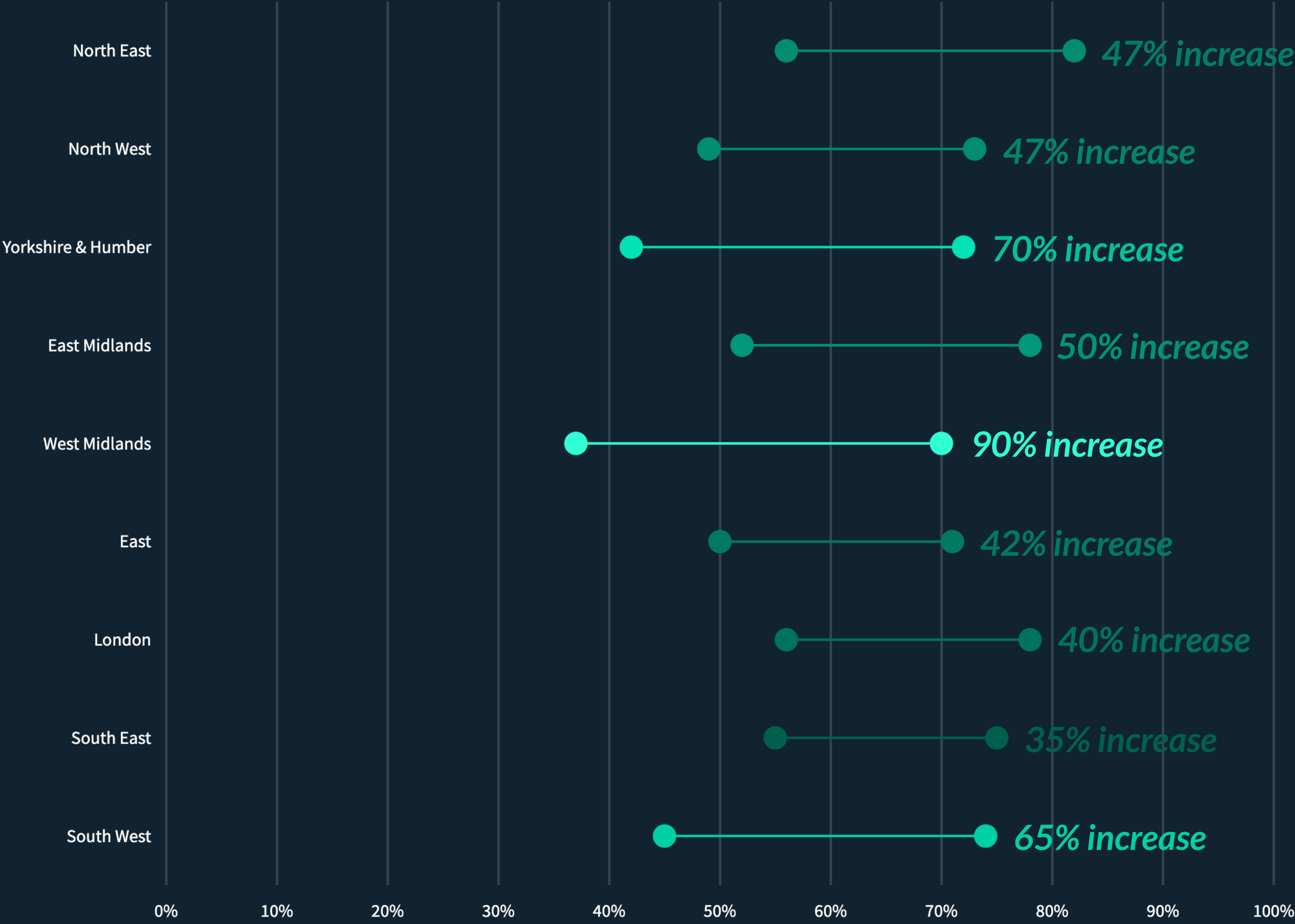


THE IMPACT OF SMALL GROUP ONLINE TUTORING – ENGLISH BY REGION



The most significant progress in English was made by *students in the West Midlands who started considerably behind students in other regions but saw that gap reduce following the completion of their tutoring.*

PRE TUTORING ASSESSMENT ● POST TUTORING ASSESSMENT



NE = 14 students assessed. NW = 89. Y = 75. EM = 57. WM = 67. E = 87. L = 152. SE = 60. SW = 53.

THE IMPACT OF SMALL GROUP ONLINE TUTORING – SCIENCE

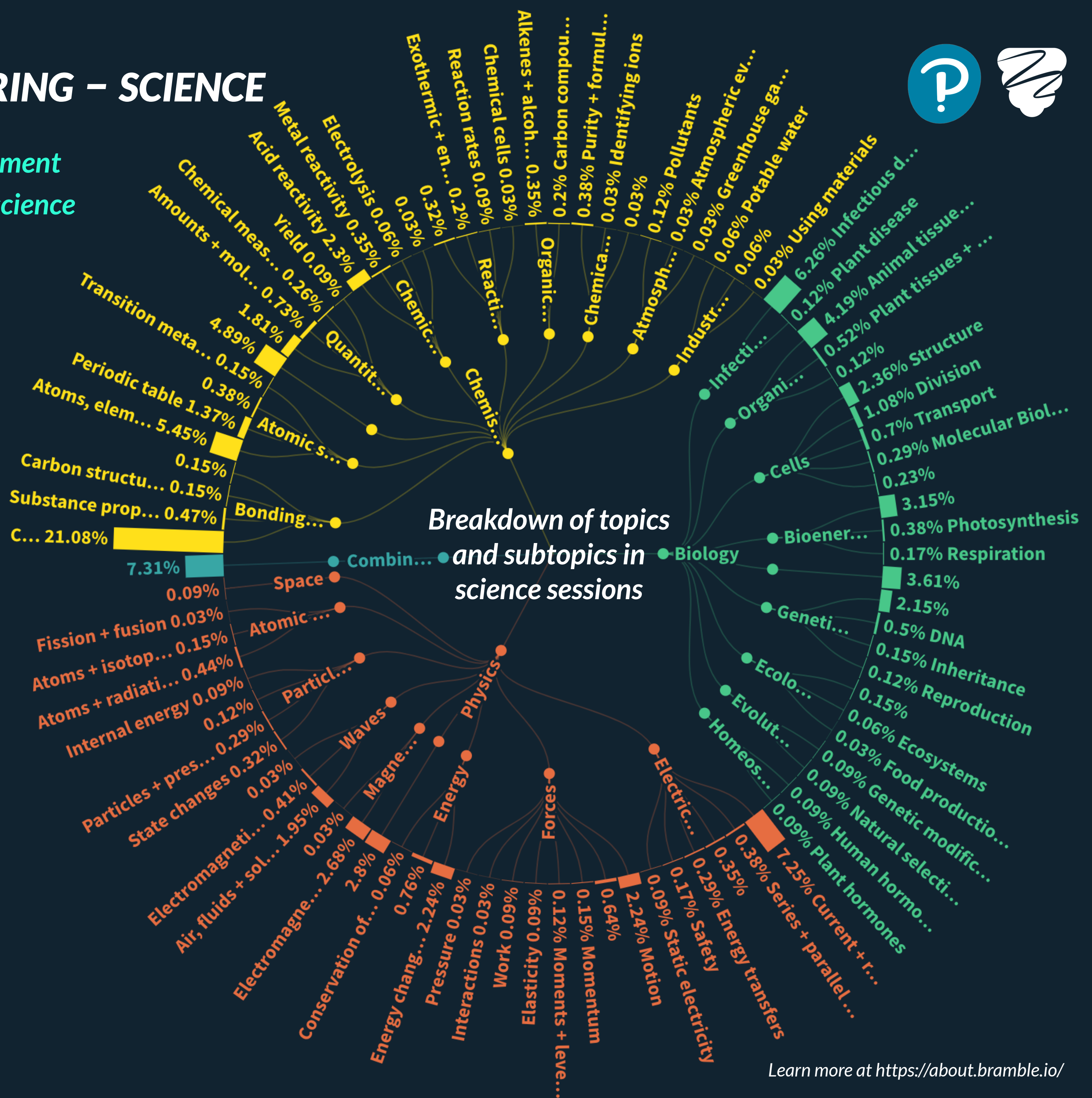
Science was only taught at KS4 with students *increasing their assessment scores by three quarters* regardless of pupil premium status. *21% of science sessions covered chemical bonding, 6% covered infectious disease.*

74%

Increase in assessment scores before and after KS4 science tutoring across all regions.

SCIENCE KS4 (PP N)	75%
SCIENCE KS4 (PP Y)	74%

Students assessed = 150.
KS4 PP N = 71. KS4 PP Y = 65.



THE IMPACT OF SMALL GROUP ONLINE TUTORING – SCIENCE CONTENT INSIGHTS



Bramble’s AI powered Smart Subtopic detection provides unprecedented insight into what topics and subtopics students are covering in their tutoring. In Chemistry, *the most time was dedicated to bonding + structure (22% of science sessions)*. In Biology, to infection (6%). And in Physics, to electricity (9%).

Chemistry	41.7%
Bonding + structure	21.9%
Atomic structure + periodic table	7.4%
Chemistry	4.9%
Quantitative chemistry	2.9%
Chemical changes	2.7%
Reactions	0.6%
Organic chemistry	0.5%
Chemical analysis	0.4%
Atmospheric chemistry	0.2%
Industrial chemistry	0.2%
Biology	26.7%
Infection	6.4%
Organisation	4.8%
Cells	4.7%
Bioenergetics	3.7%
Biology	3.6%
Genetics	2.9%
Ecology	0.2%
Evolution	0.2%
Homeostasis	0.2%
Physics	24.4%
Electricity	8.5%
Forces	3.4%
Energy	3.1%
Physics	2.8%
Magnetism	2.7%
Waves	2.4%
Particle model	0.8%
Atomic structure	0.6%
Space	0.1%
Combined Science	7.3%

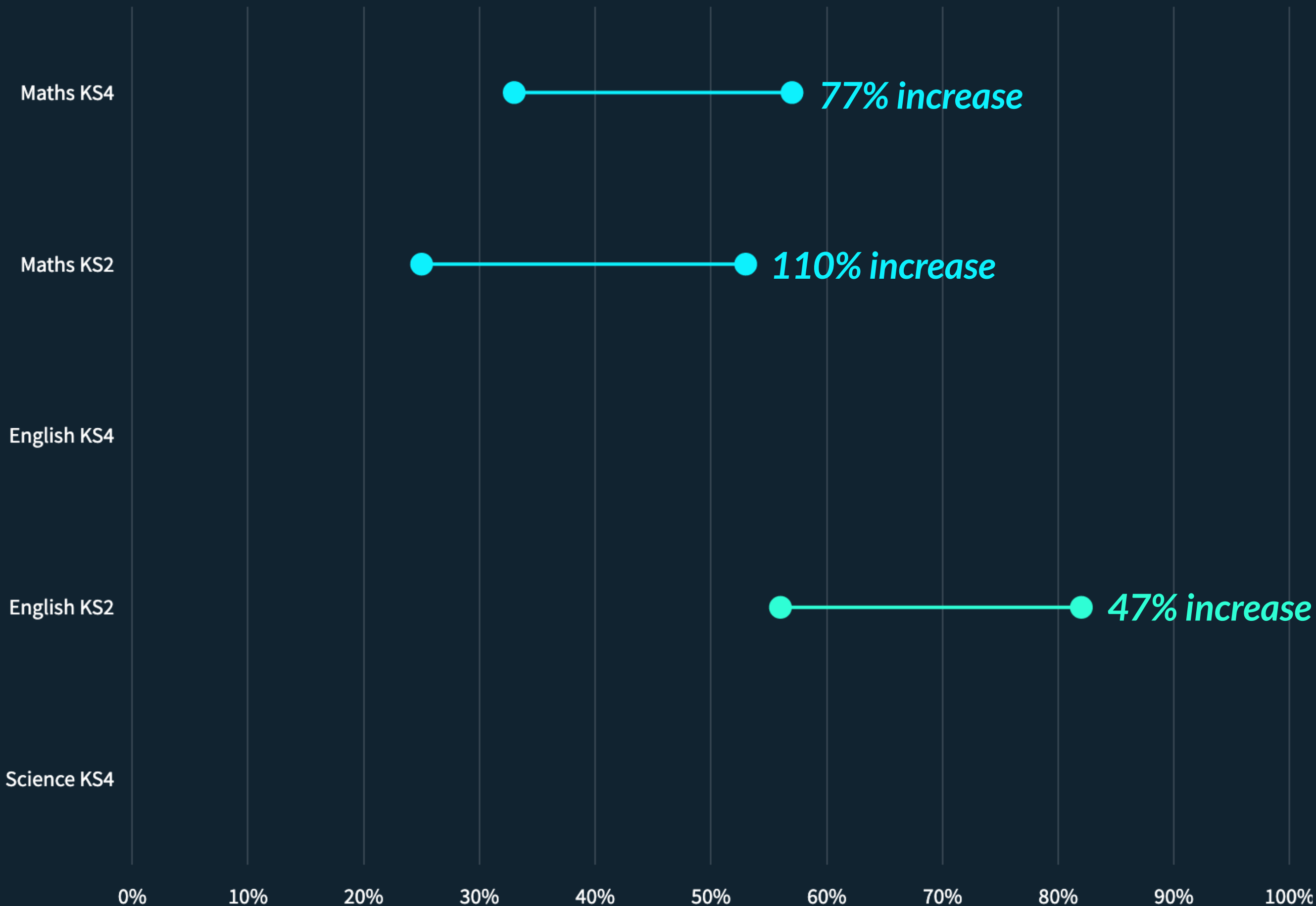


THE IMPACT OF SMALL GROUP ONLINE TUTORING – NORTH EAST



By far the least tutoring was delivered in the North East – *the next lowest regions had three times the hours*. That makes for a small sample but the tutoring that was delivered appeared to have considerable impact, especially for *KS2 maths students who more than doubled their scores*.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



1,061 HOURS
224 STUDENTS
69% PROGRESS

CUE AVERAGES

CONFIDENCE 71%

UNDERSTANDING 75%

ENGAGEMENT 82%

INCREASE

11%

8%

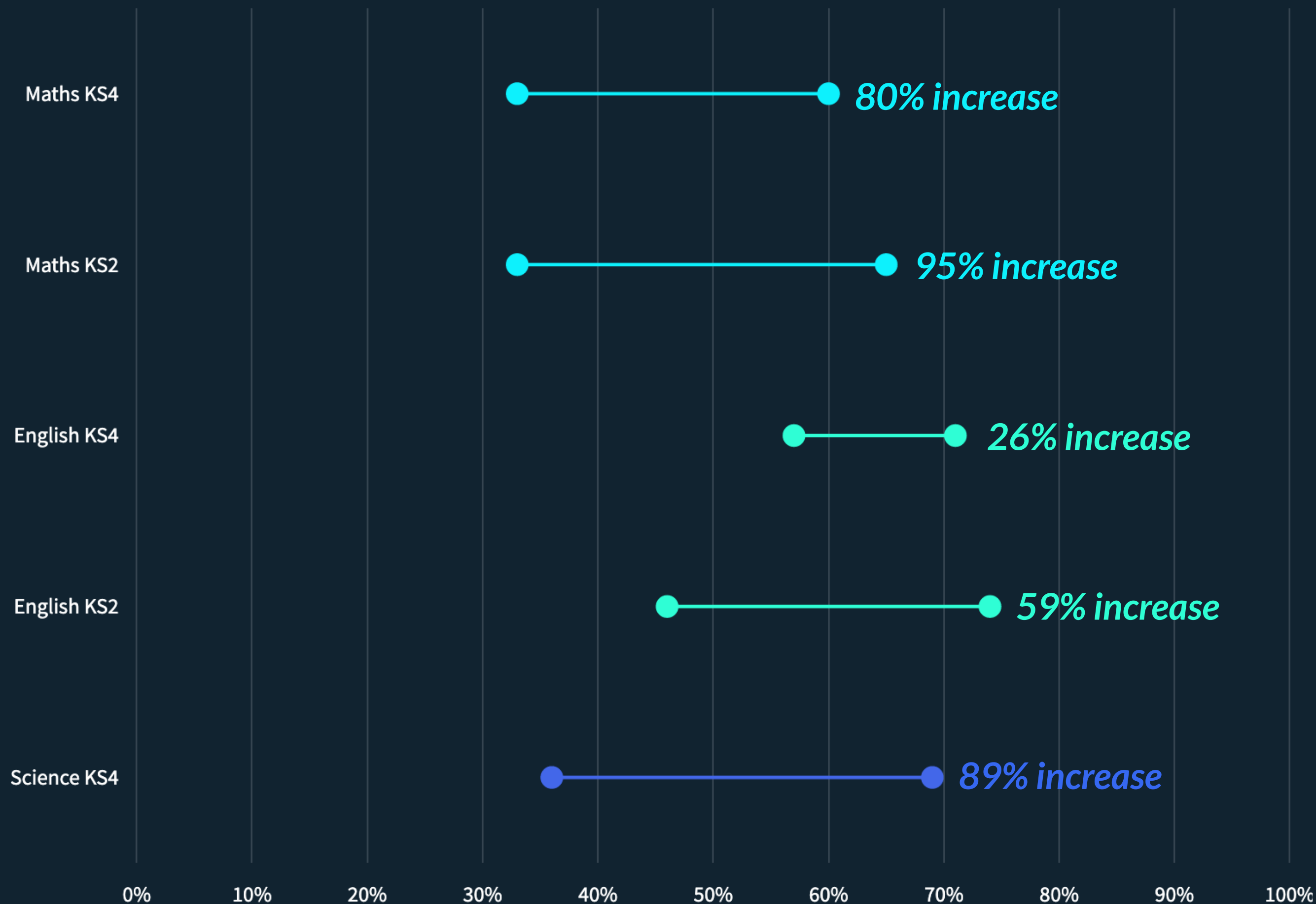
7%

THE IMPACT OF SMALL GROUP ONLINE TUTORING – NORTH WEST



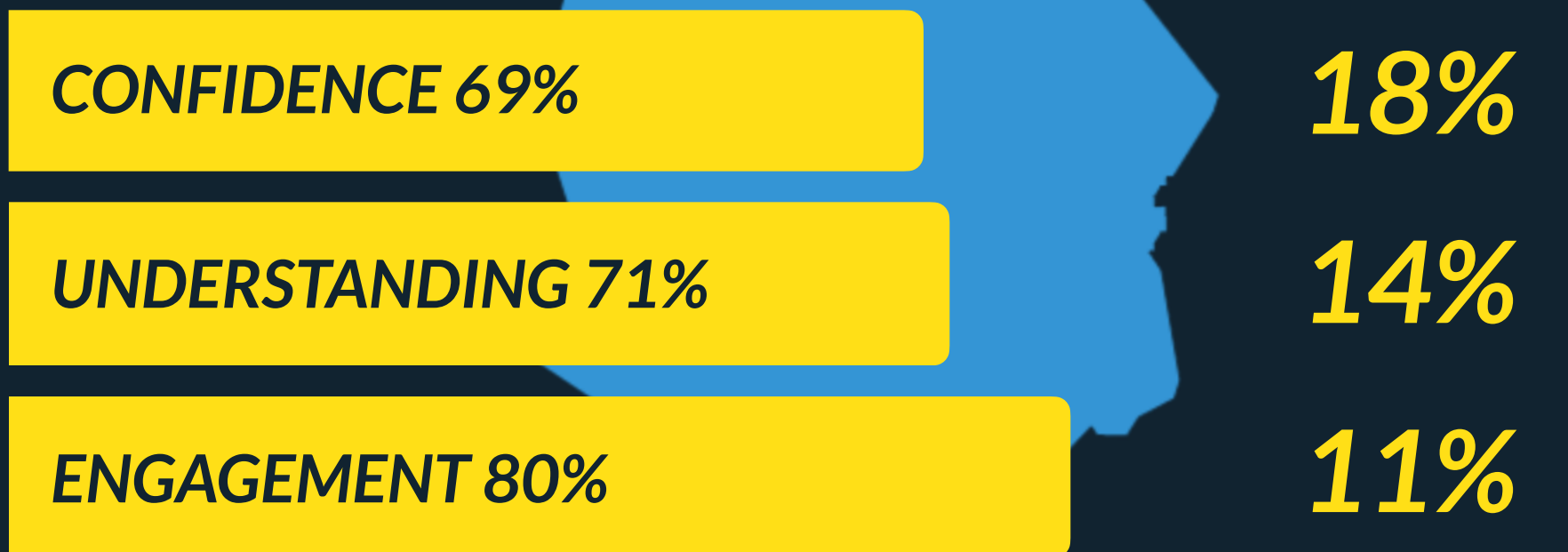
Reach was much improved in the North West – nearly six times that of the North East. *The most progress was made at KS2: a 95% increase for maths and 59% for English. Student confidence, understanding and engagement all increased considerably.*

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



6,146 HOURS
1,407 STUDENTS
69% PROGRESS

CUE AVERAGES INCREASE

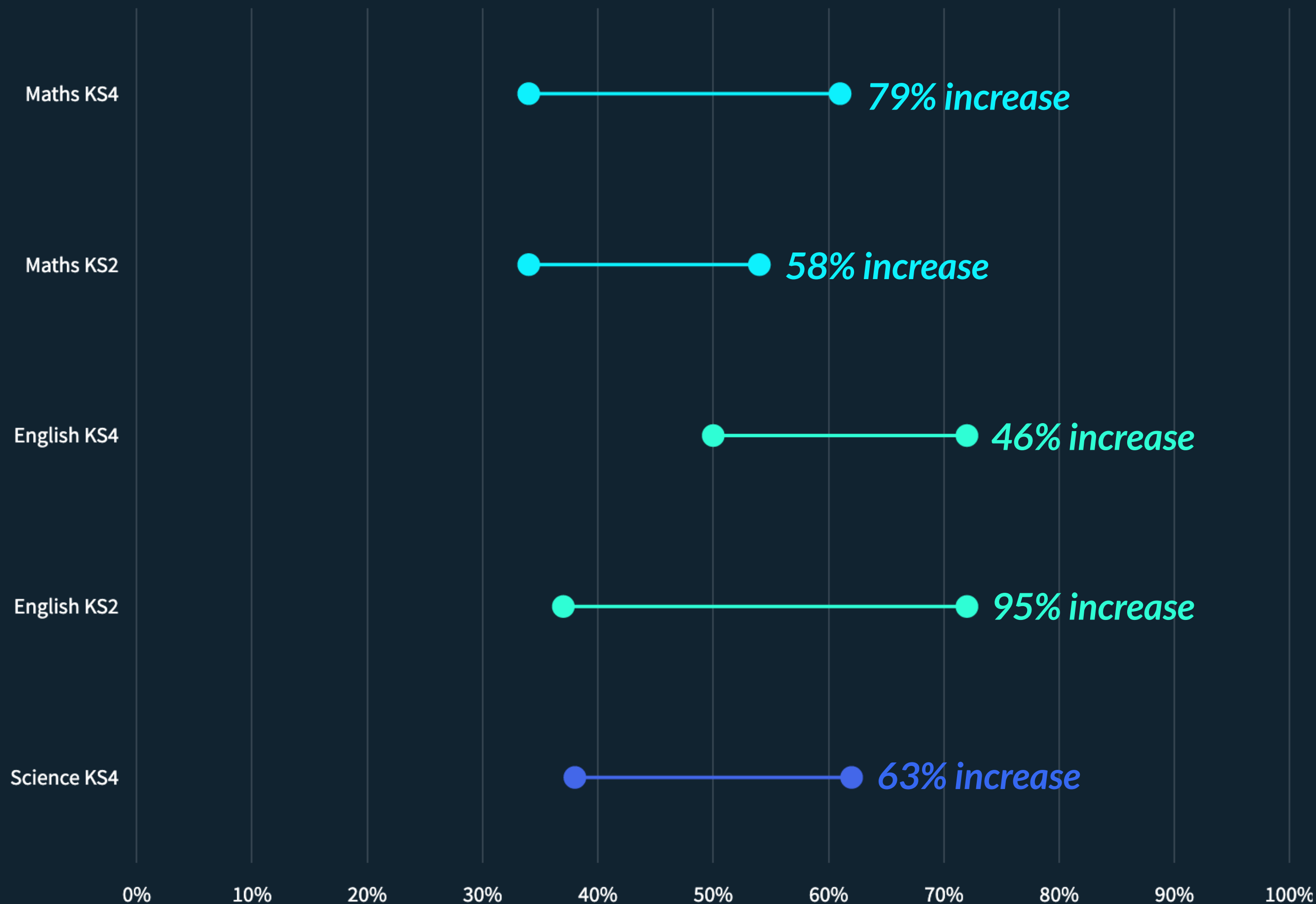


THE IMPACT OF SMALL GROUP ONLINE TUTORING – YORKSHIRE + HUMBER



Yorkshire and the Humber saw a **23% increase in student confidence** between their first and last session, the second greatest in the country. The aggregate progress of 66% was led by 95% in KS2 English and 79% in KS4 maths – **maths bucking the trend of greater improvement at KS2**.

PRE TUTORING ASSESSMENT ● POST TUTORING ASSESSMENT



5,448 HOURS
1,233 STUDENTS
66% PROGRESS

CUE AVERAGES INCREASE

CONFIDENCE 70%

23%

UNDERSTANDING 73%

17%

ENGAGEMENT 81%

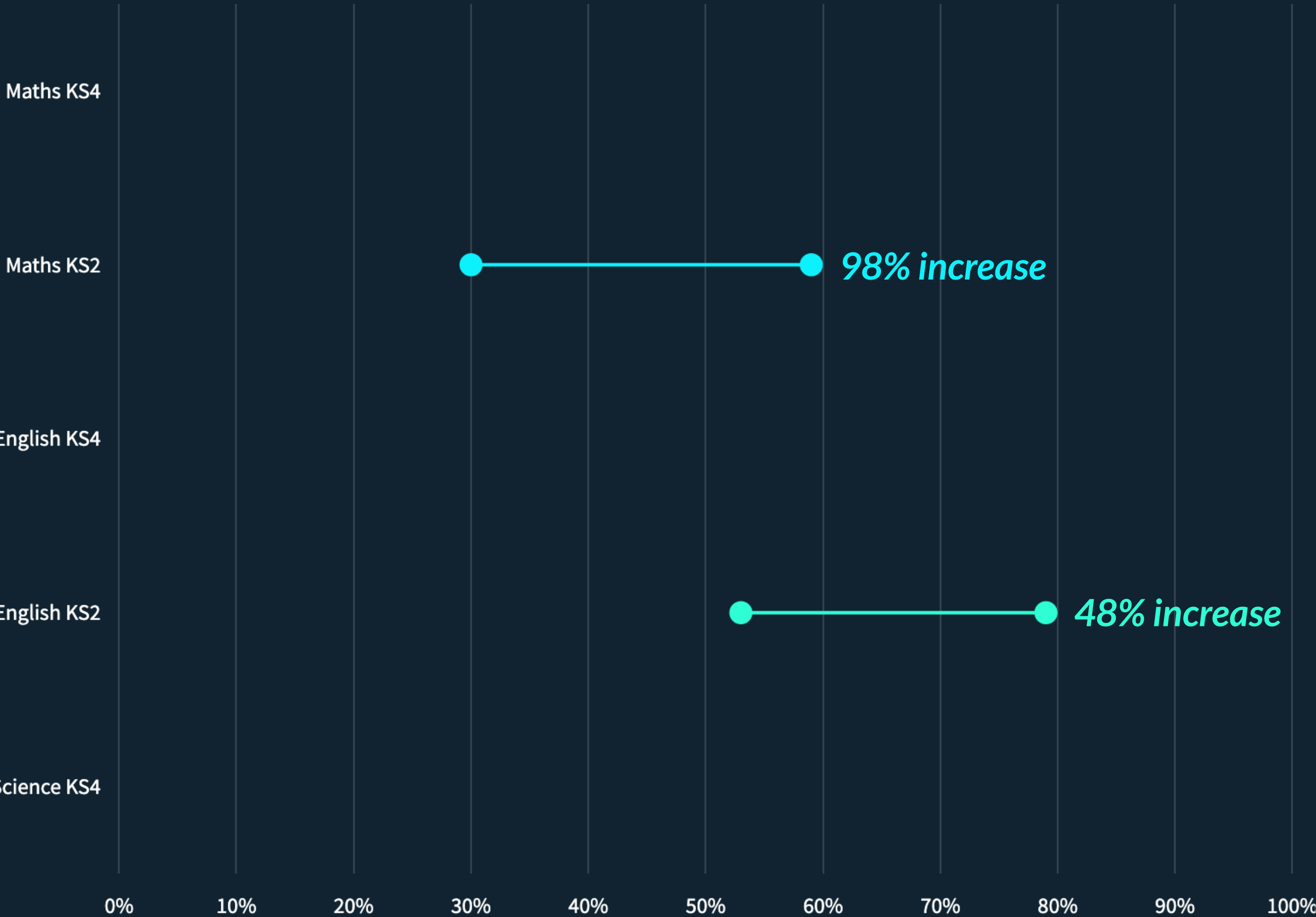
7%

THE IMPACT OF SMALL GROUP ONLINE TUTORING – EAST MIDLANDS

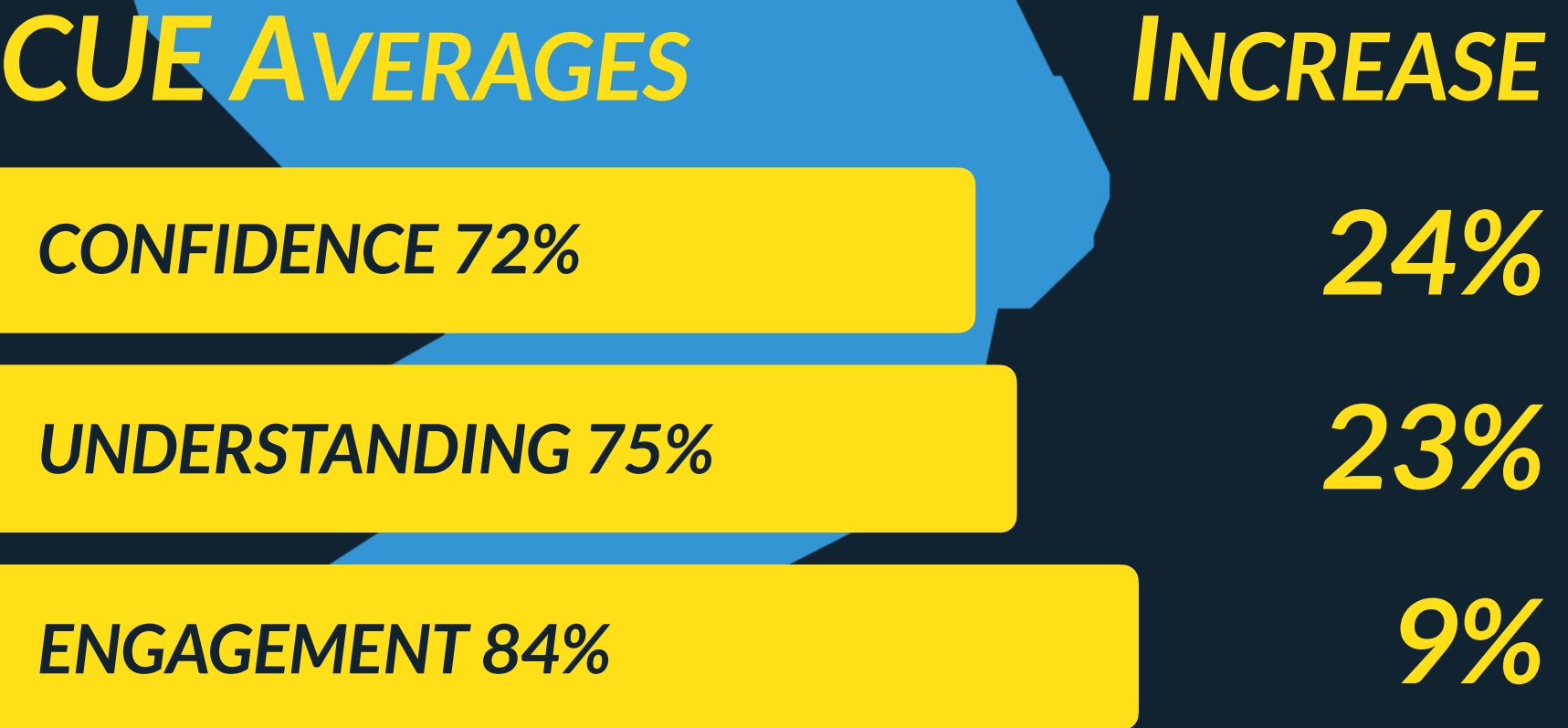


The majority of tutoring in the East Midlands was delivered to KS2 students: they **nearly doubled their maths scores** whilst making half as much progress in English. They had the **greatest increase in confidence and understanding in the country**, as adjudged by their tutors.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



2,974 HOURS
576 STUDENTS
66% PROGRESS



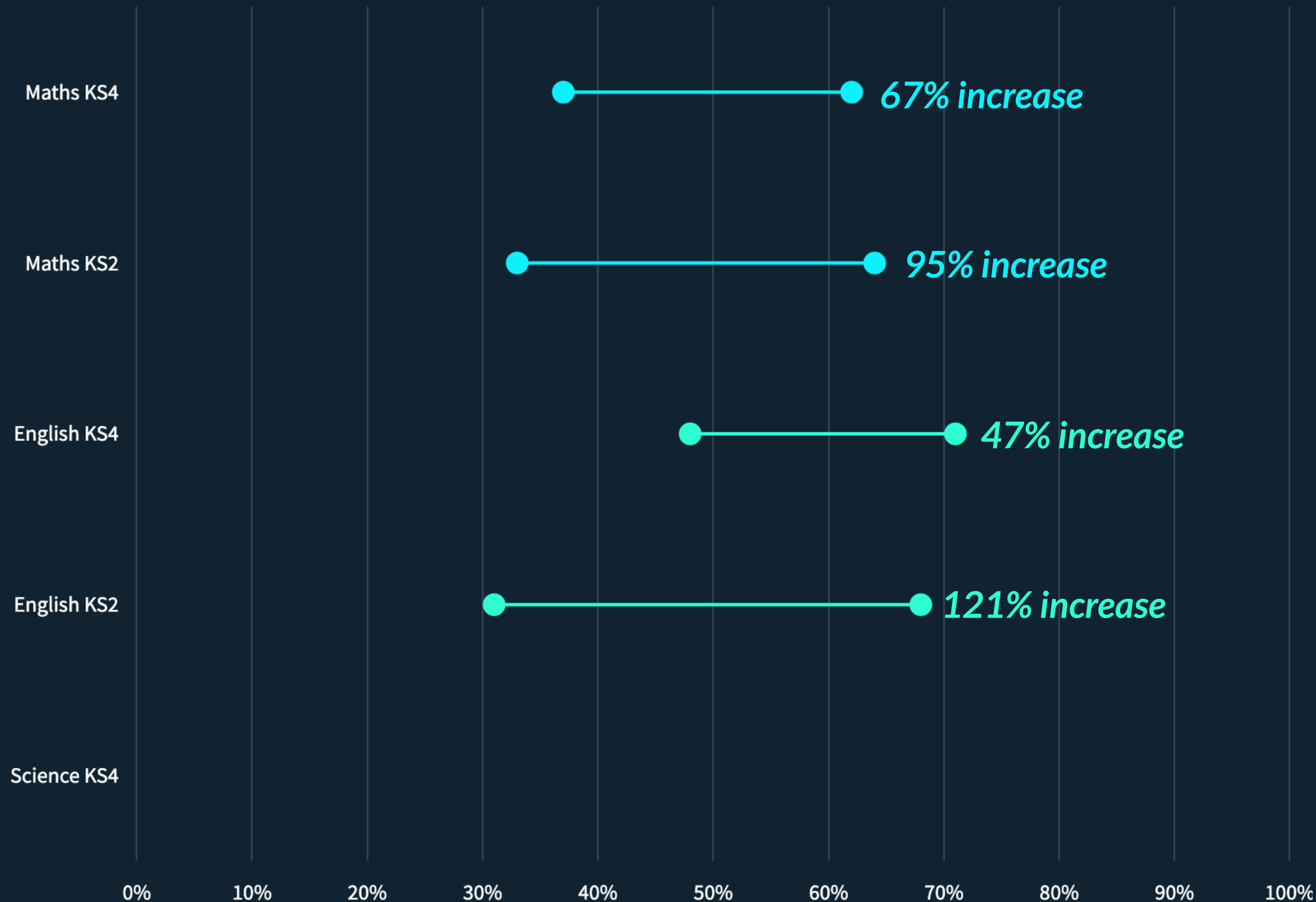
M KS4 = N/A students assessed. M KS2 = 50. E KS4 = N/A. E KS2 = 40. S KS4 = N/A.

THE IMPACT OF SMALL GROUP ONLINE TUTORING – WEST MIDLANDS



The greatest aggregate progress came in the West Midlands. This was driven by big leaps at KS2: maths scores nearly doubled but, unusually, were outstripped by English scores which leapt by 121%.

PRE TUTORING ASSESSMENT ● POST TUTORING ASSESSMENT



3,603 HOURS
779 STUDENTS
91% PROGRESS

CUE AVERAGES

INCREASE

CONFIDENCE 71%

19%

UNDERSTANDING 74%

13%

ENGAGEMENT 82%

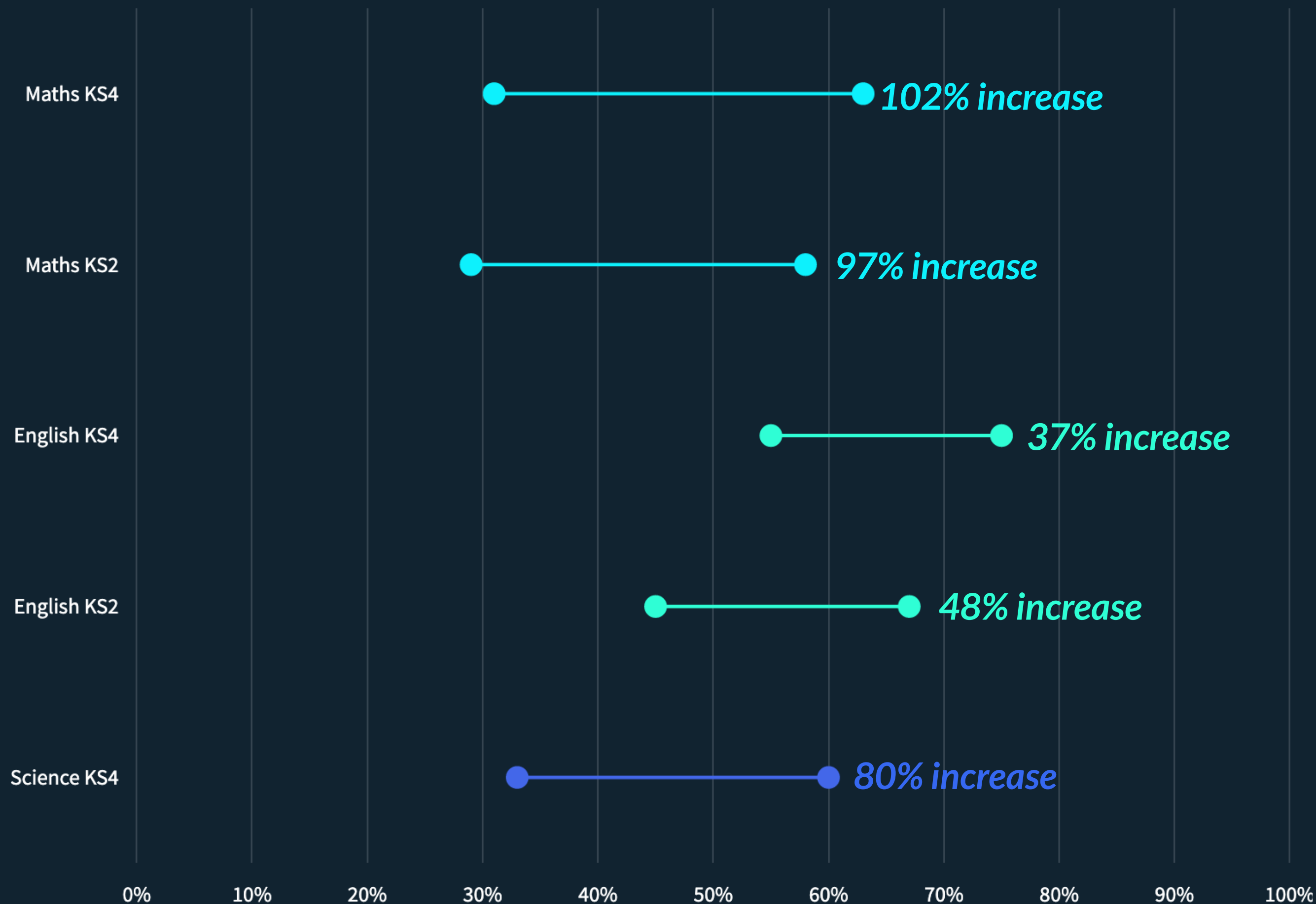
4%

THE IMPACT OF SMALL GROUP ONLINE TUTORING – EAST



The most progress in the East came in maths, with **KS2 and KS4 students effectively doubling their scores**. Unusually, KS4 students made even greater progress than their younger peers. There were also significant gains in science, with a 80% increase.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



6,876 HOURS
1,466 STUDENTS
68% PROGRESS

CUE AVERAGES

CONFIDENCE 68%

UNDERSTANDING 71%

ENGAGEMENT 80%

INCREASE

16%

8%

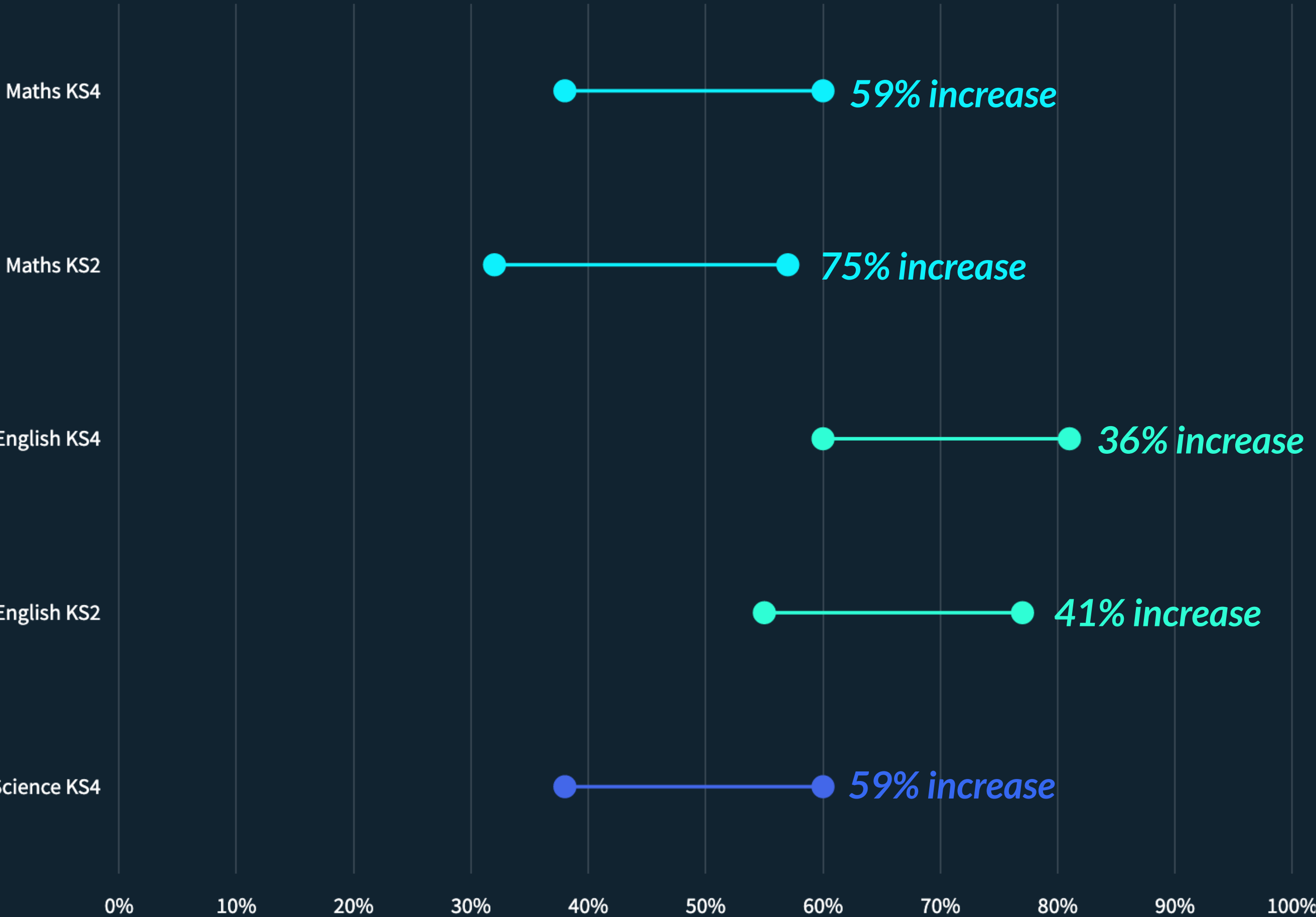
4%

THE IMPACT OF SMALL GROUP ONLINE TUTORING – LONDON

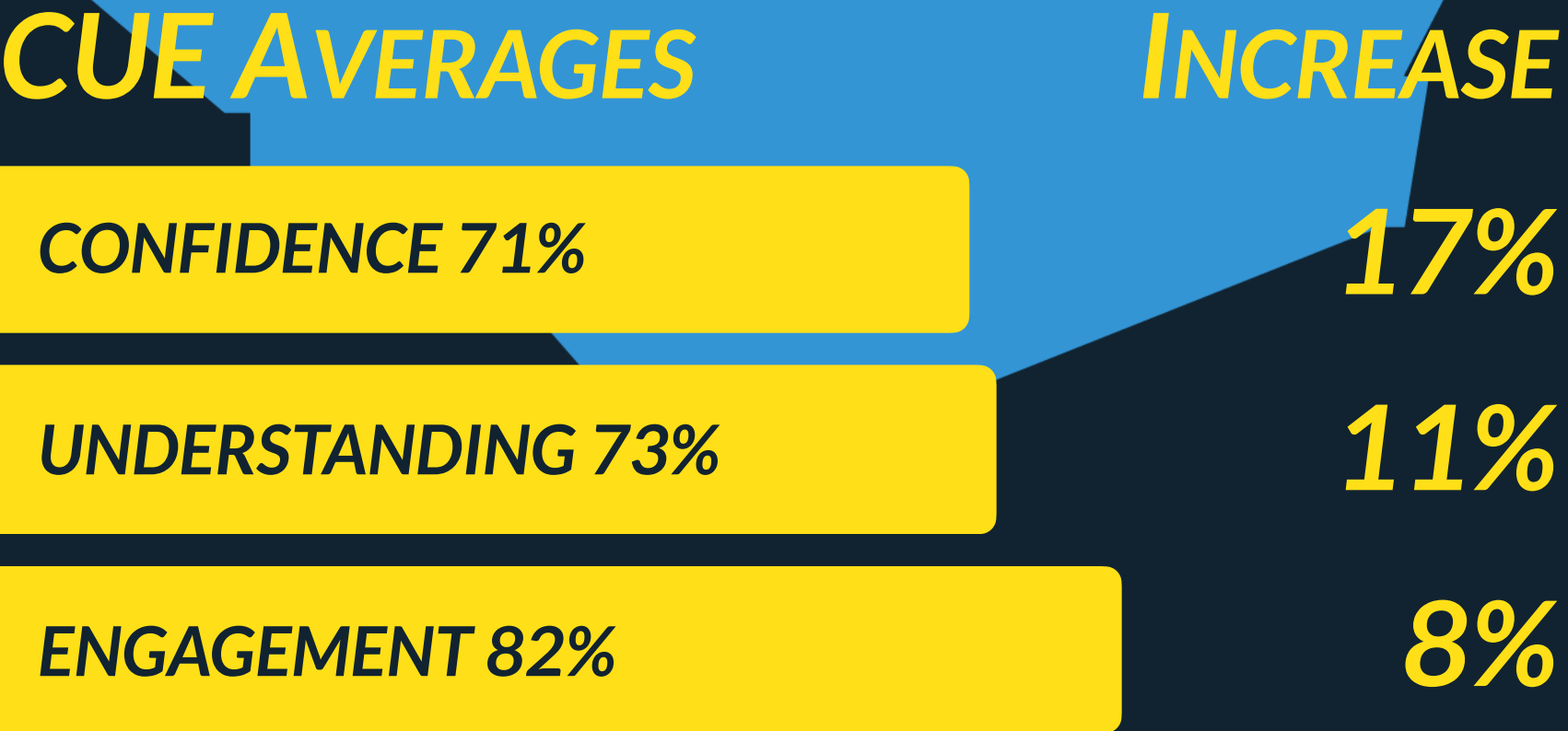


Whilst the most tutoring was delivered in London, it saw *the smallest relative progress: 49% on aggregate*. This was partly driven by higher starting scores, especially in English, but *London students also finished behind a number of regions on their post-tutoring maths assessments*.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



8,558 HOURS
1,855 STUDENTS
49% PROGRESS



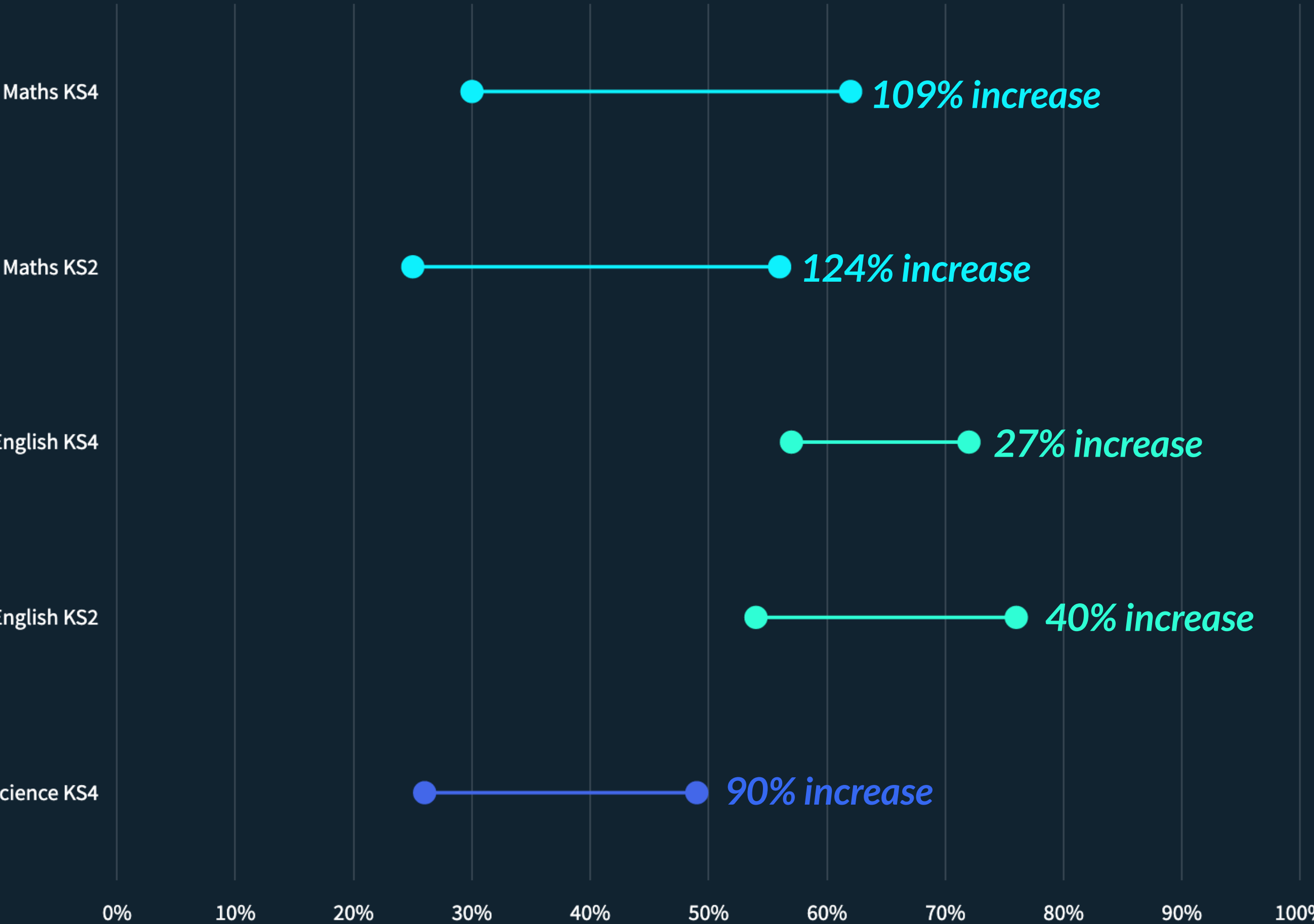
M KS4 = 53 students assessed. M KS2 = 38. E KS4 = 44. E KS2 = 98. S KS4 = 36.

THE IMPACT OF SMALL GROUP ONLINE TUTORING – SOUTH EAST

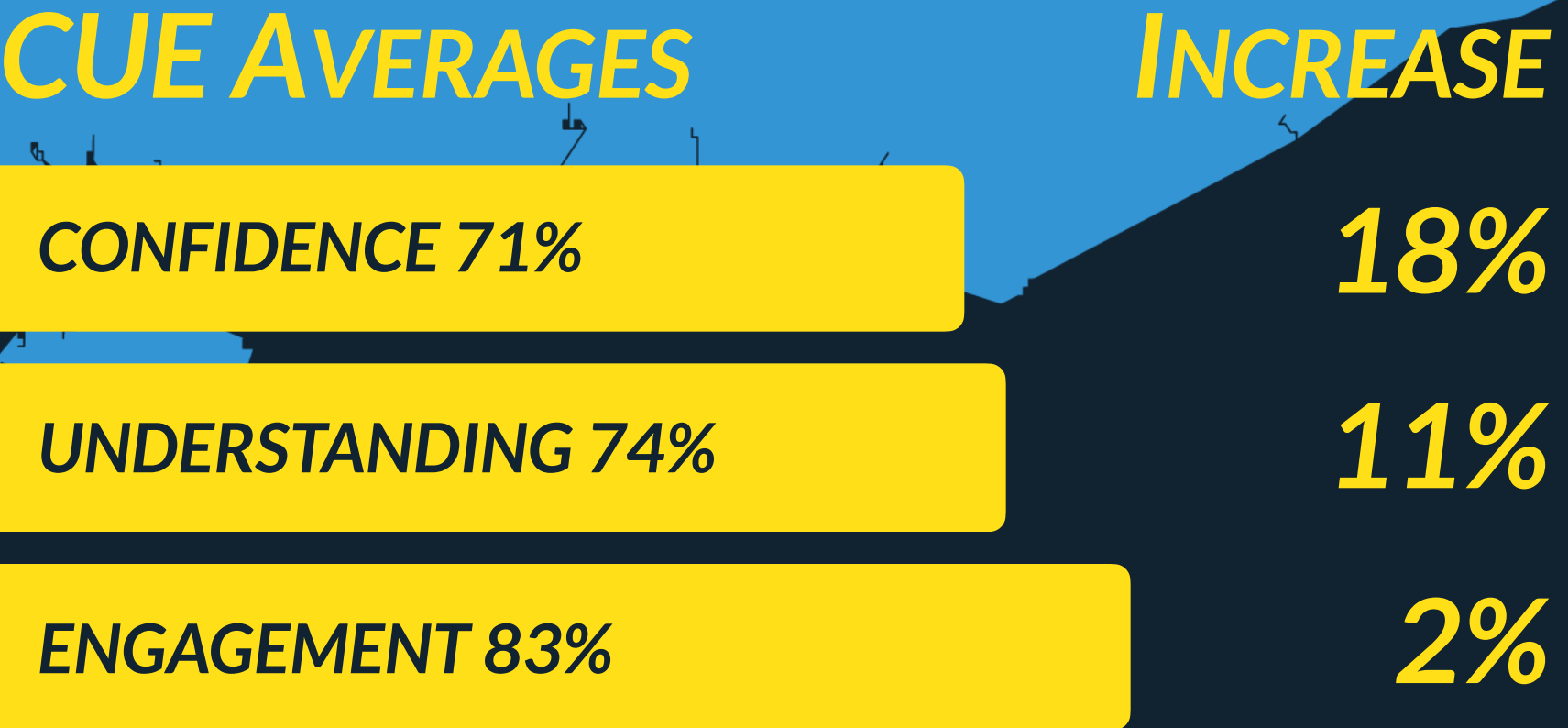


The South East saw some of the smallest gains in English yet the greatest gains in maths, with **KS2 and KS4 maths students more than doubling their assessment scores**. It was likely this that drove the **18% increase in confidence** observed by tutors teaching in that region.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



4,576 HOURS
933 STUDENTS
76% PROGRESS



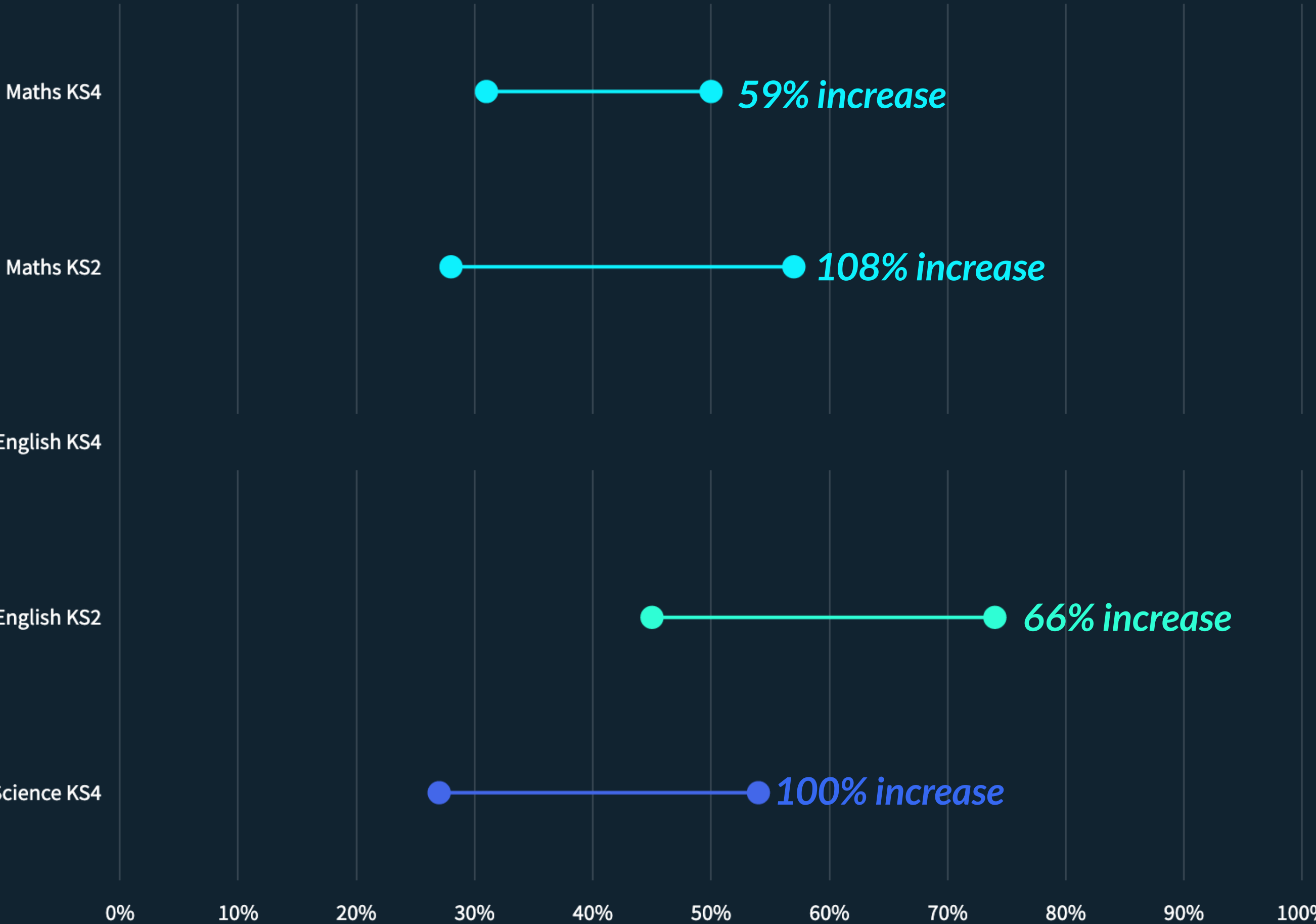
M KS4 = 36 students assessed. M KS2 = 75. E KS4 = 24. E KS2 = 36. S KS4 = 12.

THE IMPACT OF SMALL GROUP ONLINE TUTORING – SOUTH WEST

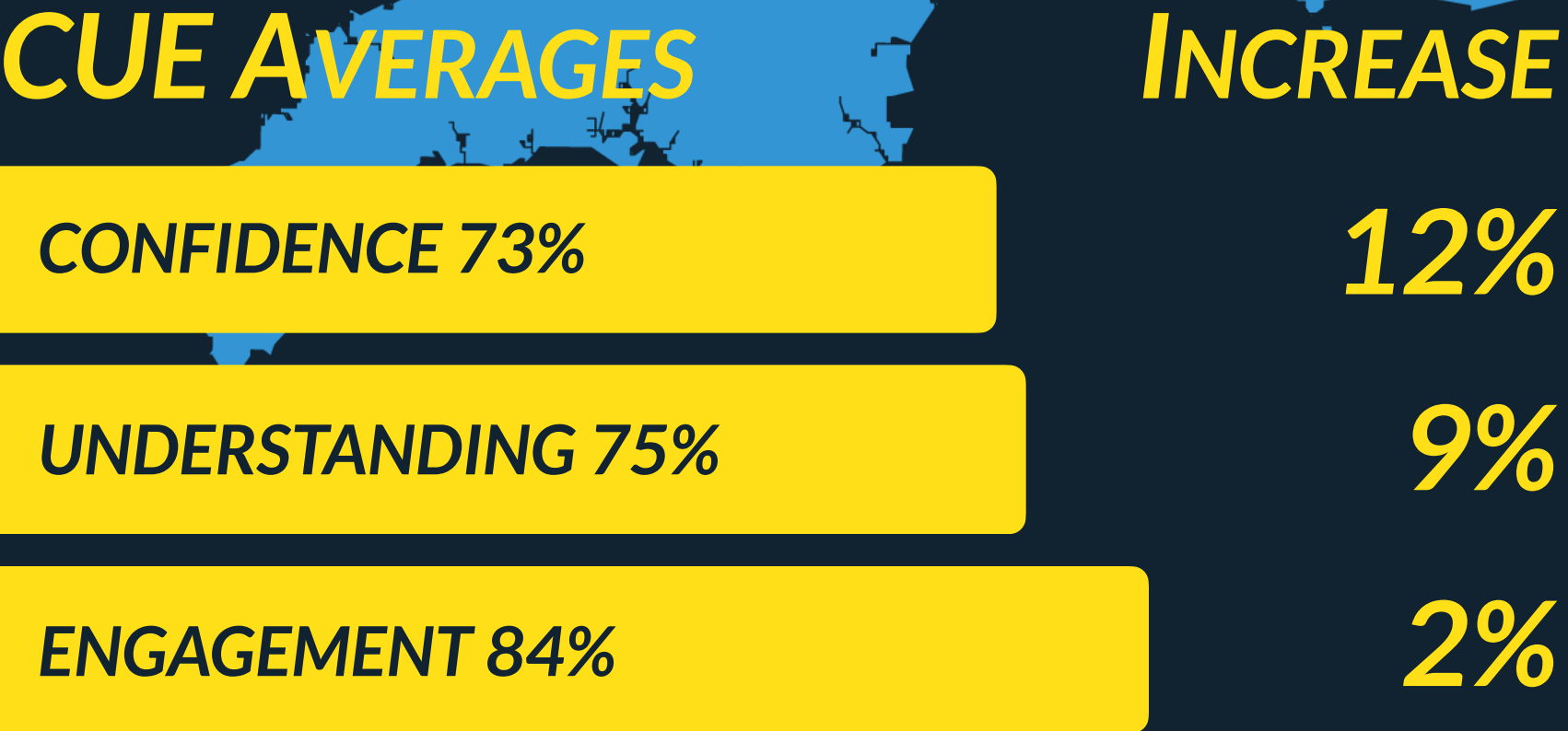


The South West saw the *highest average engagement*, as reported by tutors. Once again, we see the greatest progress made by *KS2 maths students who more than doubled their assessment scores*. KS4 science students achieved similar, albeit with a very small sample.

PRE TUTORING ASSESSMENT — POST TUTORING ASSESSMENT



2,993 HOURS
597 STUDENTS
78% PROGRESS



M KS4 = 14 students assessed. M KS2 = 37. E KS4 = N/A. E KS2 = 51. S KS4 = 14.



<https://www.pearson.com/uk/educators/schools/pearson-tutoring-programme.html>

<https://about.bramble.io/>