

The Impact of COVID-19 on Pupil Attainment

Introduction and background

This report analyses the general trends in the data across several studies investigating the impact of COVID-19 on educational attainment in England, from March 2020 onwards, and identifies where particular attention is needed. It covers the impact of COVID-19 by pupil age, disadvantage, levels of prior attainment, and school subjects (reading and mathematics).

Key findings

Impact of COVID-19 by pupil age

- Data on Key Stage 1 attainment is drawn from four sources: Blainey et al. (2021a and 2021b), DfE (2021) and Rose et al. (2021). Comparing performance in Autumn 2020 to pre-pandemic performance, the data clearly indicate a slowing of progress.
- Several studies provide an interim measure of attainment in Spring 2021, after the second national lockdown, school closures and online teaching (January–March 2021). Where there is separate evidence for Key Stage 1, it clearly indicates a widening of the Covid gap by Spring 2021.
- Assessments carried out in Summer 2021 provide evidence of progress in both year groups and subjects, although there was still a Covid gap. Blainey et al. (2021b) recorded that the reading gap was widest for Year 1 pupils. Rose et al. (2021) also noted that Year 1 were performing significantly below pre-pandemic levels.
- Evidence for recovery in mathematics was mixed with Blainey et al. (2021b) recording the widest Covid gaps in data from reception, Year 2, and Year 6. while Rose et al. (2021) found Year 2 mathematics achievement to be similar to pre-pandemic levels.
- Data on the impact of the pandemic on Key Stage 2 pupils' reading and mathematics attainment comes from 2 sets of standardised tests: Rising Stars (Blainey et al., 2021b) and Renaissance Learning (DfE, 2021).
- Blainey et al. (2021b) reported evidence of the widest Covid gap in reading for each year group being seen in the Spring term assessments in 2021. There then appeared to be recovery by summer 2021, particularly in Year 6 where attainment almost reached pre-pandemic levels.
- In all year groups, in mathematics, the Covid gap is widest in the Spring 2021 assessments but, compared to reading, there is less recovery evident by the time of the Summer term assessments.
- The DfE data set shows a similar pattern. It shows the widest Covid gaps after periods of partial school closure followed by some recovery. By Summer 2021, the Covid gap at Key Stage 2 remained wide for mathematics but there were signs of recovery. In reading, recovery during the Summer term appeared to be faster than for mathematics.
- Evidence for the impact of COVID-19 on secondary-aged pupils is from two sources: DfE (2021) and Burge et al. (2021).
- DfE, using Renaissance Learning data for reading, reported that the Covid gap for Key Stage 3 pupils in the first half of the Autumn term 2020 was smaller than that seen for primary school pupils. However, by the end of the 2020-21 school year, there was less evidence of recovery for Key Stage 3 and at this point the Covid gap was greater than for primary-aged pupils.
- The National Reference Test (Burge et al., 2021) provided evidence of attainment in English and mathematics in Year 11 from shortly before the first lockdown and compared this with achievement in Summer 2021 (mid-pandemic). English results in 2020 and 2021 were broadly similar. However, mathematics performance in Summer 2021 showed a statistically significant drop from the previous year at the three grade boundaries (4, 5, and 7) which are monitored.

The impact of the pandemic on disadvantaged pupils

- Pre-pandemic, there was a large gap between the proportions of disadvantaged and non-disadvantaged pupils reaching the expected standards in English primary schools. In 2019, the last year for which assessment data are available, there was a 16 percentage point gap in reading between the proportion of disadvantaged pupils who reached or exceeded the expected standard at Key Stage 2 and all other pupils. The equivalent figure for mathematics was 17 percentage points.
- Some of the evidence in this report points to a widening of the attainment gap due to the pandemic.
- Research with pupils in Key Stage 1 (Rose et al., 2021) noted that the disadvantage gap peaked in the Spring 2021 assessments. Christodoulou (2022) found a greater fall in the writing performance of disadvantaged pupils in Year 1 in January 2022 compared to non-disadvantaged pupils, indicating a further widening of the gap.
- Weidmann et al. (2022) analysed Rising Stars reading and mathematics data with pupils in Years 2 to 6 across five time points. They found that between the start of the pandemic and Summer 2021 there was an increase in the disadvantage gap for mathematics of about 11 per cent, but not for reading. This mathematics gap appeared to have widened most in the early months of the pandemic up to September 2020. The strongest evidence for widening



disadvantage gaps in mathematics was in Years 2 and 3.

- Blainey et al. (2021b), also used Rising Stars data. They reported that in Summer 2021 the largest increases in the disadvantage gaps compared to 2019 were in Year 1 (reading) and Year 4 (mathematics).
- DfE (2021), analysing Renaissance Learning data, reported that the disadvantage gap increased during the pandemic in reading in primary and secondary schools. It also increased in mathematics in primary schools (there is no mathematics data available for secondary schools) and the increase in mathematics was greater than that seen in reading.
- Christodoulou (2021a) found in Autumn 2020 and 2021 that the writing performance of non-disadvantaged pupils in Year 3 had increased year on year when compared to pre-pandemic achievement (Autumn 2019), whereas that of disadvantaged pupils had fallen in 2020 and then recovered to pre-pandemic levels by 2021. Due to the improvement in the performance of non-disadvantaged pupils, the gap between the groups has widened during the pandemic.
- There is some evidence that the attainment of disadvantaged pupils and their non-disadvantaged peers is recovering at roughly the same rate.
- Rose et al. (2021) found that the gap between disadvantaged and non-disadvantaged pupils in Year 1 had reduced between Spring and Summer 2021 in both reading and mathematics.
- In the DfE (2021) research, the gap, which had increased earlier in the pandemic between the achievement of primary-aged disadvantaged and non-disadvantaged pupils, showed some narrowing in Summer 2021, and both groups showed some signs of recovery.
- Weidmann et al. (2022) noted that disadvantage has an impact not only at pupil-level but also at area-level: non-disadvantaged pupils in schools in areas of medium and high levels of deprivation experienced a similar negative impact of the pandemic as disadvantaged pupils in areas of low deprivation.
- Lucas et al. (2020) used a teacher survey in Summer 2020 in primary and secondary schools to explore links between the level of deprivation of the school and pupil engagement. They found that pupil engagement, including disadvantaged pupil engagement, was likely to be lower in schools with the highest levels of deprivation. They also found that disadvantaged pupils in schools in the most deprived areas were less likely to be highly engaged than their peers, compared with disadvantaged pupils in schools in the most affluent areas.

The impact of Covid across different ability levels

- For the 2020-21 school year, the data shows that there was a tendency for more pupils to achieve scores at the lower levels of the distribution; this was especially evident in the data from younger pupils in reading and writing. Rose et al. (2021) reported much higher proportions of pupils in Years 1 and 2 scoring at the lower end of the score range than seen before the pandemic. This was particularly evident in reading.
- Blainey et al. (2021b) reported the mathematics scores of Year 6 pupils in the middle of the distribution showing the greatest dip in Summer 2021.
- Despite some overall signs of recovery, by Summer 2021 there remained a higher than expected proportion

of lower scoring pupils in Year 1 reading and mathematics. This was also the case for Year 2 reading.

- Christodoulou (2022) found that in Year 1 in January 2022 there was an increase in the proportion of lower scoring pupils with no change in the proportion with high scores.

Progress in reading and mathematics

- Analysis by Rose et al. (2021) showed that, between late Autumn 2020 and late Spring 2021, the progress of Year 2 pupils in both reading and mathematics slowed.
- The research by Blainey et al. (2021b) showed that the Covid gap was at its widest in the Spring 2021 assessment window in both subjects and that it was consistently wider for mathematics than reading in Years 3 to 6. Similarly, the DfE (2021) found a wider Covid gap in mathematics than in reading at each assessment point during the school year 2020-21.
- Data from the National Reference Test involving a sample of Year 11 pupils (Burge et al., 2021) indicates that while there was no change in the performance in English, there was a significantly lower performance in mathematics in 2021 compared to 2020 (pre-pandemic).
- One possible reason for the wider gap in mathematics is the structure of the mathematics curriculum. Whereas the reading curriculum develops broadly the same skills in each school year, there is a greater requirement for new mathematics content to be introduced in each year.
- In reading in Year 1, Rose et al's (2021) analysis showed that, between Spring and Summer 2021, there was evidence of faster progress than expected in Year 1 mathematics providing evidence of recovery.
- DfE data (2021) shows that although mathematics attainment in Years 3 to 6 was impacted more than that of reading, there were clear signs of recovery in both subjects in the Summer of 2021.

Conclusion

- The progress of the youngest children has been particularly affected, especially in relation to their reading development. For pupils in Key Stage 2, by the Summer of 2021 mathematics progress continued to be affected. There are clear, albeit variable indications of recovery across both key stages and subjects.
- Assessment data indicates that progress was often less than that seen pre-pandemic and, in some cases, achievement is already returning to the expected level close to where we would expect it to be.
- The impact of the pandemic on the development of early literacy skills by the youngest pupils in primary school is of particular concern, given the key role which early role plays in pupils' later development.

The full document can be downloaded from:

<https://www.nfer.ac.uk/the-impact-of-covid-19-on-pupil-attainment-a-summary-of-research-evidence/>