Measuring the outcomes of different pupil groups using Star Assessments 2022/23

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EDUCATION POLICY INSTITUTE

Research Area:
School Performance, Admissions and Capacity

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About the author

Jon Andrews is Head of Analysis and Director for School System and Performance at EPI. He has published a wide range of studies including: 'The performance of multi-academy trusts and local authorities', 'School revenue balances in England', 'Access to special schools in England', and 'Grammar schools and social mobility'. He worked in the Department for Education from 2003 to 2016 as a statistician.

About the Education Policy Institute

The Education Policy Institute is an independent, impartial, and evidence-based research institute that promotes high quality education outcomes, regardless of social background. We achieve this through data-led analysis, innovative research and high-profile events.

Education can have a transformative effect on the life chances of young people, enabling them to fulfil their potential, have successful careers, and grasp opportunities. As well as having a positive impact on the individual, good quality education and child wellbeing also promotes economic productivity and a cohesive society.

Through our research, we provide insight, commentary, and a constructive critique of education policy in England – shedding light on what is working and where further progress needs to be made. Our research and analysis spans a young person's journey from the early years through to entry to the labour market.

Our core research areas include:

- Benchmarking English Education
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Our experienced and dedicated team works closely with academics, think tanks, and other research foundations and charities to shape the policy agenda.

About Renaissance

Renaissance is a leading provider of assessment and practice solutions that put learning analytics to work for teachers, saving hours of preparation time while making truly personalised learning possible.

Since 1986, our mission has remained the same: To accelerate learning for all children and adults of all ability levels and ethnic and social backgrounds, worldwide.

Today, schools and school groups rely on Renaissance solutions for data and insights to equitably move learning forward. Our assessments, which also now include GL Assessment, offer the ideal starting point to help schools understand their students' strengths, pinpoint areas of need, and put targeted measures in place. Our teaching and learning programmes then provide effective next steps to drive better student outcomes.

This research, an extension of the work we started in 2020 on behalf of the Department for Education, is testament to our commitment to our mission – providing unique insights into student performance since the pandemic for educators and policymakers alike.

Thanks to the millions of Renaissance Star Assessments administered every year, we can provide the data for this analysis without increasing teacher workload or asking students to take additional tests.

Together, Renaissance Star Reading and Renaissance Star Maths streamline the assessment process with valid, reliable data to deliver the right teaching instruction, at the right time, for the right reason. They provide a complete view of student progress, including achievement and growth measures:

- **Purposeful:** Star provides the data and insight needed to inform teaching decisions.
- **Proven:** Star data is valid and reliable, backed by research, validity studies, and millions of data points.
- **Powerful:** Star utilises learning science, data analytics, and test design to deliver maximum impact in minimal time.
- **Predictive:** Star is highly predictive of performance on Key Stage 2 assessments and other high-stakes tests thanks to statistical linking.

Star Assessments are aligned to the national curriculum, and in addition to this research we have made available Focus Skills Teacher Workbooks that help educators identify the skills a student should prioritise and master to progress. These are available from the Renaissance website.

Acknowledgements

This analysis was carried out in the Secure Research Service, part of the Office for National Statistics (ONS). It contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Contents

Executive summary

This analysis is the fourth in a series of reports produced by the Education Policy Institute, working in partnership with Renaissance. The purpose of this research programme is to ensure that policy makers and schools have access to robust data on the performance of different pupil groups, so that support is targeted effectively to those who need it most as we continue to recover from the pandemic.

Our previous reports examined outcomes in Renaissance Star Reading and Renaissance Star Maths assessments before, during, and after the pandemic across all pupils and for pupils from disadvantaged backgrounds. This included examining how the disadvantage gap – the difference in outcomes between pupils from low-income backgrounds and their peers – had changed between 2017/18 and 2022/23. The reports found that:

- Results in primary reading are slightly higher than before the pandemic (equivalent to an additional half a month of learning), but the disadvantage gap has widened (from 10.8 to 12.7 months).
- Results in primary maths are lower than they were before the pandemic (equivalent to lost learning of two months), and the disadvantage gap has widened (from 6.9 to 8.7 months).
- Results in secondary reading are slightly lower than before the pandemic (equivalent to lost learning of 0.4 months), and the disadvantage gap has widened (from 18.8 to 21.2 months).
- Results in secondary maths were lower than they were before the pandemic (equivalent to lost learning of over four months), but the disadvantage gap appears to have narrowed (from 17.7 to 15.9 months).

In this final report, we again use Renaissance Star Reading and Renaissance Star Maths assessments to look at outcomes broken down by pupil gender, whether they have special educational needs, whether they have English as an additional language, their ethnicity, and where in England they live. Taken with our previous reports, this builds a comprehensive account of how different pupil groups were affected by the pandemic in terms of their attainment outcomes, and the extent to which we had seen recovery by the end of the 2022/23 academic year.

In this report we examine pupil outcomes in Star Reading and Star Maths on a consistent basis before, during, and after the pandemic. To be consistent over time we have needed to adapt our method for quantifying lost learning and this inevitably means that some results differ from what we have published before, but the conclusions are unaffected by these changes.[1]

The key findings from this report are:

Gender

The pandemic appears to have had a bigger effect on girls than on boys.

[1] For example, in our earliest studies working in partnership with the Department for Education we used prior attainment data to develop estimates of expected progress. Unfortunately, for current cohorts that prior attainment is itself affected by the pandemic.

Prior to the pandemic, girls outperformed boys in primary reading while boys outperformed girls in primary mathematics. By 2022/23, average outcomes for girls in primary reading were largely the same as they had been prior to the pandemic but there had been an improvement in the attainment of boys. This means that while girls still outperform boys, the gap in attainment has narrowed by 1 month to 3.1 months. In primary maths, results have fallen for both boys and girls, but girls have fallen further so the gap has widened by 2.0 months to 2.9 months.

Prior to the pandemic, girls outperformed boys in both secondary reading and secondary mathematics. By 2022/23, average outcomes for girls in secondary reading had fallen and outcomes for boys were broadly at the same level they had been prior to the pandemic. This means that while girls still outperform boys in reading, the gap in attainment has narrowed by 1.2 months to 4.4 months. In secondary maths, results have fallen for both boys and girls, but girls have fallen further so the gap has narrowed by 3.6 months to 0.3 months – in other words, there is now very little difference in attainment between girls and boys in secondary mathematics.

EAL status

We compare the attainment of pupils for whom English is an additional language (EAL) with other pupils (non-EAL). Since the start of the pandemic, attainment gaps for EAL pupils have narrowed.

Prior to the pandemic, non-EAL pupils outperformed EAL pupils in primary reading while EAL pupils outperformed non-EAL pupils in primary mathematics. By 2022/23, average outcomes for EAL pupils in primary reading had increased slightly more than those of non-EAL pupils. This means that while non-EAL pupils still outperform EAL pupils, the gap in attainment has narrowed by 0.5 months to 2.9 months. In primary mathematics, results have fallen for both groups with non-EAL pupils falling very slightly further. This means that EAL pupils continue to outperform non-EAL pupils in primary mathematics and the gap has widened by 0.2 months to 2.0 months.

Prior to the pandemic, non-EAL pupils outperformed EAL pupils in both secondary reading and secondary mathematics. By 2022/23, average outcomes for non-EAL pupils in secondary reading had fallen and outcomes for EAL pupils had increased. This means that while non-EAL pupils still outperform EAL pupils in secondary reading, the gap has narrowed by 3.6 months to 10.0 months. In secondary mathematics, results have fallen for both groups, but results for non-EAL pupils have fallen further. This means that while non-EAL pupils still outperform EAL pupils in secondary mathematics, the gap has narrowed by 2.7 months to 3.9 months.

In this report we consider the attainment of all EAL pupils, without distinguishing between their first languages or time spent in the English school system. In the Education Policy Institute's annual report, there is a focus on EAL pupils who have recently joined the school system in England which identified similar gap narrowing. However, this also found evidence that compositional shifts within the EAL group may have contributed towards this gap narrowing. Specifically, within the group of EAL pupils who arrive late into the English school system, there has been an increase in higher-attaining ethnic groups (such as Chinese pupils). It is therefore important that we do not simply view EAL pupils as a homogenous group.

Special educational needs and disabilities (SEND)

In this section we consider the outcomes of pupils with identified special educational needs and disabilities (SEND). We distinguish between pupils who receive support in school (SEN support) and

those with more complex needs set out in an education, health and care plan (EHCP), and we compare both groups to their peers with no identified needs.

There are very wide attainment gaps between those pupils identified with special educational needs and their peers in each subject and in each phase. These gaps have narrowed slightly since the start of the pandemic but remain substantial.

Amongst primary-aged pupils, outcomes in reading for non-SEN pupils, SEN support pupils, and SEN with EHCP pupils have all increased, with outcomes for SEN pupils improving slightly more than for non-SEN pupils. This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 1.0 months to 19.4 months and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed fractionally by 0.2 months (to 26.6 months). In mathematics, outcomes for both non-SEN pupils and SEN support pupils have both fallen but results for SEN with EHCP have remained largely unchanged. This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 0.6 months and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed by 1.7 months (but are still large at 15.3 months and 22.3 months respectively).

Amongst secondary-aged pupils in reading, outcomes for non-SEN pupils and SEN with EHCP pupils are largely unchanged meaning that there has been no change in this gap, but the gap between non-SEN pupils and SEN support pupils has narrowed by 5 months (24.8 months overall). It has not been possible to produce robust estimates for the effects in secondary mathematics.

Major ethnic group

In this section we consider how outcomes have changed by ethnic group. Because of sample sizes we only carry out this analysis based on the major ethnic group classification (White, Black, Asian, Mixed, Chinese, Other) and only for reading. As with our EAL group, clustering pupils under broad categories does not, necessarily, give us a full picture of attainment and progress for sub-groups of pupils so, again, we treat these results with some caution.

We find a wide range of outcomes by pupil ethnic group. Prior to the pandemic, the difference between the highest performing group (Chinese) and lowest performing group (Other) was equivalent to 14.9 months of learning amongst primary-aged pupils, and 23.2 months of learning amongst secondary-aged pupils.

All ethnic groups have seen improvements in primary reading since the start of the pandemic, of note was that Black pupils closed the gap to White pupils and are now slightly ahead. Amongst secondary-aged pupils, pupils from Mixed, Asian, Black, and Other backgrounds have seen results improve while results for Chinese and White pupils have fallen.[2]

Region

We present analysis of outcomes in primary reading in different parts of the country by examining results by region. It was not possible to produce breakdowns for secondary schools and in mathematics due to sample sizes and so this only represents a partial picture.

[2] Note that the number of pupils from Chinese backgrounds is relatively small including in the baseline calculation. Therefore, changes over time may reflect changes in the pupils taking assessments rather than the group as a whole.

Geographic regions explain a relatively small percentage of the variation in pupil outcomes. However, there are still fairly substantial gaps between different areas of the country. Prior to the pandemic, the difference between the highest (South East) and lowest (Yorkshire and the Humber) performing regions was equivalent to 3.8 months of learning.

Yorkshire and the Humber was the lowest performing region throughout the time series. The gap between it and the highest performing region was at its widest in 2020/21 (when the joint highest performing regions were London and the South East), this was equivalent to 4.8 months of learning. By 2022/23 this had narrowed to 4.3 months.

With the exception of the West Midlands, outcomes in all regions are now at or above their pre-pandemic levels. Within this, London has increased the most (equivalent to 1.4 months) and widened the gap between the lowest and highest performing regions.

The data used in this report

How data are collected and constructed

The data analysed in this report is drawn from assessment data from Renaissance Star Reading and Renaissance Star Maths. These provide criterion-based scores that run on a singular scale from year 1 to year 13. Star Assessments are computer-adaptive in nature and adapt to the individual, providing an assessment that identifies gaps in learning from the entirety of the curriculum, independent of their current year group. Star Assessments also include a standardised measure, which takes account of the pupil's age in years and months.

The Star Reading assessment measures students' performance in key reading skills via a brief standards-based test of general reading achievement, administering 34 questions that students complete, on average, in less than 20 minutes. The Star Maths assessment similarly comprises a brief assessment of 24 questions that students complete, on average, in less than 15 minutes. The assessments draw on banks of just over 4,000 items in each of reading and mathematics.[3]

Over the course of 2023, Renaissance provided the Education Policy Institute and the Department for Education (DfE) with data comprising assessments undertaken in England between the start of the 2017/18 of the academic year and the end of the summer term of 2022/23.[4] The Department for Education then carried out a matching exercise to link this data with that in the National Pupil Database which contains a wealth of data on pupil characteristics and assessment outcomes. The Education Policy Institute then used this linked data as the basis for this report.

In each section we set out the number of pupils included in the analysis and the relative prevalence of each characteristic.

Interpreting outcome measures

We consider the outcomes in Star Assessments in reading and mathematics for pupils over time to track how outcomes have changed in comparison with pre-pandemic norms for different pupil groups.

To ensure sufficient sample sizes we have grouped year groups together into primary and secondary year groups and terms together into scores for the complete academic year. To group scores together in this way it has been necessary to "standardise" scores. We do this relative to performance in a "baseline" period – the years prior to the pandemic. For a pupil's result we do this as follows:

- We take their score and subtract the mean score in that subject, in the equivalent term, in the pupil's year group, in our baseline data.
- We then divide that by the standard deviation of scores in that subject, in the equivalent term, in the pupil's year group, in our baseline data.

[3] A more detailed discussion of Star Assessments is available in *'Research Foundation for Star Adaptive Assessments – Science of Star'*, Renaissance White Paper, September 2020.

[4] The data provided for this analysis was restricted to those institutions who instructed Renaissance to conduct the analysis.

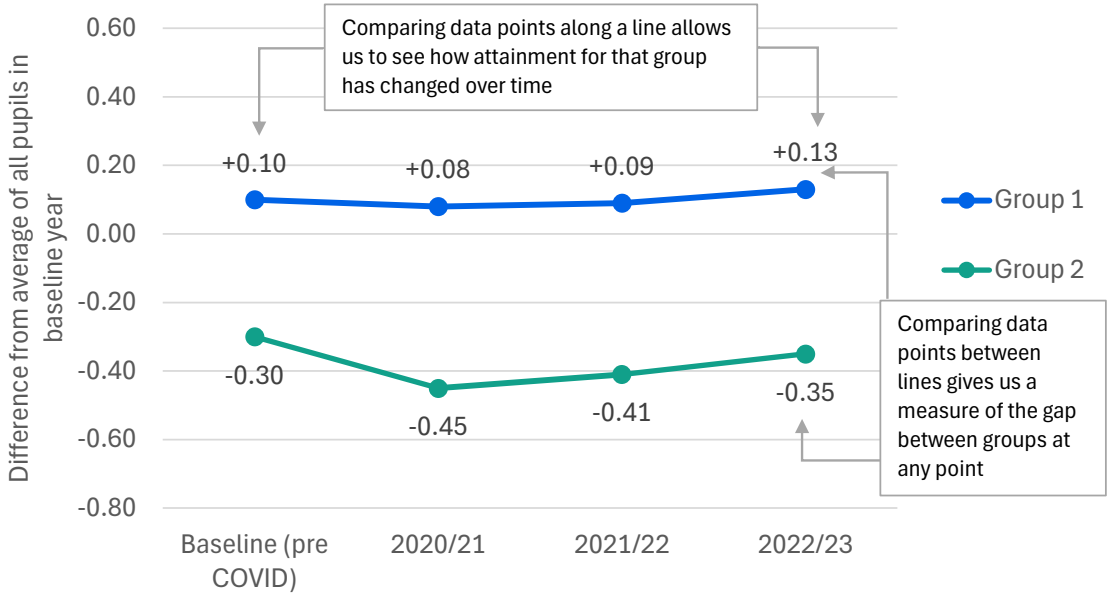
This means that scores in our baseline data have a mean of zero and a standard deviation of one. All of the averages presented in this analysis are then in fractions of a standard deviation relative to pre-pandemic averages for all pupils. As in our previous report, 0.1 standard deviations can be broadly interpreted as:

Figure 1: Approximate interpretations of a change of 0.1 standard deviations in attainment[5]

	Months of learning	Unified scale score points
Primary reading	2.4	7
Primary maths	1.7	7
Secondary reading	4.0	7
Secondary maths	3.0	8

We present results on a series of charts that show how attainment for each group has changed over time, and what that has meant for the gap between the groups. We illustrate how these charts should be interpreted in Figure 2.

Figure 2: Illustration of approach for measuring attainment using outcomes in primary reading for two groups



In this example we can see that outcomes for Group 1 have increased by 0.03 standard deviations between the baseline period and 2022/23. Using the conversion in Figure 1, this is equivalent to 0.7 months of learning (0.03/0.1 x 2.4 = 0.7 months).

We can also see that the gap between Group 1 and Group 2 is 0.48 standard deviations. This is equivalent to 11.5 months of learning (0.48/0.1 x 2.4 = 11.5 months).

[5] This is consistent with our interpretation in our disadvantage report using the typical rates of progress and standard deviations included in our benchmarking report.

Outcomes by pupil gender

Summary

The pandemic appears to have had a bigger effect on girls than on boys.

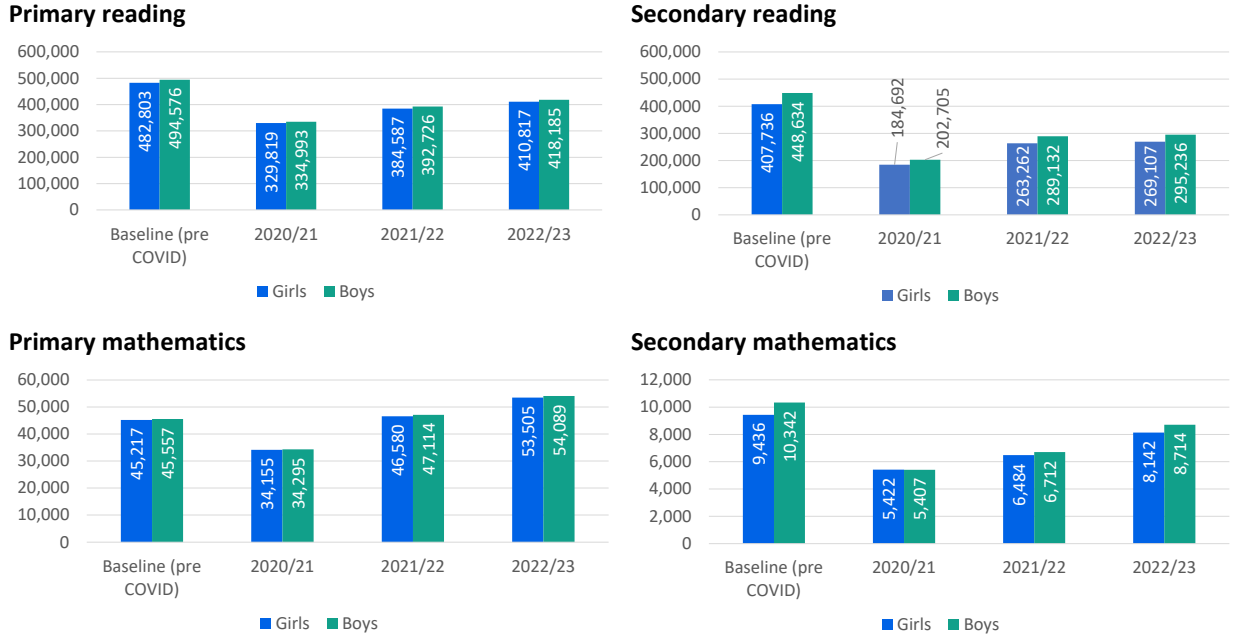
Prior to the pandemic, girls outperformed boys in primary reading while boys outperformed girls in primary mathematics. By 2022/23, average outcomes for girls in primary reading were largely the same as they had been prior to the pandemic but there had been an improvement in the attainment of boys. This means that while girls still outperform boys, the gap in attainment has narrowed by 1 month to 3.1 months. In primary maths, results have fallen for both boys and girls, but girls have fallen further so the gap has widened by 2.0 months to 2.9 months.

Prior to the pandemic, girls outperformed boys in both secondary reading and secondary mathematics. By 2022/23, average outcomes for girls in secondary reading had fallen and outcomes for boys were broadly at the same level they had been prior to the pandemic. This means that while girls still outperform boys, the gap in attainment has narrowed by 1.2 months to 4.4 months. In secondary mathematics, results have fallen for both boys and girls, but results for girls have fallen further so the gap has narrowed by 3.6 months to 0.3 months – in other words, there is now very little difference in attainment between girls and boys in secondary mathematics.

Pupil numbers

The charts below show how many assessments are included in the analysis. An individual pupil may appear multiple times but only once in each term (i.e. they may appear up to three times in any academic year).

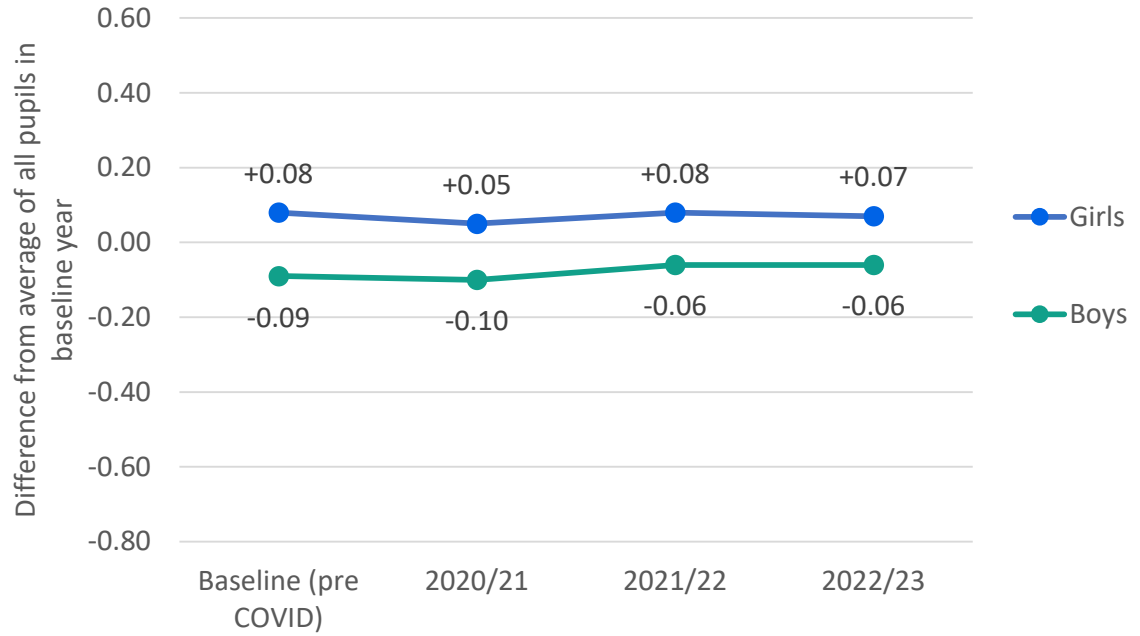
Figure 3: Number of pupils included in analysis by gender



In primary reading, outcomes for girls are largely unchanged but boys have increased slightly meaning a narrowing of the gap.

- Prior to the pandemic, outcomes for girls in primary reading were 0.17 standard deviations higher than results for boys. This is equivalent to around 4.1 months of learning.
- Between the baseline period and 2020/21, results for girls went down (by 0.03 standard deviations) but have since largely recovered meaning that results in 2022/23 were broadly the same as prior to the pandemic.
- Over the same period, results for boys also initially fell slightly (by 0.01 standard deviations) but have since increased so that they are now 0.03 standard deviations higher than they were before the pandemic – equivalent to an additional 0.7 months of learning.
- This means that while girls still outperform boys in primary reading, the gap has narrowed by 1 month to 3.1 months.

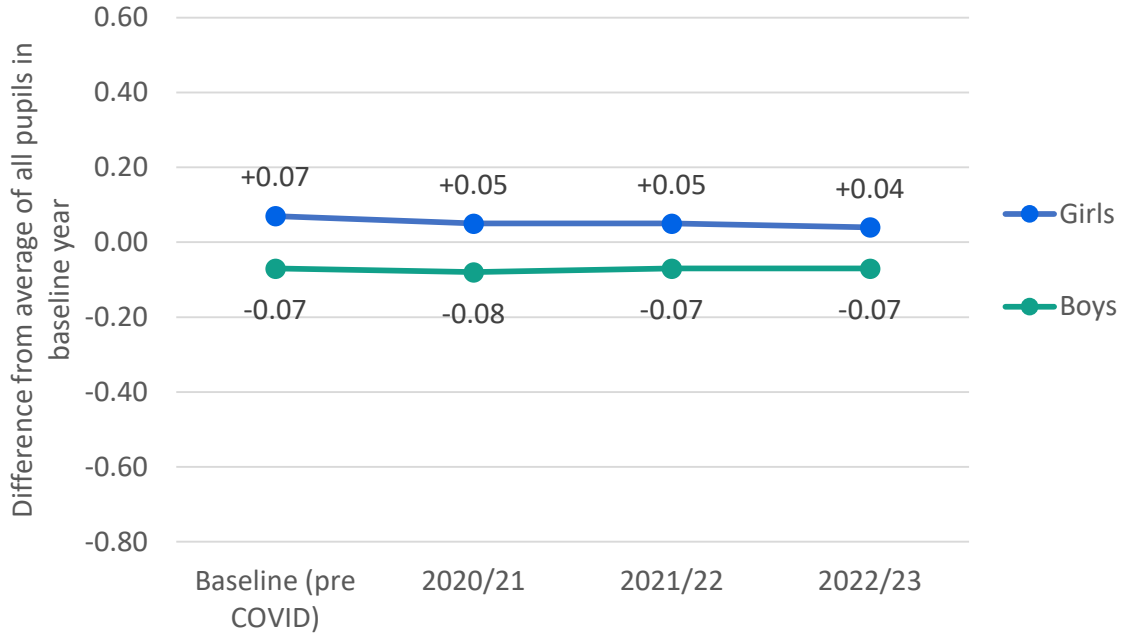
Figure 4: Standardised scores relative to pre-pandemic average in reading by gender – primary



In secondary reading, outcomes for girls have fallen and outcomes for boys have remained unchanged, again meaning a narrowing of the gap.

- Prior to the pandemic, outcomes for girls in secondary reading were 0.14 standard deviations higher than results for boys. This is equivalent to around 5.6 months of learning.
- Between the baseline period and 2022/23, results for girls declined by 0.03 standard deviations – equivalent to 1.2 months of learning.
- Over the same period, results for boys also initially fell slightly (by 0.01 standard deviations) but have since recovered to the level they were at prior to the pandemic.
- This means that while girls still outperform boys in secondary reading, the gap has narrowed by 1.2 months to 4.4 months.

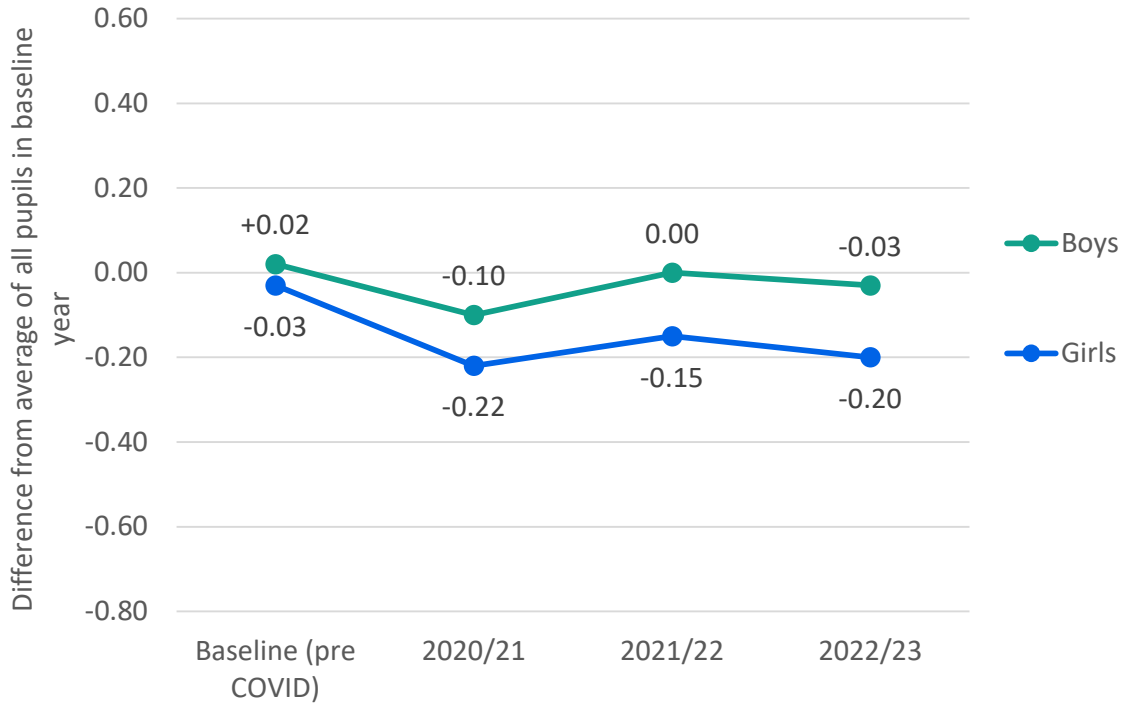
Figure 5: Standardised scores relative to pre-pandemic average in reading by gender – secondary



In primary maths, outcomes for girls have fallen further than for boys leading to a widening attainment gap.

- Prior to the pandemic, outcomes for boys in primary mathematics were 0.05 standard deviations higher than for girls. This is equivalent to around 0.9 months of learning.
- Between the baseline period and 2022/23, results for girls declined by 0.17 standard deviations – equivalent to 2.9 months of learning.
- Over the same period, results for boys also fell but to a smaller degree – 0.05 standard deviations, equivalent to 0.9 months of learning.
- This means that boys increasingly outperform girls in primary mathematics, and the gap has widened by 2 months to 2.9 months.

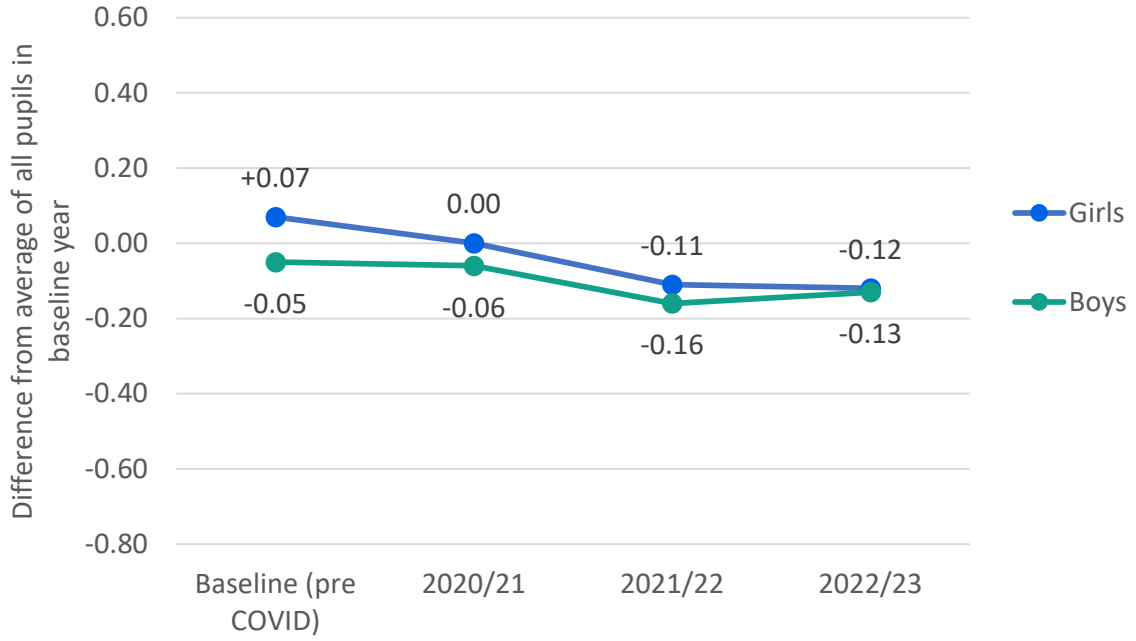
Figure 6: Standardised scores relative to pre-pandemic average in mathematics by gender – primary



In secondary maths, results have fallen for both boys and girls. But girls have fallen further meaning that they are no longer so far ahead.

- Prior to the pandemic, outcomes for girls in secondary mathematics were 0.12 standard deviations higher than for boys. This is equivalent to around 3.6 months of learning.
- Between the baseline period and 2022/23, results for girls declined by 0.19 standard deviations – equivalent to 5.7 months of learning.
- Over the same period, results for boys also fell but to a smaller degree – 0.08 standard deviations, equivalent to 2.4 months of learning.
- This means that while girls still out perform boys slightly in secondary mathematics, the gap has narrowed substantially – from 3.6 months to 0.3 months.

Figure 7: Standardised scores relative to pre-pandemic average in mathematics by gender – secondary



Outcomes by first language status

Summary

We compare the attainment of pupils for whom English is an additional language (EAL) with other pupils (non-EAL). Since the start of the pandemic, attainment gaps for EAL pupils have narrowed.

Prior to the pandemic, non-EAL pupils outperformed EAL pupils in primary reading while EAL pupils outperformed non-EAL pupils in primary mathematics. By 2022/23, average outcomes for EAL pupils in primary reading had increased slightly more than those of non-EAL pupils. This means that while non-EAL pupils still outperform EAL pupils, the gap in attainment has narrowed by 0.5 months to 2.9 months. In primary mathematics, results have fallen for both groups with non-EAL pupils falling very slightly further. This means that EAL pupils continue to outperform non-EAL pupils in primary mathematics and the gap has widened by 0.2 months to 2.0 months.

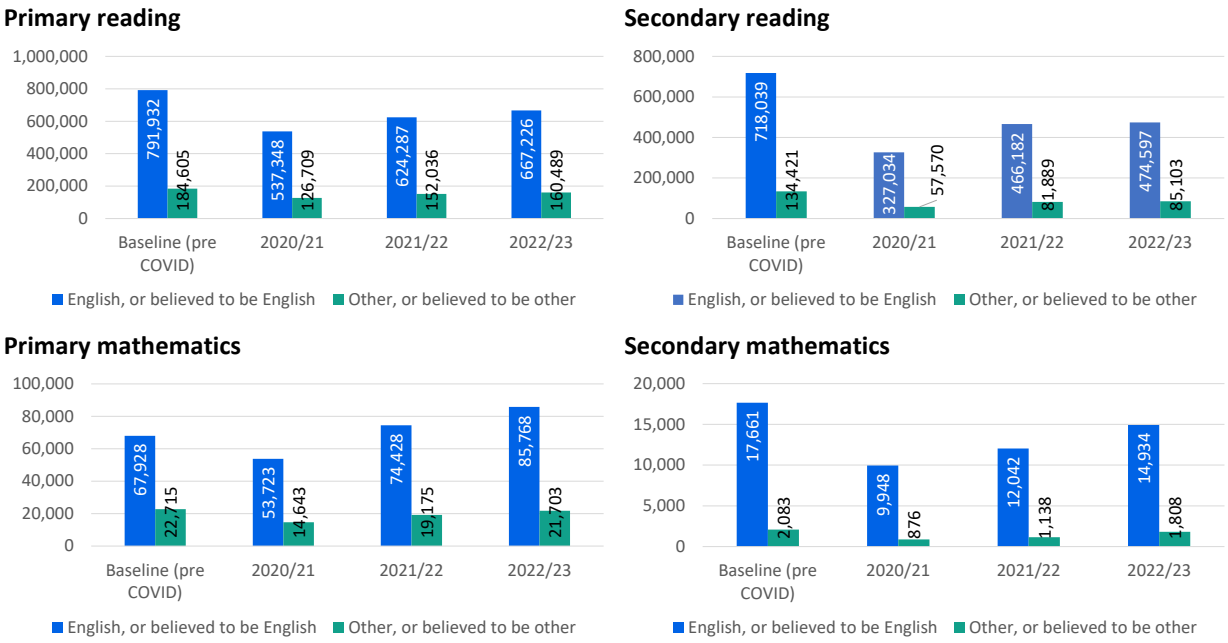
Prior to the pandemic, non-EAL pupils outperformed EAL pupils in both secondary reading and secondary mathematics. By 2022/23, average outcomes for non-EAL pupils in secondary reading had fallen and outcomes for EAL pupils had increased. This means that, while non-EAL pupils still outperform EAL pupils in secondary reading, the gap has narrowed by 3.6 months to 10.0 months. In secondary mathematics, results have fallen for both groups but results for non-EAL pupils have fallen further. This means that while non-EAL pupils still outperform EAL pupils in secondary mathematics, the gap has narrowed by 2.7 months to 3.9 months.

In this analysis we consider the attainment of all EAL pupils without distinguishing between their first language or time spent in the English school system. In the Education Policy Institute's annual report, we focus on EAL pupils who have recently joined the school system in England which identified similar gap narrowing. However, this also found evidence that that compositional shifts within the EAL group may have contributed towards this gap narrowing. Specifically, within the group of EAL pupils who arrive late into the English school system, there has been an increase in higher-attaining ethnic groups (such as Chinese pupils). It is therefore important that we do not simply view EAL pupils as a homogenous group.

Pupil numbers

The charts below show how many assessments are included in the analysis. An individual pupil may appear multiple times but only once in each term (i.e. they may appear up to three times in any academic year).

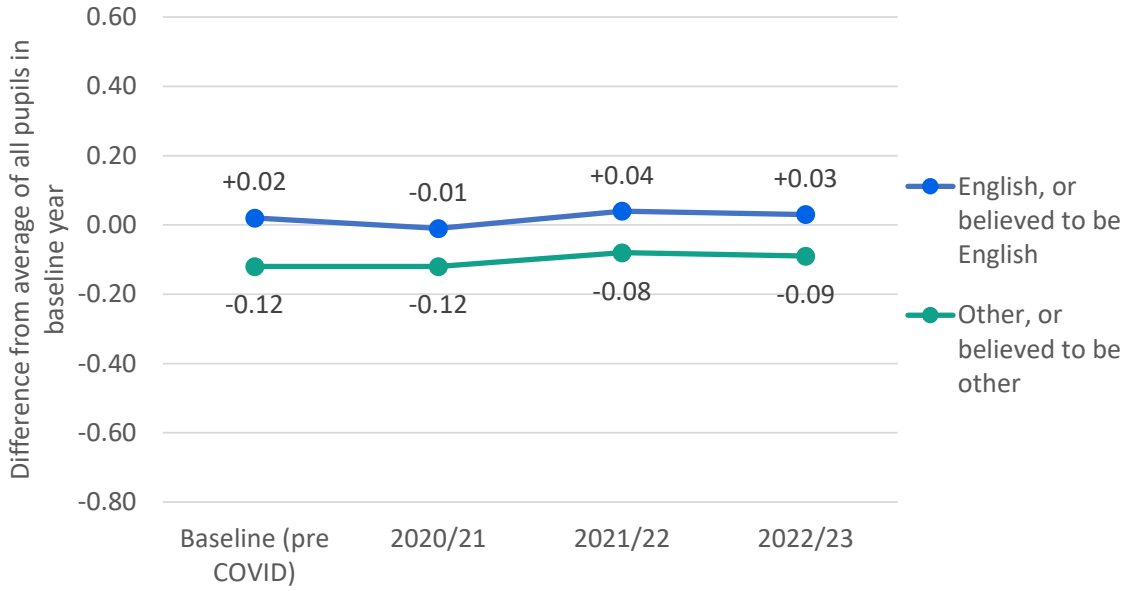
Figure 8: Number of pupils included in analysis by first language status



In primary reading, outcomes for EAL pupils and non-EAL pupils have followed a similar pattern to each other, though the gap between them has narrowed slightly.

- Prior to the pandemic, outcomes for EAL pupils in primary reading were 0.14 standard deviations lower than results for non-EAL pupils. This is equivalent to around 3.4 months of learning.
- Between the baseline period and 2022/23, results for EAL pupils have gone up by 0.03 standard deviations, equivalent to 0.7 months of learning.
- Over the same period, results for non-EAL pupils have also increased, but only by 0.01 standard deviations, equivalent to 0.2 months of learning.
- This means that while non-EAL pupils still outperform EAL pupils in primary reading, the gap has narrowed by 0.5 months to 2.9 months.

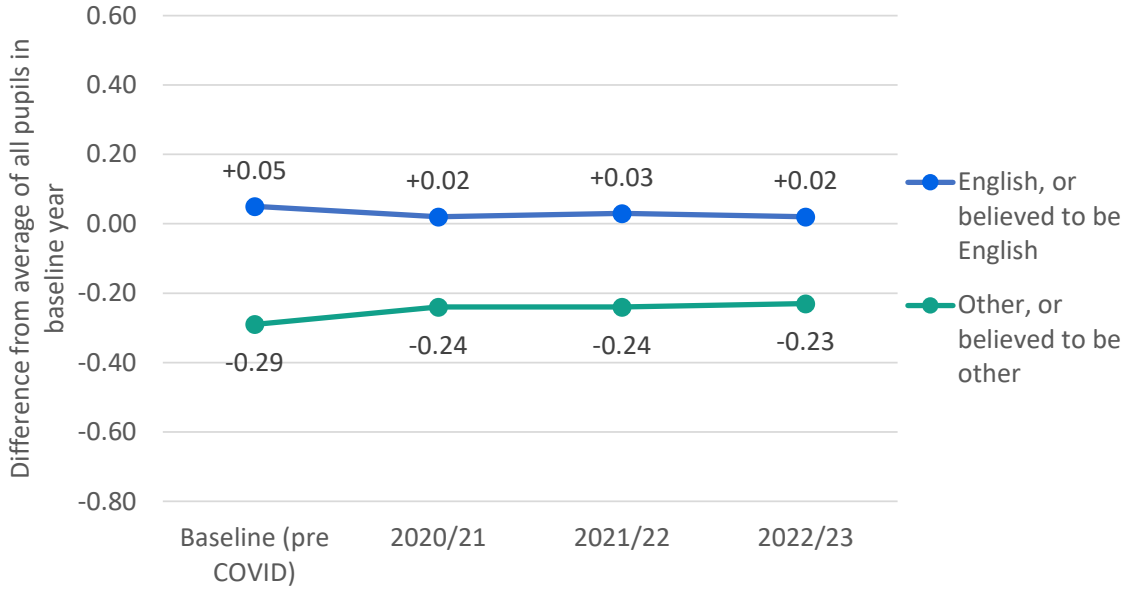
Figure 9: Standardised scores relative to pre-pandemic average in reading by first language status – primary



In secondary reading, outcomes for non-EAL pupils have fallen whereas there have been increases for EAL pupils leading to a narrowing of the gap.

- Prior to the pandemic, outcomes for non-EAL pupils in secondary reading were 0.34 standard deviations higher than results for EAL pupils. This is equivalent to around 13.6 months of learning.
- Between the baseline period and 2022/23, results for non-EAL pupils have fallen by 0.03 standard deviations, equivalent to 1.2 months of learning.
- Over the same period, results for EAL pupils have increased by 0.06 standard deviations, equivalent to 2.4 months of learning.
- This means that while non-EAL pupils still outperform EAL pupils in secondary reading, the gap has narrowed by 3.6 months to 10.0 months.

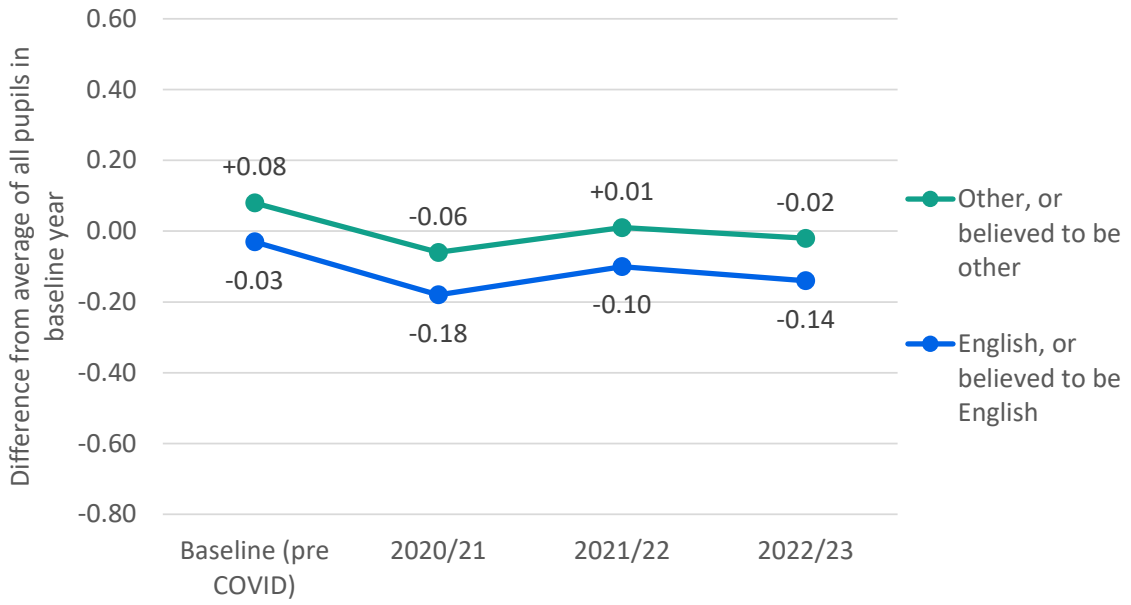
Figure 10: Standardised scores relative to pre-pandemic average in reading by first language status – secondary



In primary maths, outcomes for EAL and non-EAL pupils have fallen by similar amounts.

- Prior to the pandemic, EAL pupils outperformed non-EAL pupils. Outcomes for EAL pupils in primary mathematics were 0.11 standard deviations higher than results for non-EAL pupils. This is equivalent to around 1.9 months of learning.
- Between the baseline period and 2020/21, results for EAL pupils fell by 0.14 standard deviations, equivalent to 2.4 months of learning, before partially recovering to an overall fall of 0.1 standard deviations – equivalent to 1.7 months of learning.
- Between the baseline period and 2020/21, results for EAL pupils fell by 0.15 standard deviations, equivalent to 2.5 months of learning, before partially recovering to an overall fall of 0.11 standard deviations – equivalent to 1.9 months of learning.
- This means that EAL pupils continue to outperform non-EAL pupils in primary mathematics and the gap has widened by 0.2 months to 2.0 months.

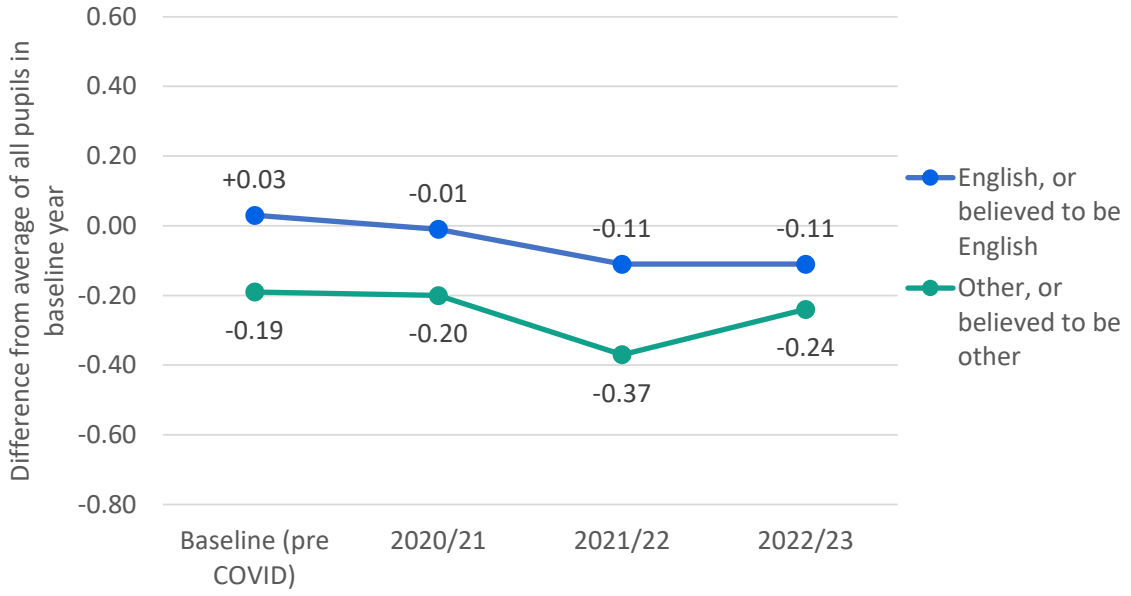
Figure 11: Standardised scores relative to pre-pandemic average in mathematics by first language status – primary



In secondary maths, results have fallen for both EAL and non-EAL pupils, but the gap between them has narrowed.

- Prior to the pandemic, non-EAL pupils outperformed EAL pupils. Outcomes for non-EAL pupils in secondary mathematics were 0.22 standard deviations higher than results for EAL pupils. This is equivalent to around 6.6 months of learning.
- Between the baseline period and 2022/23, results for non-EAL pupils have fallen by 0.14 standard deviations, equivalent to 4.2 months of learning.
- Over the same period, results for non-EAL pupils have fallen by 0.05 standard deviations, equivalent to 1.5 months of learning.
- This means that while non-EAL pupils still outperform EAL pupils in secondary mathematics, the gap has narrowed by 2.7 months to 3.9 months.

Figure 12: Standardised scores relative to pre-pandemic average in mathematics by first language status – secondary



Outcomes by special educational needs status

Summary

In this section we consider the outcomes of pupils with identified special educational needs and disabilities (SEND). We distinguish between pupils who receive support in school (SEN support) and those with more complex needs set out in an education, health and care plan (EHCP), and we compare both groups to their peers with no identified needs.

There are very wide attainment gaps between those pupils identified with special educational needs and their peers in each subject and in each phase. These gaps have narrowed slightly since the start of the pandemic but remain substantial.

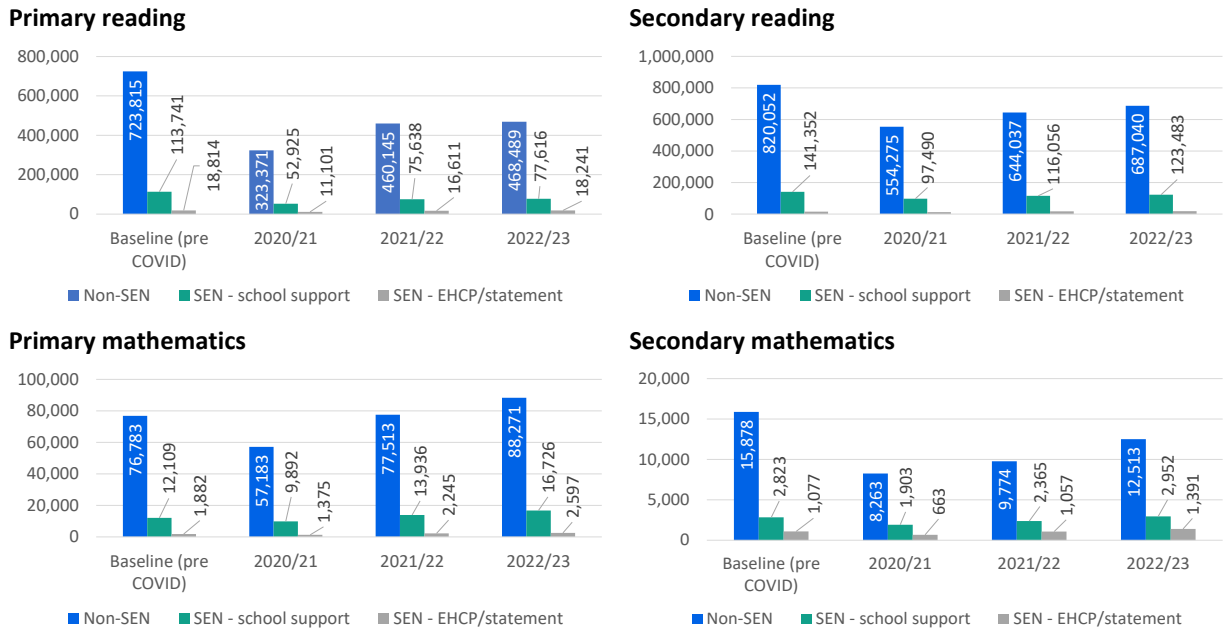
Amongst primary-aged pupils, outcomes for non-SEN pupils, SEN support pupils, and SEN with EHCP pupils have all increased, with outcomes for SEN pupils improving slightly more than for non-SEN pupils. This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 1.0 months to 19.4 months and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed fractionally by 0.2 months (to 26.6 months). In mathematics, outcomes for both non-SEN pupils and SEN support pupils have both fallen but results for SEN with EHCP have remained largely unchanged. This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 0.6 months and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed by 1.7 months (but are still large at 15.3 months and 22.3 months respectively).

Amongst secondary-aged pupils in reading, outcomes for non-SEN pupils and SEN with EHCP pupils are largely unchanged meaning that there has been no change in this gap, but the gap between non-SEN pupils and SEN support pupils has narrowed by 5 months (24.8 months overall). It has not been possible to produce robust estimates for the effects in secondary mathematics.

Pupil numbers

The charts below show how many assessments are included in the analysis. An individual pupil may appear multiple times but only once in each term (i.e. they may appear up to three times in any academic year).

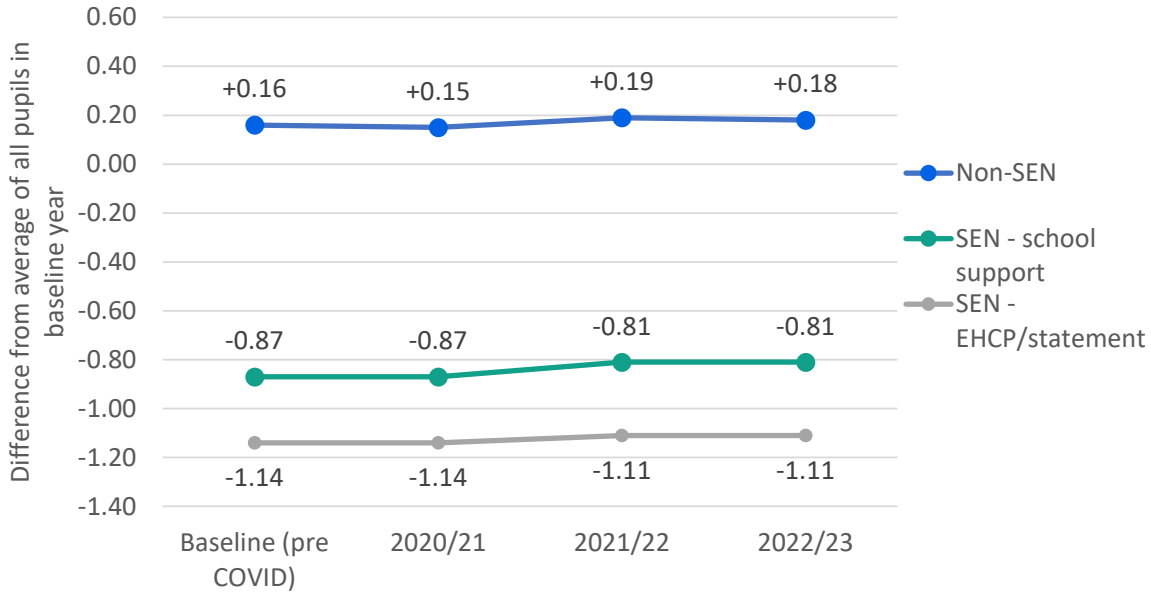
Figure 13: Number of pupils included in analysis by special educational needs status



In primary reading, outcomes for non-SEN, SEN support, and SEN with EHCP have all increased, and attainment gaps have narrowed slightly

- There is a very wide attainment gap between those pupils identified with special educational needs and their peers. Prior to the pandemic, results for SEN support pupils were 1.03 standard deviations lower than non-SEN pupils. This is equivalent to around 24.7 months of learning. Results for SEN with EHCP pupils were 1.3 standard deviations lower than non-SEN pupils. This is equivalent to around 31.2 months of learning.
- Between the baseline period and 2022/23, results for non-SEN pupils have increased by 0.02 standard deviations, equivalent to 0.5 months of learning.
- Over the same period, results for SEN support pupils have increased by 0.06 standard deviations, equivalent to 1.4 months of learning. Results for SEN with EHCP pupils have increased by 0.03 standard deviations, equivalent to 0.7 months of learning.
- This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 1 month and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed by 0.2 months.

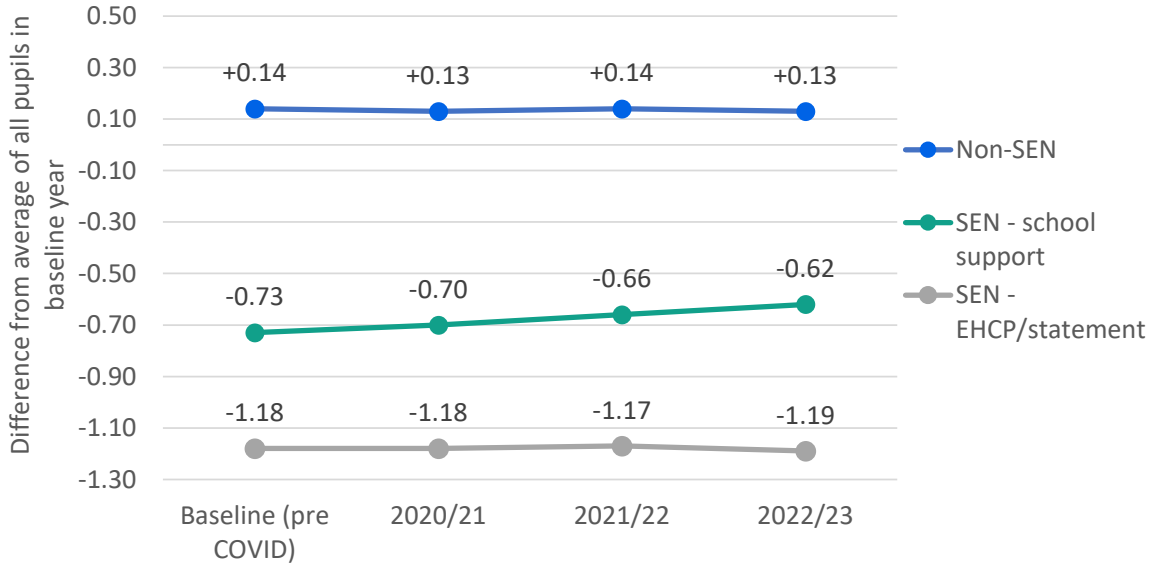
Figure 14: Standardised scores relative to pre-pandemic average in reading by SEN status – primary



In secondary reading, outcomes for non-SEN pupils and SEN with EHCP pupils are largely unchanged, but results for SEN support pupils have increased

- There is a very wide attainment gap between those pupils identified with special educational needs and their peers. Prior to the pandemic, results for SEN support pupils were 0.87 standard deviations lower than non-SEN pupils. This is equivalent to around 29.2 months of learning. Results for SEN with EHCP pupils were 1.32 standard deviations lower than non-SEN pupils. This is equivalent to almost four years of learning.
- Between the baseline period and 2022/23, results for non-SEN pupils have fallen by 0.01 standard deviations, equivalent to 0.4 months of learning.
- Over the same period, results for SEN support pupils have increased by 0.11 standard deviations, equivalent to 4.4 months of learning. Results for SEN with EHCP pupils have fallen by 0.01 standard deviations, equivalent to 0.4 months of learning.
- This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 5 months and the gap between non-SEN pupils and SEN with EHCP pupils is unchanged.

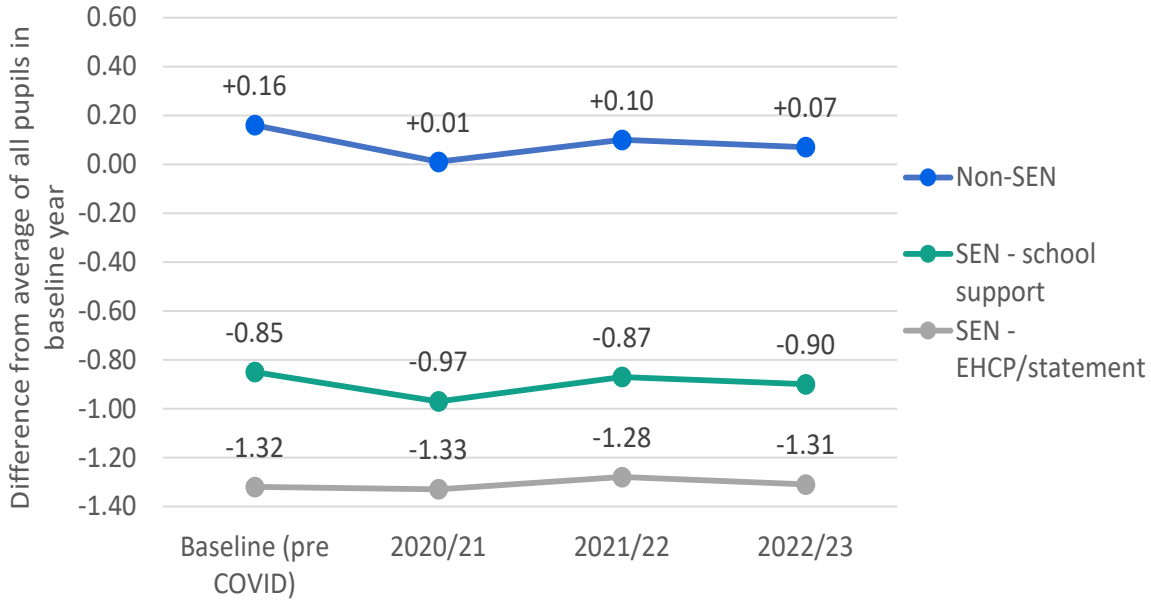
Figure 15: Standardised scores relative to pre-pandemic average in reading by SEN status – secondary



In primary maths, outcomes for non-SEN pupils and SEN support pupils have fallen, but results for SEN with EHCP pupils are largely unchanged

- There is a very wide attainment gap between those pupils identified with special educational needs and their peers. Prior to the pandemic, results for SEN support pupils were 1.01 standard deviations lower than non-SEN pupils. This is equivalent to around 14.4 months of learning. Results for SEN with EHCP pupils were 1.5 standard deviations lower than non-SEN pupils. This is equivalent to around 22.4 months of learning.
- Between the baseline period and 2022/23, results for non-SEN pupils have decreased by 0.09 standard deviations, equivalent to 1.5 months of learning.
- Over the same period, results for SEN support pupils have decreased by 0.05 standard deviations, equivalent to 0.9 months of learning. Results for SEN with EHCP pupils are largely the same as they were prior to the pandemic – an increase of 0.01 standard deviations, equivalent to 0.2 months of learning.
- This means that the gap between non-SEN pupils and SEN support pupils has narrowed by 0.6 months and the gap between non-SEN pupils and SEN with EHCP pupils has narrowed by 1.7 months.

Figure 16: Standardised scores relative to pre-pandemic average in mathematics by SEN status – primary



Outcomes by major ethnic group

Summary

In this section we consider how outcomes have changed by ethnic group. Because of sample sizes we only carry out this analysis based on the major ethnic group classification (White, Black, Asian, Mixed, Chinese, Other) and only for reading. As with our EAL group, clustering pupils under broad categories does not, necessarily, give us a full picture of attainment and progress for sub-groups of pupils so, again, we treat these results with some caution.

We find a wide range of outcomes by pupil ethnic group. Prior to the pandemic, the difference between the highest performing group (Chinese) and lowest performing group (Other) was equivalent to 14.9 months of learning in primary reading, and 23.2 months of learning in secondary reading.

Amongst primary-aged pupils, all ethnic groups have seen improvements in reading scores since the start of the pandemic, of note was that Black pupils closed the gap to White pupils and are now slightly ahead. Amongst secondary-aged pupils, pupils from Mixed, Asian, Black, and Other backgrounds have seen results improve while results for Chinese and White pupils have fallen.[6]

Pupil numbers

The table below shows how many assessments are included in the analysis. An individual pupil may appear multiple times but only once in each term (i.e. they may appear up to three times in any academic year).

Figure 17: Number of pupils included in analysis by major ethnic group - reading

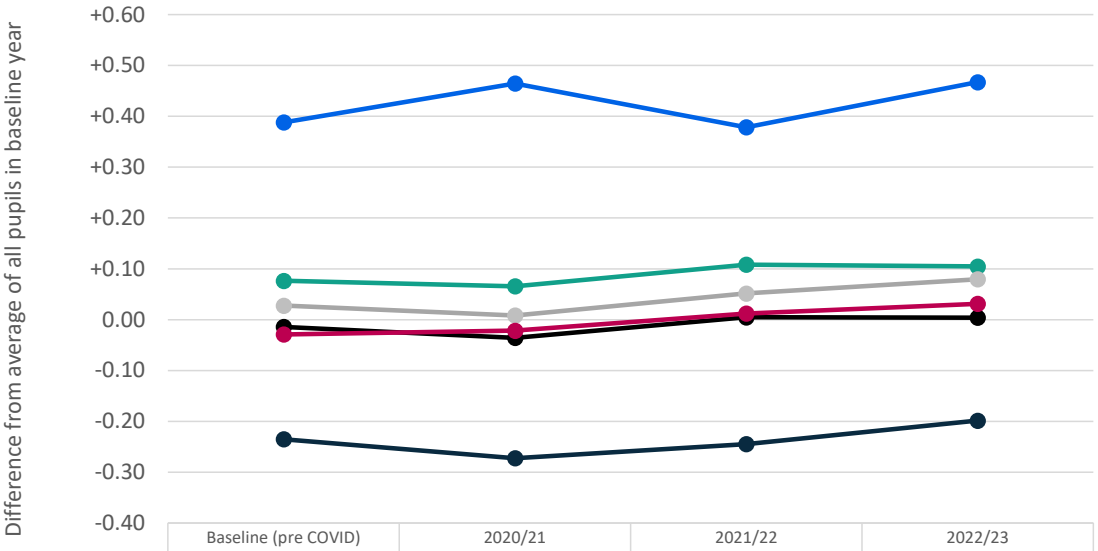
	Primary Baseline (pre COVID)	2020/21	2021/22	2022/23	Secondary Baseline (pre COVID)	2020/21	2021/22	2022/23
Any other ethnic group	16,040	11,871	14,580	14,696	14,215	6,168	9,140	9,944
Asian	91,553	66,643	84,729	85,920	89,656	36,963	52,256	52,581
Black	43,659	28,142	33,419	33,863	40,316	17,992	27,050	26,601
Chinese	3,820	2,859	4,066	4,128	2,423	1,320	2,329	2,656
Mixed	53,676	39,169	47,008	50,204	45,797	22,621	34,912	35,027
Unclassified	7,179	6,666	8,105	9,099	15,726	8,080	11,615	7,910
White	761,452	509,462	585,406	621,958	648,237	294,253	415,092	423,350

[6] Note that the number of pupils from Chinese backgrounds is relatively small including in the baseline calculation. Therefore, changes over time may reflect changes in the pupils taking assessments rather than the group as a whole.

In primary reading, outcomes have improved for all major ethnic groups to varying degrees, but there is still a wide range of outcomes.

- Prior to the pandemic, Chinese pupils were by far the highest performing ethnic group with results that were 0.39 standard deviations higher than the average – equivalent to an additional 9.3 months of learning.
- Prior to the pandemic, pupils in the "Other ethnic group" category were the lowest performing group with results that were 0.24 standard deviations below average, equivalent to 5.6 months of learning.
- Amongst other groups, pupils from Mixed ethnic backgrounds were the equivalent of 1.8 months of learning above average and Black pupils were 0.7 months below average.
- Since the pandemic, all of the major ethnic groups have seen improvements to varying degrees. Chinese pupils improved by 0.08 standard deviations (equivalent to an additional 1.9 months of learning). Results for pupils from Black backgrounds increased by 0.06 standard deviations (equivalent to an additional 1.4 months of learning) – this means that they are now slightly ahead of White pupils.

Figure 18: Standardised scores relative to pre-pandemic average in reading by major ethnic group – primary



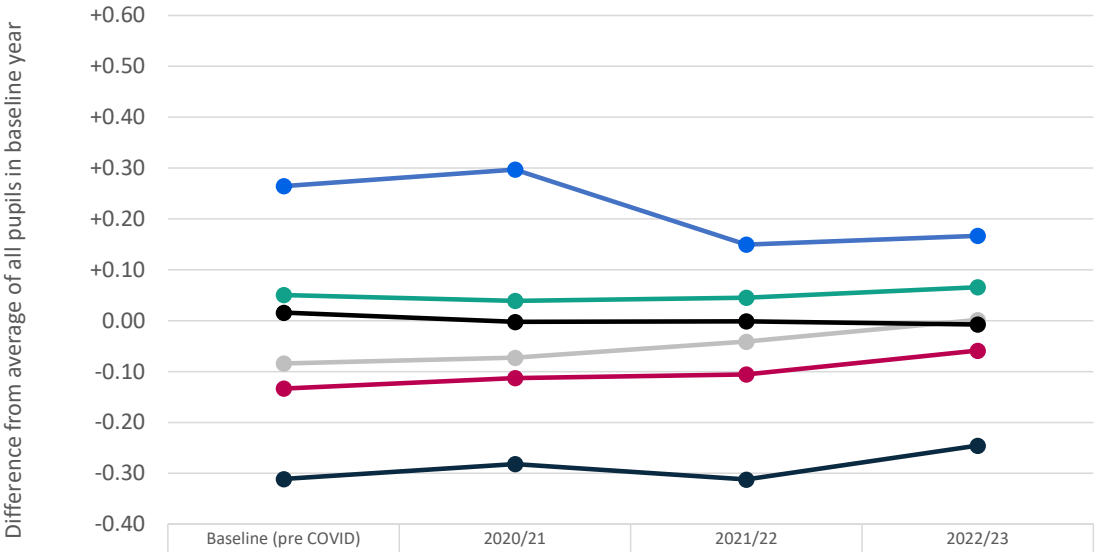
	Baseline (pre COVID)	2020/21	2021/22	2022/23
Chinese	+0.39	+0.46	+0.38	+0.47
Mixed	+0.08	+0.07	+0.11	+0.10
Asian	+0.03	+0.01	+0.05	+0.08
White	-0.01	-0.04	+0.00	+0.00
Black	-0.03	-0.02	+0.01	+0.03
Other	-0.24	-0.27	-0.24	-0.20

In secondary reading, outcomes for White pupils have fallen slightly while most groups saw some improvement

- Prior to the pandemic, Chinese pupils were by far the highest performing ethnic group with results that were 0.26 standard deviations higher than the average – equivalent to an additional 10.6 months of learning.
- Prior to the pandemic, pupils in the "Other ethnic group" category were the lowest performing group with results that were 0.31 standard deviations below average, equivalent to 12.4 months of learning.

- Amongst other groups, pupils from Mixed ethnic backgrounds were the equivalent of 2.0 months of learning above average and Black pupils were 5.3 months below average.
- Since the pandemic, pupils from Mixed, Asian, Black, and Other backgrounds have seen results improve while results for Chinese and White pupils have fallen.[7] Results for pupils from Black backgrounds increased by 0.07 standard deviations (equivalent to an additional 3.0 months learning) – this means that they have narrowed the gap to White pupils but remain below them overall.

Figure 19: Standardised scores relative to pre-pandemic average in reading by major ethnic group – secondary



	Baseline (pre COVID)	2020/21	2021/22	2022/23
Chinese	+0.26	+0.30	+0.15	+0.17
Mixed	+0.05	+0.04	+0.05	+0.07
Asian	-0.08	-0.07	-0.04	+0.00
White	+0.02	-0.00	-0.00	-0.01
Black	-0.13	-0.11	-0.11	-0.06
Other	-0.31	-0.28	-0.31	-0.25

[7] Results for Chinese pupils fell by 0.09 standard deviations (equivalent to a loss of 3.9 months of learning). This may be a reflection of the relatively small number of pupils in each year (in other words, the results may be down to the specific pupils taking the assessments in each year rather than a reflection of the group as a whole).

Outcomes by region

Summary

We present analysis of outcomes in primary reading in different parts of the country. It was not possible to produce breakdowns for secondary schools and in mathematics due to sample sizes and so this only represents a partial picture. Geographic regions explain a relatively small percentage of the variation in pupil outcomes. However, there are still fairly substantial gaps between different areas of the country.

Prior to the pandemic, the difference between the highest (London) and lowest (Yorkshire and the Humber) performing regions was equivalent to 3.8 months of learning. Yorkshire and the Humber was the lowest performing region throughout the time series. The gap between it and the highest performing region was at its widest in 2020/21 (when the joint highest performing regions were London and the South East), this was equivalent 4.8 months of learning. By 2022/23 this had narrowed to 4.3 months.

Pupil numbers

The table below shows how many assessments are included in the analysis. An individual pupil may appear multiple times but only once in each term (i.e. they may appear up to three times in any academic year).

Figure 20: Number of pupils included in analysis by region

	Baseline (pre COVID)	2020/21	2021/22	2022/23
East Midlands	70,347	53,678	62,946	70,207
East of England	162,865	105,612	122,688	130,347
London	103,076	67,671	77,678	81,288
North East	72,221	42,361	44,621	44,337
North West	112,639	71,925	86,434	89,805
South East	184,914	133,957	160,296	167,961
South West	106,068	71,911	80,538	85,553
West Midlands	99,776	70,374	81,709	81,010
Yorkshire and the Humber	56,540	45,292	52,746	56,911

The gap between the highest and lowest performing regions has grown

- Prior to the pandemic, the difference between the highest performing region (South East) and the lowest performing region (Yorkshire and the Humber) was 0.16 standard deviations, equivalent to 3.8 months of learning.
- After the first year of the pandemic (i.e. including all results up to the end of the 2020/21 academic) only London had outcomes that were slightly above pre-pandemic norms – around 0.02 standard deviations, equivalent to 0.5 months of learning. The east of England and the North West were broadly in line with pre-pandemic norms, the remaining regions all had results that were lower than before the pandemic. These ranged from 0.02 standard deviations (equivalent to 0.5 months of learning) in the East Midlands, the South East and the South West, to 0.06 standard deviations (equivalent to 1.4 months) in the West Midlands and Yorkshire and the Humber.
- By 2022/23, outcomes in almost all regions were at or above their pre-pandemic levels. The exception was the West Midlands, which remained 0.02 standard deviations below its pre-pandemic level (equivalent to 0.5 months of learning).
- London was the most improved region between the pre-pandemic period and 2022/23 with outcomes improving by 0.06 standard deviations – equivalent to 1.4 months of learning. This means that the gap between the highest (London) and lowest (Yorkshire and the Humber) has grown to a total of 0.18 standard deviations – equivalent to 4.3 months of learning.

Figure 21: Standardised scores relative to pre-pandemic average in reading by region – primary

	Baseline (pre COVID)	2020/21	2021/22	2022/23
East Midlands	-0.07	-0.09	-0.05	-0.04
East of England	-0.03	-0.04	0.00	0.00
London	+0.02	+0.04	+0.08	+0.08
North East	-0.07	-0.10	-0.04	-0.05
North West	-0.07	-0.06	-0.02	-0.03
South East	+0.06	+0.04	+0.08	+0.07
South West	+0.05	+0.03	+0.07	+0.06
West Midlands	0.00	-0.06	-0.03	-0.02
Yorkshire and the Humber	-0.10	-0.16	-0.09	-0.10

Figure 22: Standardised scores in 2020/21 relative to pre-pandemic average in reading by region – primary

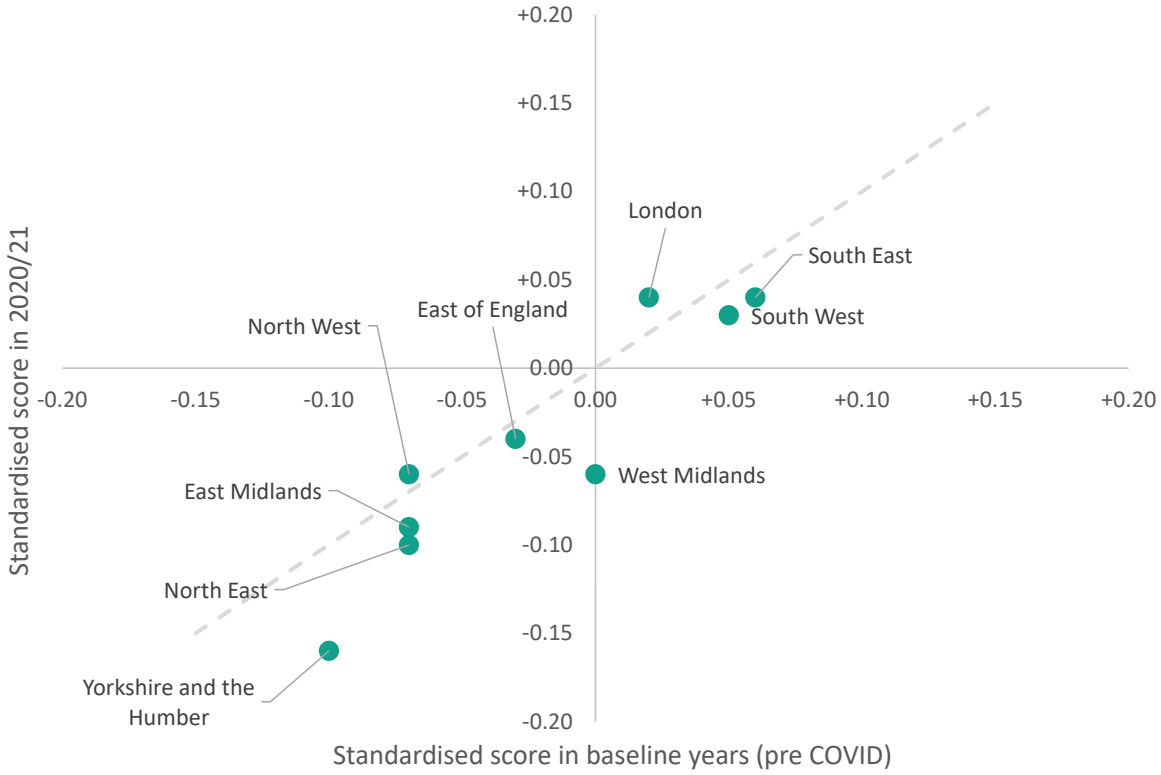
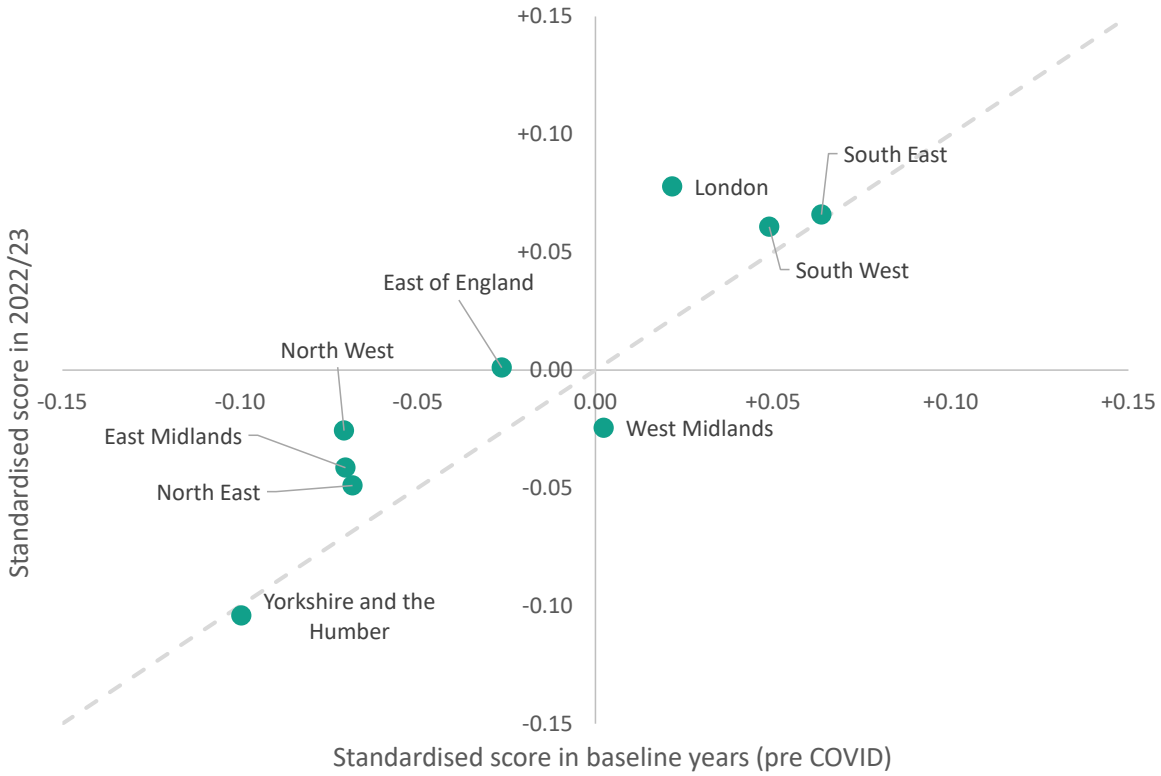


Figure 23: Standardised scores in 2022/23 relative to pre-pandemic average in reading by region – primary



Conclusion

This is the final report in a series of publications that examine the how pupil outcomes in Renaissance Star Reading and Renaissance Star Maths have changed between 2017/18 and 2022/23, tracking the effects of the COVID-19 pandemic and education recovery.

Our earlier reports highlighted that there was lost learning over the course of the pandemic in both reading and mathematics. While these losses appear to have been recovered in reading, they persist in mathematics with primary pupils the equivalent of two months, and secondary pupils four months, behind where we would have expected them to be.

The effects of the pandemic have not been felt evenly. The gap between pupils from low-income backgrounds and their peers has widened since the start of the pandemic, and outcomes for pupils from persistently disadvantaged backgrounds – those eligible for free school meals for at least 80 per cent of their time in school – are particularly low. Amongst primary-aged pupils, persistently disadvantaged pupils are now typically ten months behind their non-disadvantaged peers in maths (an increase of 0.9 months since the start of the pandemic), and over 14 months behind in reading (an increase of half a month since the start of the pandemic).

In this final report we have explored a wider range of pupil characteristics. We have seen that girls appear to have been affected by the pandemic to a greater degree than boys. The attainment gap between girls and boys has narrowed in reading in both primary and secondary schools, and boys have pulled further ahead in primary mathematics. Similarly, attainment gaps amongst pupils with English as an additional language have fallen, and there has been a narrowing of gaps for pupils with special educational needs at school support level. Finally, the pandemic appears to have exacerbated geographic inequalities with a widening gap between the highest and lowest performing regions – though in this report, we have only been able to explore this for primary reading.

These results are broadly consistent with what has been seen in national assessments at the end of Key Stage 2 and at GCSE. Our benchmarking report demonstrated the relationship between Renaissance Star Reading and Renaissance Star Maths, and that they are a good indicator of future performance. The results from this series of reports suggest that we may be seeing the effects of the pandemic in national assessments for some time yet.

Annex – table of results

	Primary								Secondary							
	Star Reading				Star Maths				Star Reading				Star Maths			
	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23
Gender																
Girls																
Number of pupils	482,803	329,819	384,587	410,817	45,217	34,155	46,580	53,505	407,736	184,692	263,262	269,107	9,436	5,422	6,484	8,142
Mean score	+0.08	+0.05	+0.08	+0.07	-0.03	-0.22	-0.15	-0.20	+0.07	+0.05	+0.05	+0.04	+0.07	+0.00	-0.11	-0.12
Standard deviation	0.941	0.964	0.979	0.992	0.935	0.975	0.965	0.994	0.935	0.961	0.973	0.987	0.941	1.006	1.037	0.991
Boys																
Number of pupils	494,576	334,993	392,726	418,185	45,557	34,295	47,114	54,089	448,634	202,705	289,132	295,236	10,342	5,407	6,712	8,714
Mean score	-0.09	-0.10	-0.06	-0.06	+0.02	-0.10	+0.00	-0.03	-0.07	-0.08	-0.07	-0.07	-0.05	-0.06	-0.16	-0.13
Standard deviation	1.045	1.066	1.079	1.089	1.050	1.052	1.055	1.071	1.047	1.080	1.087	1.105	1.031	1.107	1.155	1.126
First language status																
English, or believed to be English																
Number of pupils	791,932	537,348	624,287	667,226	67,928	53,723	74,428	85,768	718,039	327,034	466,182	474,597	17,661	9,948	12,042	14,934
Mean score	+0.02	-0.01	+0.04	+0.03	-0.03	-0.18	-0.10	-0.14	+0.05	+0.02	+0.03	+0.02	+0.03	-0.01	-0.11	-0.11
Standard deviation	0.992	1.016	1.027	1.037	0.983	1.004	0.999	1.027	0.973	1.010	1.016	1.033	0.986	1.037	1.081	1.054
Other, or believed to be other																
Number of pupils	184,605	126,709	152,036	160,489	22,715	14,643	19,175	21,703	134,421	57,570	81,889	85,103	2,083	876	1,138	1,808
Mean score	-0.12	-0.12	-0.08	-0.09	+0.08	-0.06	+0.01	-0.02	-0.29	-0.24	-0.24	-0.23	-0.19	-0.20	-0.37	-0.24
Standard deviation	1.018	1.030	1.051	1.068	1.024	1.051	1.067	1.070	1.080	1.094	1.112	1.121	1.013	1.263	1.250	1.124

	Primary								Secondary							
	Star Reading				Star Maths				Star Reading				Star Maths			
	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23
Special educational needs																
Non-SEN																
Number of pupils	820,052	554,275	644,037	687,040	76,783	57,183	77,513	88,271	723,815	323,371	460,145	468,489	15,878	8,263	9,774	12,513
Mean score	+0.16	+0.15	+0.19	+0.18	+0.16	+0.01	+0.10	+0.07	+0.14	+0.13	+0.14	+0.13	+0.23	+0.26	+0.17	+0.15
Standard deviation	0.880	0.898	0.906	0.920	0.874	0.900	0.888	0.910	0.895	0.919	0.929	0.950	0.837	0.835	0.890	0.874
SEN - school support																
Number of pupils	141,352	97,490	116,056	123,483	12,109	9,892	13,936	16,726	113,741	52,925	75,638	77,616	2,823	1,903	2,365	2,952
Mean score	-0.87	-0.87	-0.81	-0.81	-0.85	-0.97	-0.87	-0.90	-0.73	-0.70	-0.66	-0.62	-0.78	-0.74	-0.75	-0.63
Standard deviation	1.077	1.111	1.140	1.152	1.063	1.091	1.100	1.122	1.108	1.139	1.149	1.161	0.956	1.067	1.088	1.042
SEN - EHCP/statement																
Number of pupils	15,975	13,047	17,220	18,480	1,882	1,375	2,245	2,597	18,814	11,101	16,611	18,241	1,077	663	1,057	1,391
Mean score	-1.14	-1.14	-1.11	-1.11	-1.32	-1.33	-1.28	-1.31	-1.18	-1.18	-1.17	-1.19	-1.24	-1.54	-1.51	-1.51
Standard deviation	1.263	1.263	1.278	1.301	1.351	1.339	1.336	1.349	1.335	1.356	1.360	1.353	1.169	1.260	1.225	1.179
Ethnic group																
Other																
Number of pupils	16,040	11,871	14,580	14,696					14,215	6,168	9,140	9,944				
Mean score	-0.24	-0.27	-0.24	-0.20					-0.31	-0.28	-0.31	-0.25				
Standard deviation	1.078	1.076	1.104	1.106					1.127	1.140	1.163	1.129				
Asian																
Number of pupils	91,553	66,643	84,729	85,920					89,656	36,963	52,256	52,581				
Mean score	+0.03	+0.01	+0.05	+0.08					-0.08	-0.07	-0.04	+0.00				
Standard deviation	0.950	0.979	1.000	0.994					0.964	1.008	1.018	1.006				

	Primary								Secondary							
	Star Reading				Star Maths				Star Reading				Star Maths			
	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23
Black																
Number of pupils	43,659	28,142	33,419	33,863					40,316	17,992	27,050	26,601				
Mean score	-0.03	-0.02	+0.01	+0.03					-0.13	-0.11	-0.11	-0.06				
Standard deviation	0.974	0.991	1.015	1.014					0.987	1.005	1.029	1.025				
Chinese																
Number of pupils	3,820	2,859	4,066	4,128					2,423	1,320	2,329	2,656				
Mean score	+0.39	+0.46	+0.38	+0.47					+0.26	+0.30	+0.15	+0.17				
Standard deviation	0.898	0.901	1.050	0.966					0.927	0.926	1.082	1.060				
Mixed																
Number of pupils	53,676	39,169	47,008	50,204					45,797	22,621	34,912	35,027				
Mean score	+0.08	+0.07	+0.11	+0.10					+0.05	+0.04	+0.05	+0.07				
Standard deviation	0.995	1.012	1.027	1.035					0.984	1.041	1.041	1.042				
White																
Number of pupils	761,452	509,462	585,406	621,958					648,237	294,253	415,092	423,350				
Mean score	-0.01	-0.04	+0.00	+0.00					+0.02	-0.00	-0.00	-0.01				
Standard deviation	1.002	1.023	1.034	1.041					0.998	1.024	1.031	1.045				
Region																
East Midlands																
Number of pupils	70,347	53,678	62,946	70,207												
Mean score	-0.07	-0.09	-0.05	-0.04												
Standard deviation	0.993	1.016	1.029	1.039												
East of England																
Number of pupils	162,865	105,612	122,688	130,347												
Mean score	-0.03	-0.04	-0.00	+0.00												
Standard deviation	0.999	1.022	1.037	1.049												

	Primary								Secondary							
	Star Reading				Star Maths				Star Reading				Star Maths			
	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23
London																
Number of pupils	103,076	67,671	77,678	81,288												
Mean score	+0.02	+0.04	+0.08	+0.08												
Standard deviation	1.011	1.029	1.050	1.057												
North East																
Number of pupils	72,221	42,361	44,621	44,337												
Mean score	-0.07	-0.10	-0.04	-0.05												
Standard deviation	0.996	1.002	1.013	1.016												
North West																
Number of pupils	112,639	71,925	86,434	89,805												
Mean score	-0.07	-0.06	-0.02	-0.03												
Standard deviation	0.994	1.005	1.018	1.025												
South East																
Number of pupils	184,914	133,957	160,296	167,961												
Mean score	+0.06	+0.04	+0.08	+0.07												
Standard deviation	1.003	1.021	1.036	1.050												
South West																
Number of pupils	106,068	71,911	80,538	85,553												
Mean score	+0.05	+0.03	+0.07	+0.06												
Standard deviation	0.988	1.004	1.011	1.027												
West Midlands																
Number of pupils	99,776	70,374	81,709	81,010												
Mean score	+0.00	-0.06	-0.03	-0.02												
Standard deviation	0.981	1.025	1.037	1.048												

	Primary								Secondary							
	Star Reading				Star Maths				Star Reading				Star Maths			
	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23	Baseline (pre COVID)	2020/21	2021/22	2022/23
Yorkshire and the Humber																
Number of pupils	56,540	45,292	52,746	56,911												
Mean score	-0.10	-0.16	-0.09	-0.10												
Standard deviation	1.003	1.027	1.037	1.044												