

# Variability in GCSE results for schools and colleges 2017-2019

## Key points

- In general, the level of variation in individual school and college results at grades 9 to 4 or A\* to C is slightly less than in previous years
- Differences between the average (mean) percentage of students achieving grades 9 to 4 or A\* to C 2018/2019 and in 2017/2018 are generally small, indicating that year-on-year results in the subjects analysed have remained relatively stable
- Even when there are no changes to qualifications, individual schools and colleges will see variation in their year-on-year results: this is normal

GCSE results in England have been relatively stable in recent years, with only very small changes in the overall percentages of students achieving grades 9 to 4 or A\* to C. However, we know that individual schools and colleges will always see variation in the proportion of students achieving particular grades from one year to the next. This can be due to many different factors, including differences in the ability mix of the students, different teaching approaches, changes in teaching staff or teaching time, and changes to qualifications.

This summer, new GCSE qualifications in 25 subjects<sup>1</sup> were awarded in England for the first time. This brings the total number of reformed GCSEs to 48. We have analysed the year-on-year variation in the percentage of students achieving grades 9 to 4 or A\* to C in 12 of the larger entry reformed subjects. For English language and maths, the 2017 data includes students sitting the reformed 9 to 1 qualifications and students sitting the legacy A\* to C qualifications.

The evidence suggests that the variation at school/college level is generally slightly less than in previous years. For English language, English literature and maths we have looked at schools and colleges with 50 or more students in both years. For other subjects, we have looked at schools and colleges with 25 or more students in both years. We have also looked at the variation in English language, English literature, maths and combined science for students in year 11 only (16-year-old students).<sup>2</sup>

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<sup>1</sup> Ancient history, astronomy, business, classical civilisation, design and technology, economics, electronics, engineering, film studies, geology, media studies, modern foreign languages (Arabic, Bengali, Chinese, Italian, Japanese, modern Greek, modern Hebrew, Panjabi, Polish, Russian, Urdu), psychology, sociology, statistics.

<sup>2</sup> Note that the number of schools/colleges is slightly lower in the year 11 only graphs because we have only included schools and colleges with 50/25 or more year 11 students.

We have plotted the variation seen in each of several hundred schools and colleges. Each bar represents the number of schools and colleges with a particular level of variation, measured in intervals of 2.5 percentage points. For example, the bar to the left of zero represents schools that had a drop of up to 2.5 percentage points and the bar to the right of zero represents schools that had an increase of up to 2.5 percentage points. The higher the peaks in the middle, the greater the stability from one year to the next.<sup>3</sup> The mean on each graph is the average of the year-on-year difference for each school. The standard deviation (SD on the graphs) is a measure of the spread of the variation; a lower standard deviation means there is less variation overall, whereas a higher standard deviation means there is more variation.

Last year reformed GCSEs in science subjects, including a new double award GCSE in combined science, were awarded for the first time. There is more information on page 7 to explain the comparisons included in this report for combined science.

More centre variability graphs can be seen using our online application <http://analytics.ofqual.gov.uk>. Here the graphs are ‘interactive’ such that users can explore centre variability:

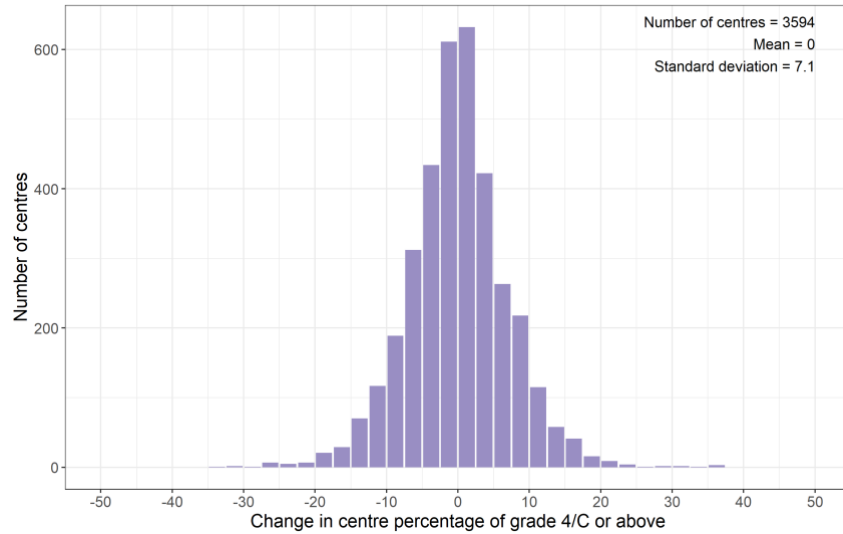
- within different subjects
- for various sizes of centres
- for only centres with stable (similar sized) cohorts from one year to the next

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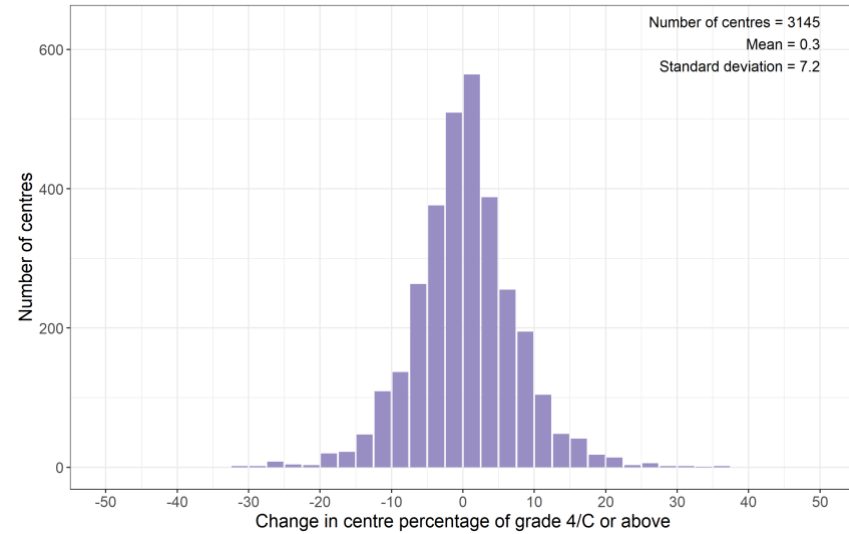
<sup>3</sup> Note that, although the same scales are used for the y axis on each of the graphs within a subject, the scales do vary between subjects.

## GCSE English language

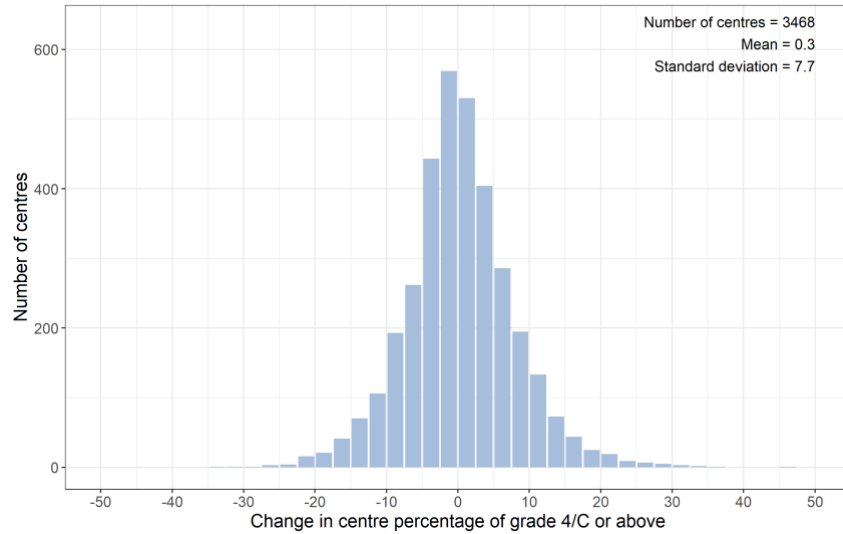
English language summer 2018 vs summer 2019: All students



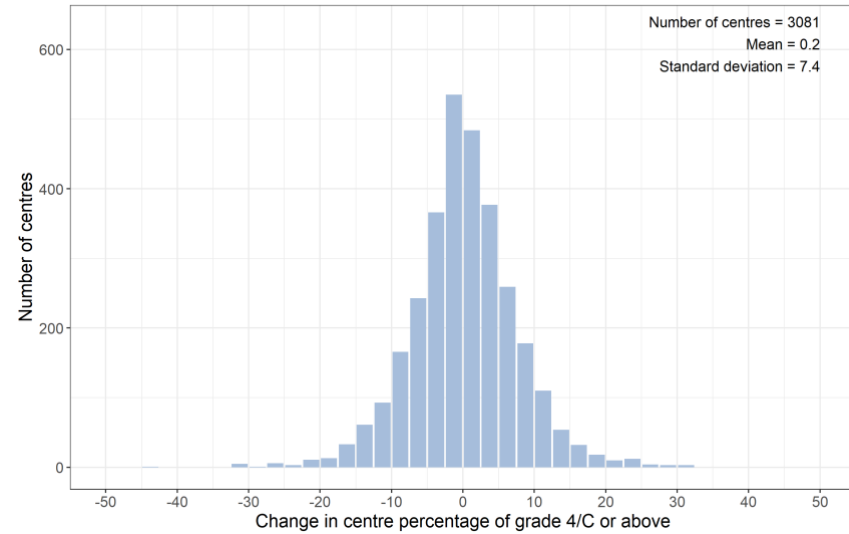
English language summer 2018 vs summer 2019: Year 11 students



English language summer 2017 vs summer 2018: All students

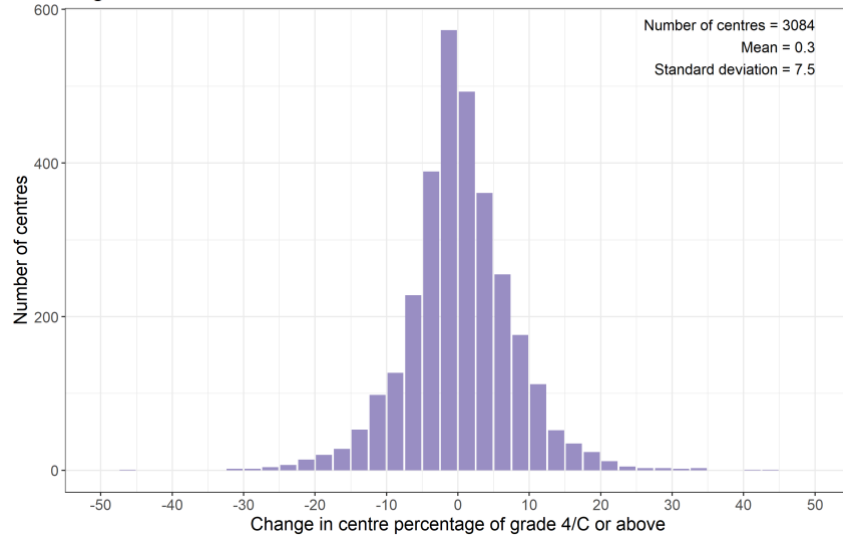


English language summer 2017 vs summer 2018: Year 11 students

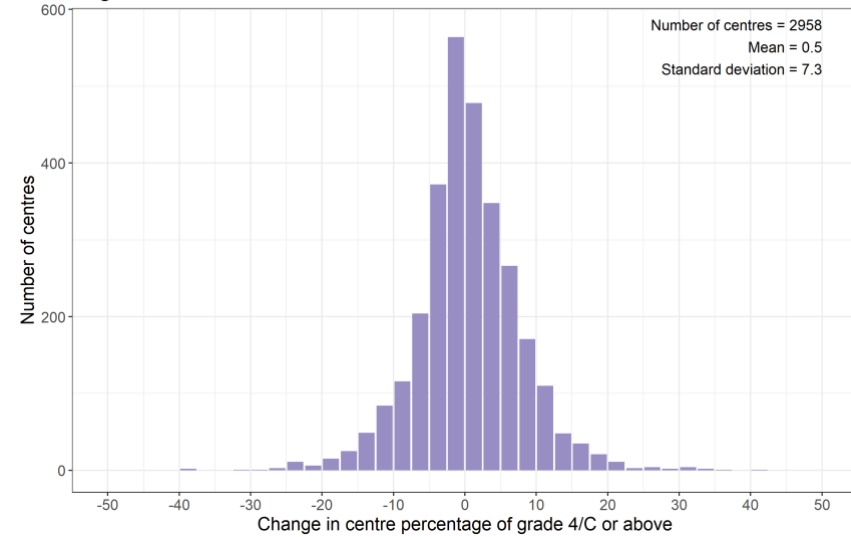


## GCSE English literature

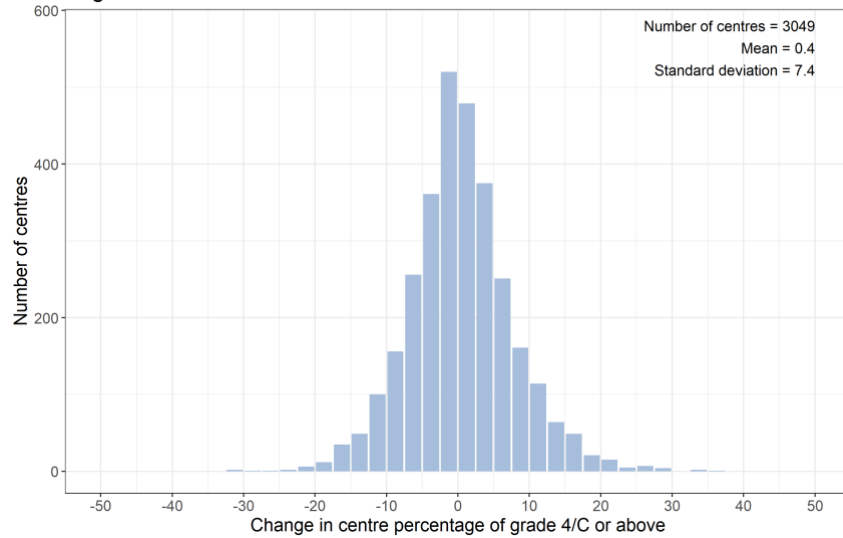
English literature summer 2018 vs summer 2019: All students



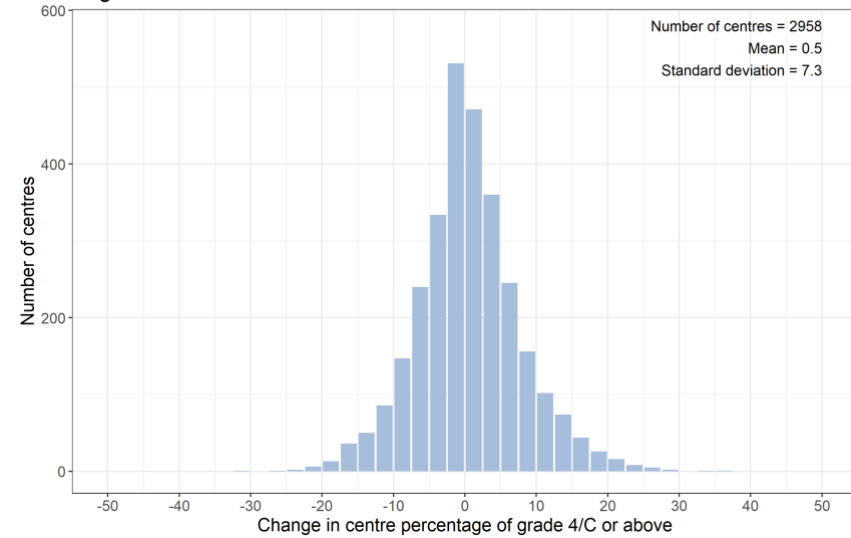
English literature summer 2018 vs summer 2019: Year 11 students



English literature summer 2017 vs summer 2018: All students

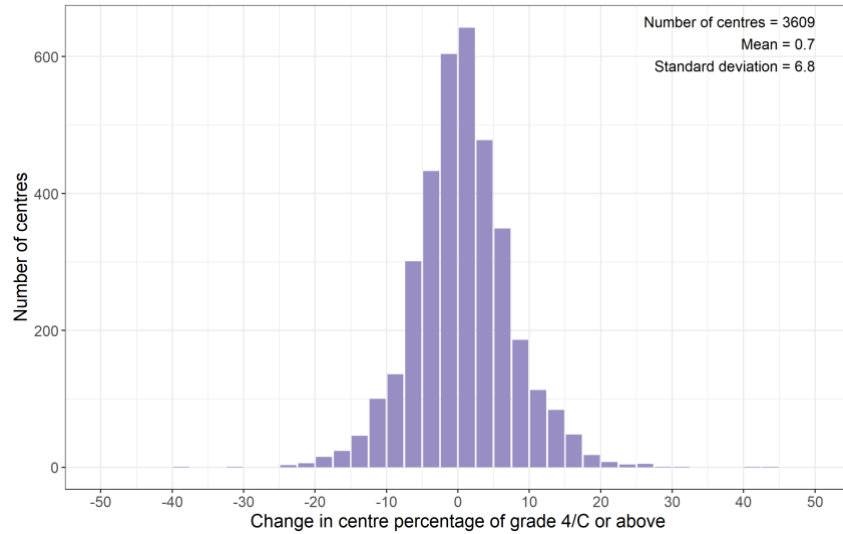


English literature summer 2017 vs summer 2018: Year 11 students

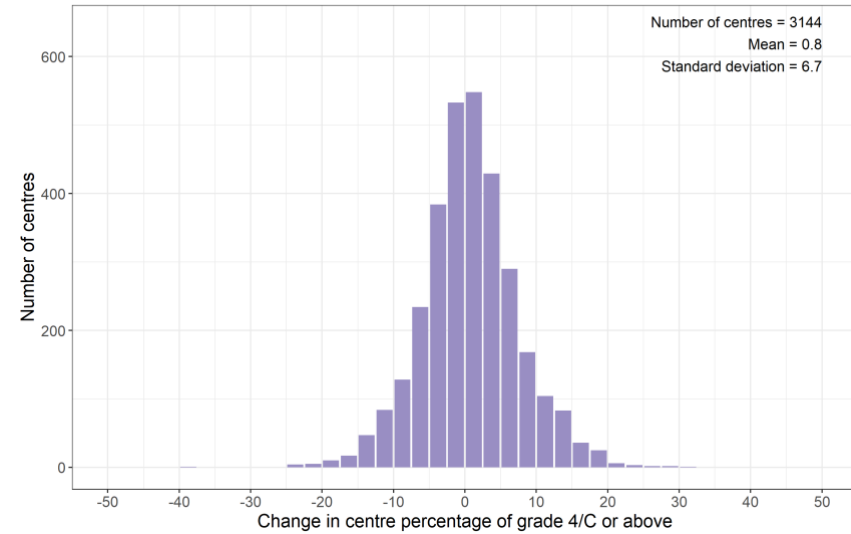


## GCSE maths

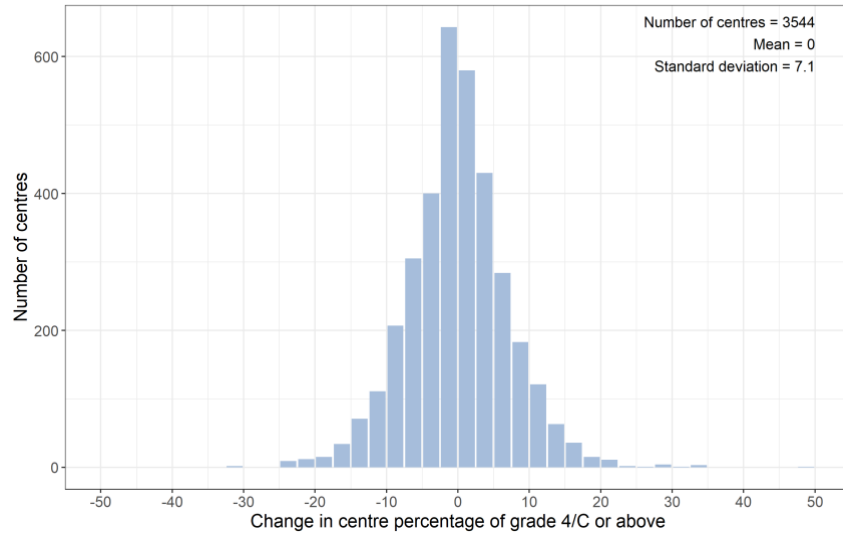
Mathematics summer 2018 vs summer 2019: All students



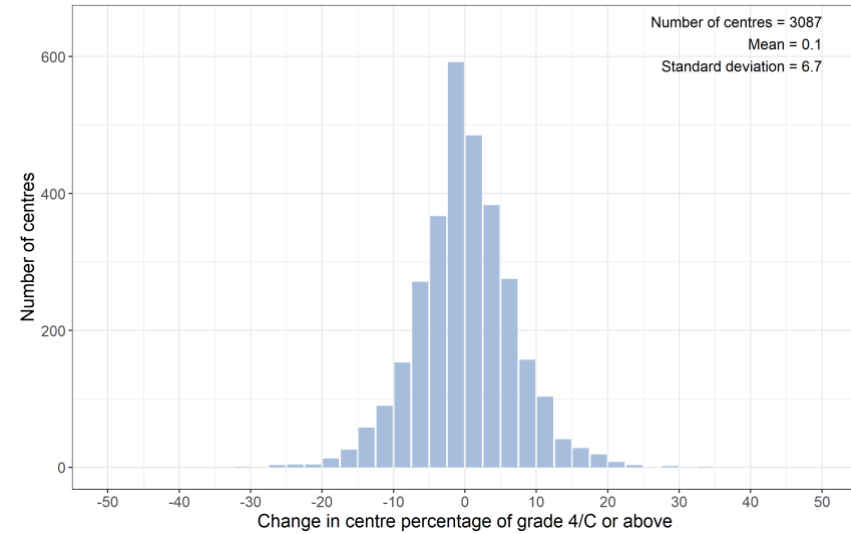
Mathematics summer 2018 vs summer 2019: Year 11 students



Mathematics summer 2017 vs summer 2018: All students



Mathematics summer 2017 vs summer 2018: Year 11 students



## **GCSE combined science**

Last summer reformed 9 to 1 GCSEs in science subjects were awarded for the first time. This included a new combined science qualification that replaced both the legacy GCSE science and GCSE additional science qualifications. Combined science is worth 2 GCSEs so is graded on a 17-point scale from 9-9, 9-8, 8-8 through to 1-1.

The move to a double GCSE in combined science made year-on-year comparisons more challenging last year. For each school and college we therefore compared the following:

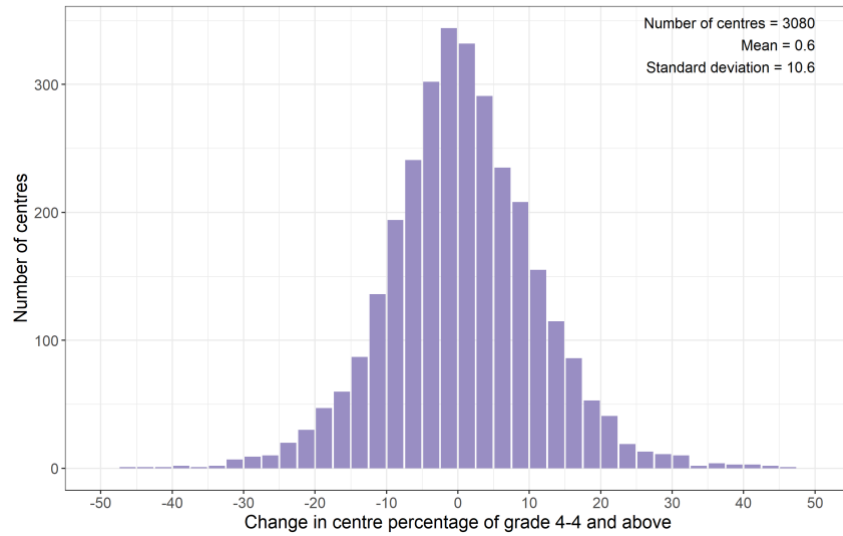
- in 2017 the proportion of students that achieved at least a grade C in both GCSE science and GCSE additional science, whether they took both in year 11 or one in year 10 (in 2016) and the other in year 11
- in 2018 the proportion of students that achieved at least a grade 4-4 in GCSE combined science

Last summer the average of the year-on-year difference for each school (the mean) was positive, indicating that, on average, outcomes were higher in 2018 compared to 2017. This was not unexpected as we know that some students in 2017 would have gained a grade C in GCSE science and a grade D in GCSE additional science (and vice versa), perhaps by scoring more marks than were needed for a grade C in one GCSE and slightly fewer marks than were needed for a grade C in the other. In the new GCSE combined science, there is a greater element of compensation across the six exams and so, on average, more students achieved grade 4-4 or above than previously achieved at least two grade Cs in both GCSE science and GCSE additional science.

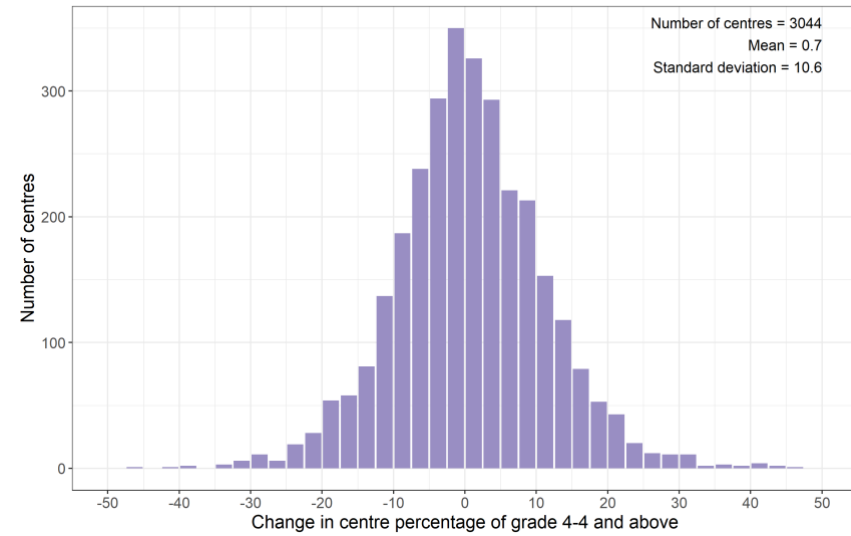
This summer we are able to compare like-with-like, since we can compare outcomes in combined science between 2018 and 2019. The graphs suggest that there is less variation in school and colleges results this year. This is not unexpected as there is likely to be less variability in the 2<sup>nd</sup> year that a new specification is awarded.

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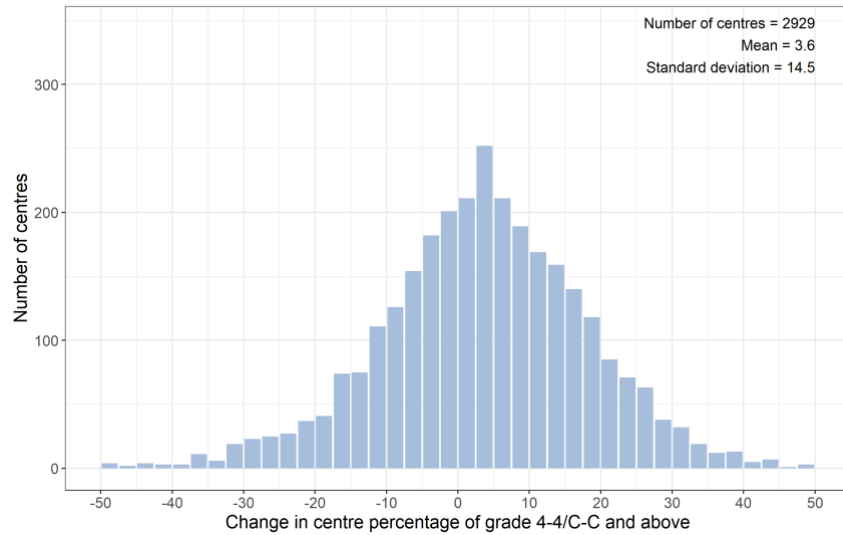
Combined science summer 2018 vs summer 2019: All students



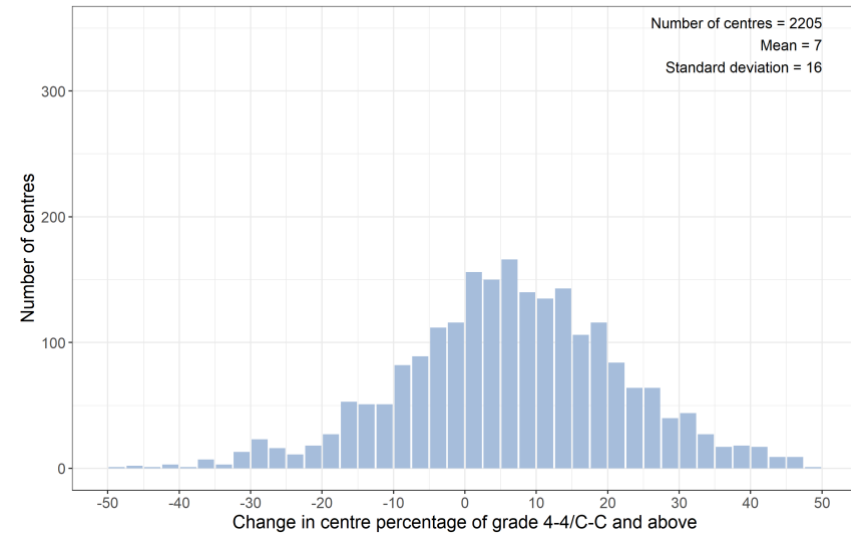
Combined science summer 2018 vs summer 2019: Year 11 students



Combined science summer 2017 vs summer 2018: All students

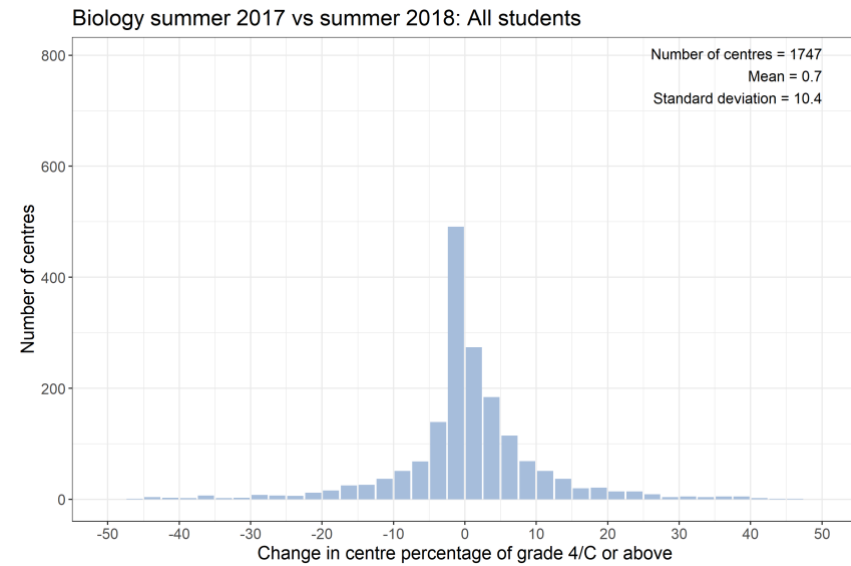
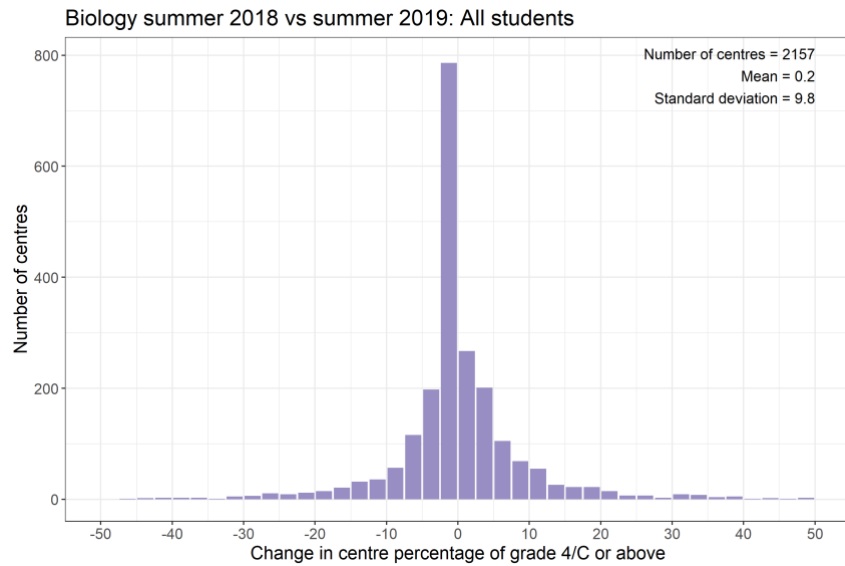


Combined science summer 2017 vs summer 2018: Year 11 students



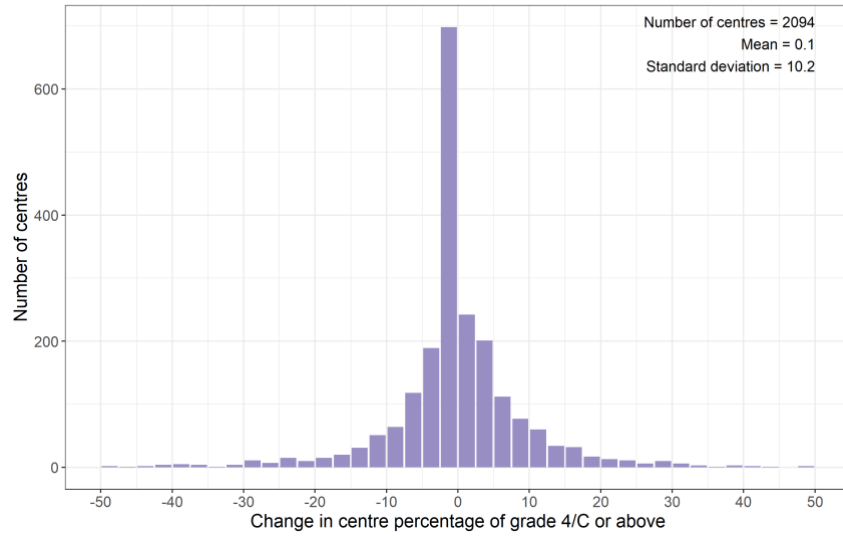


## GCSE biology

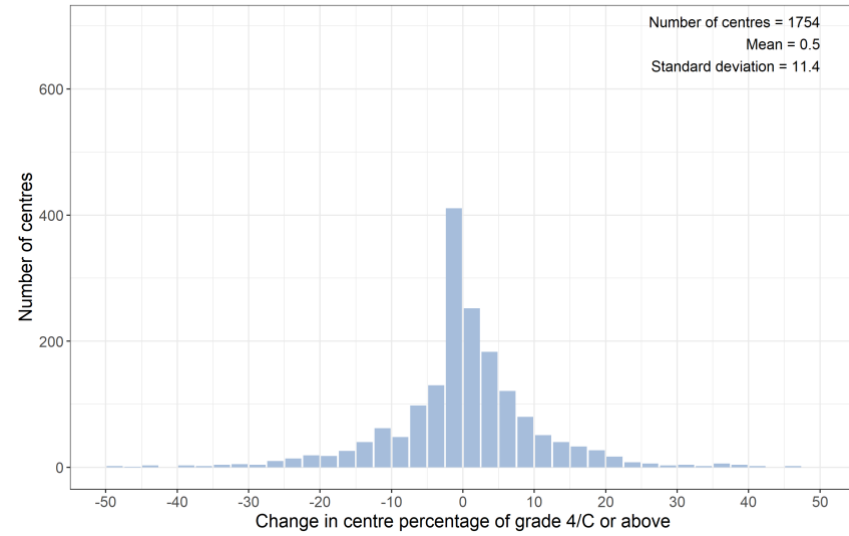


## GCSE chemistry

Chemistry summer 2018 vs summer 2019: All students

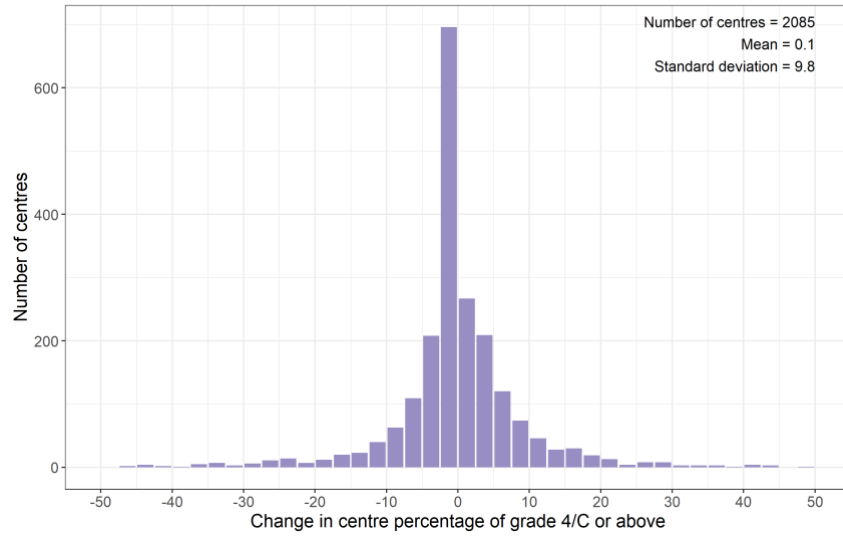


Chemistry summer 2017 vs summer 2018: All students

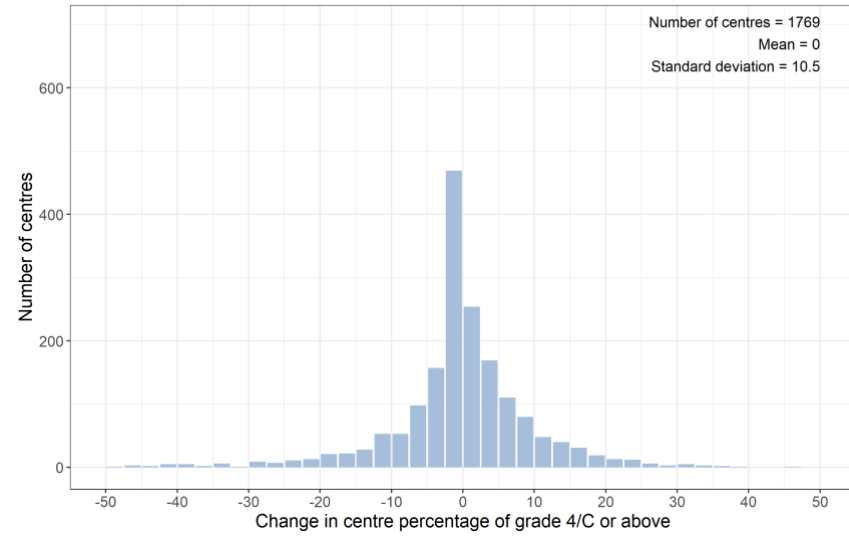


## GCSE physics

Physics summer 2018 vs summer 2019: All students

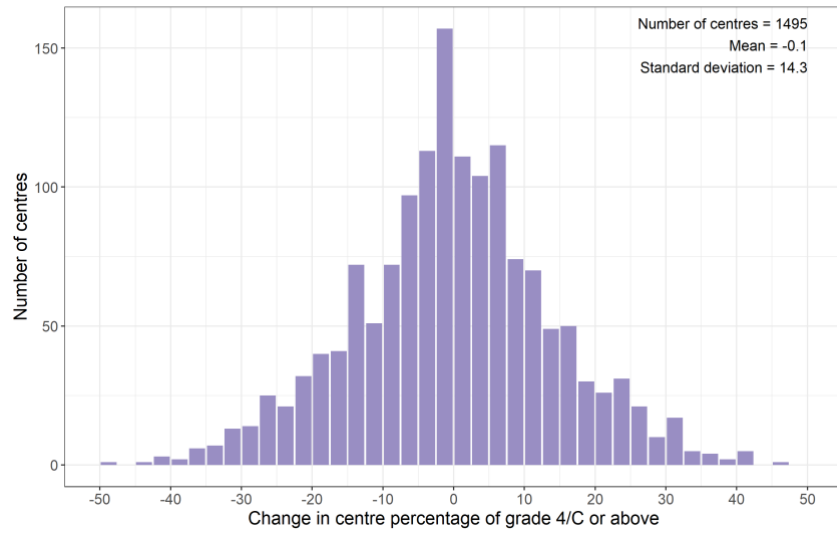


Physics summer 2017 vs summer 2018: All students

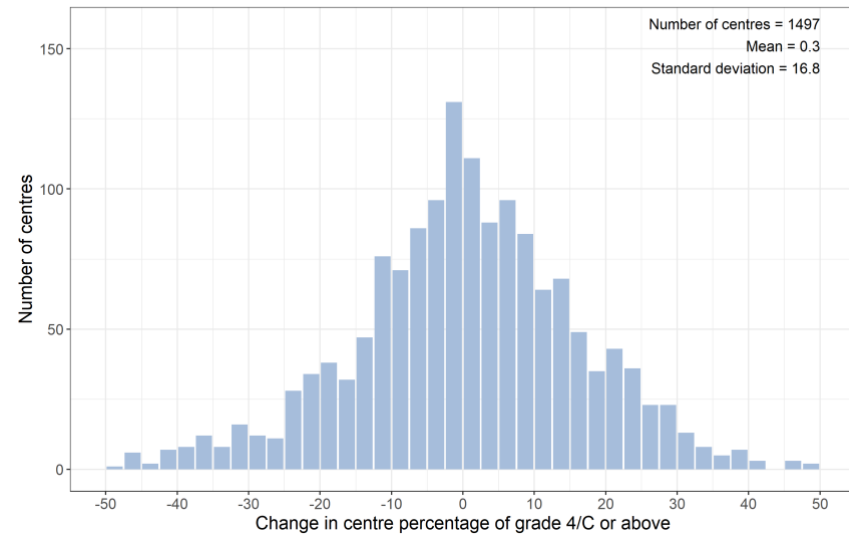


## GCSE French

French summer 2018 vs summer 2019: All students

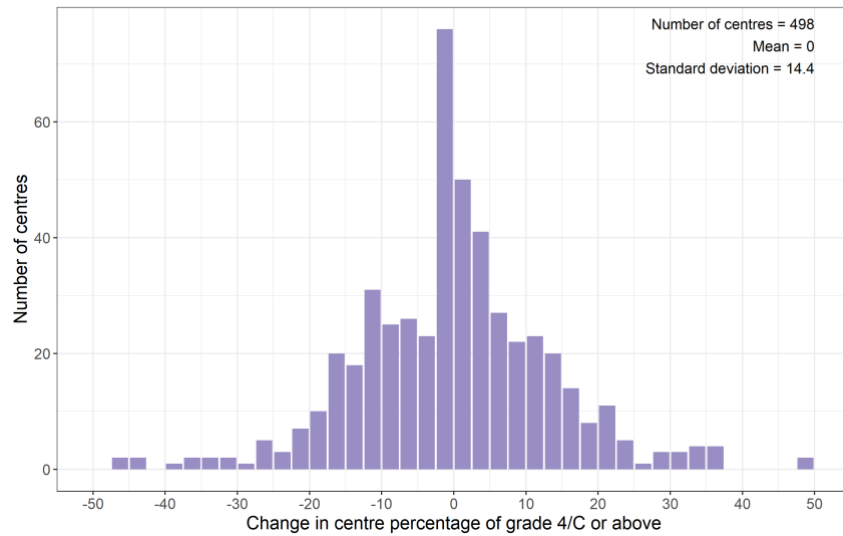


French summer 2017 vs summer 2018: All students

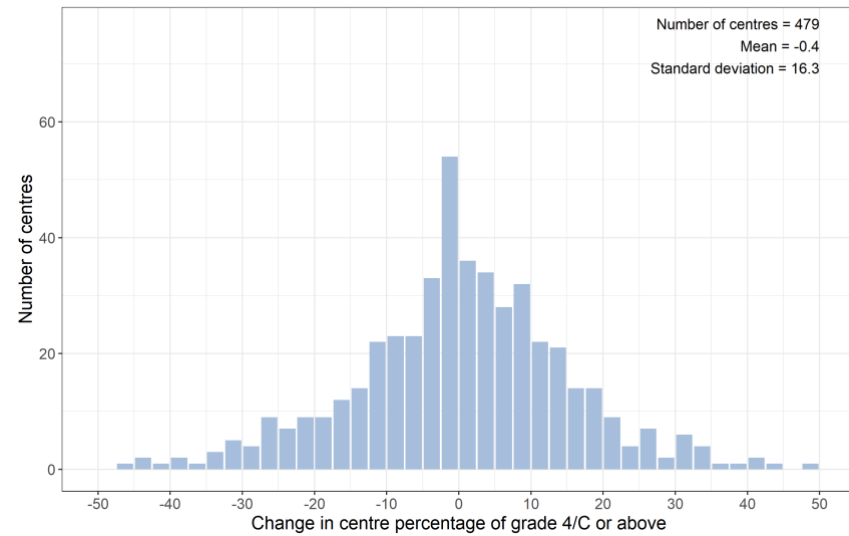


## GCSE German

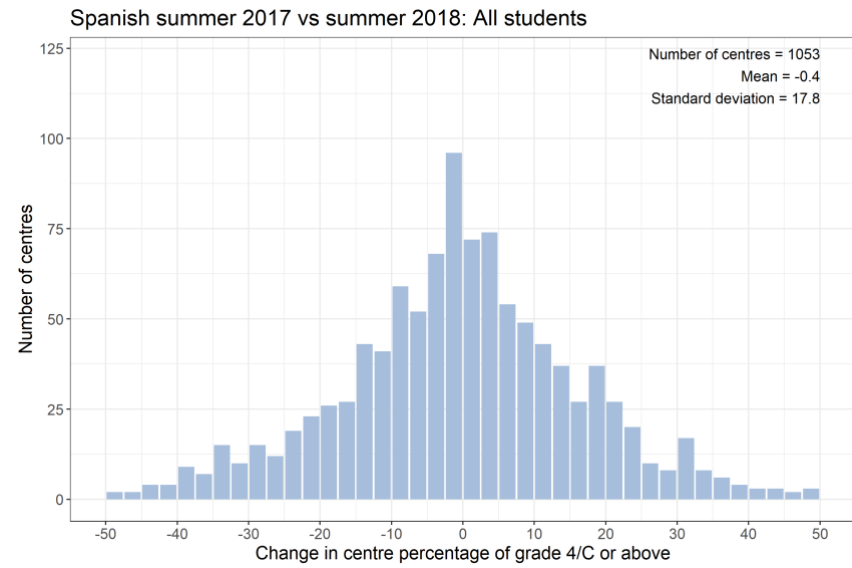
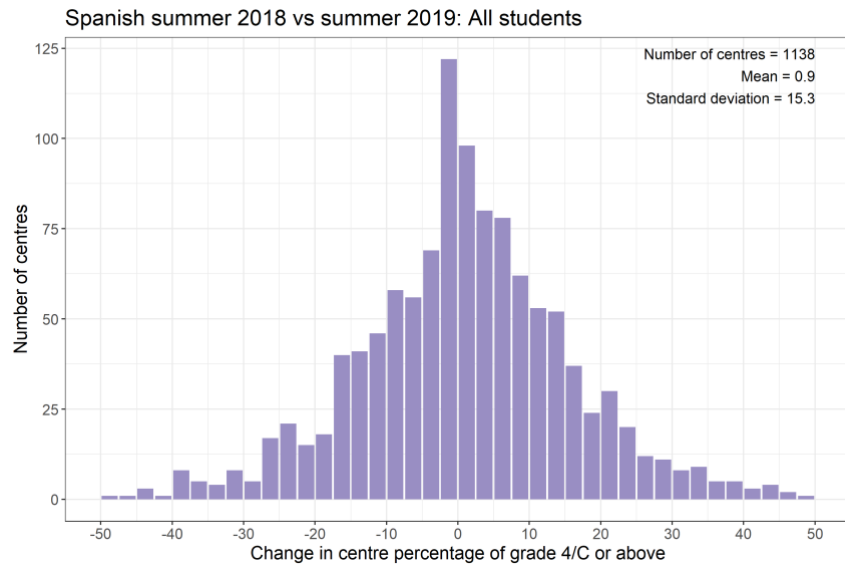
German summer 2018 vs summer 2019: All students



German summer 2017 vs summer 2018: All students

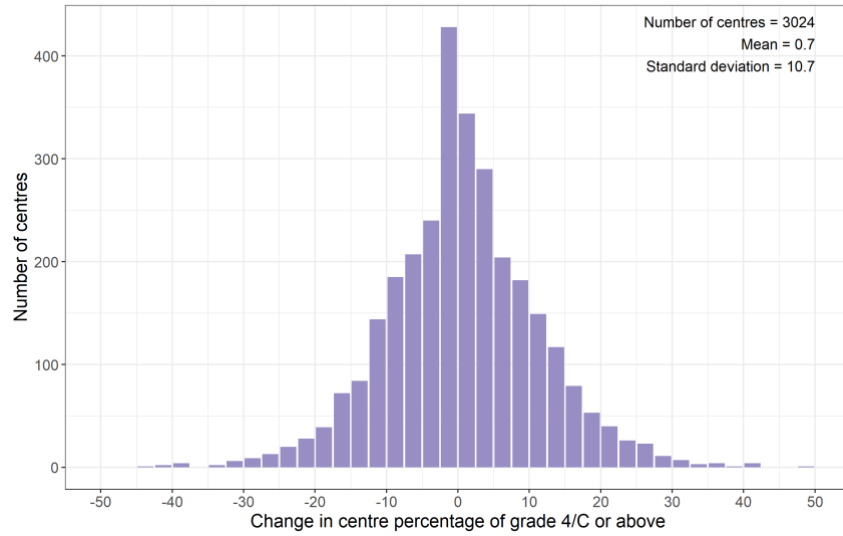


## GCSE Spanish

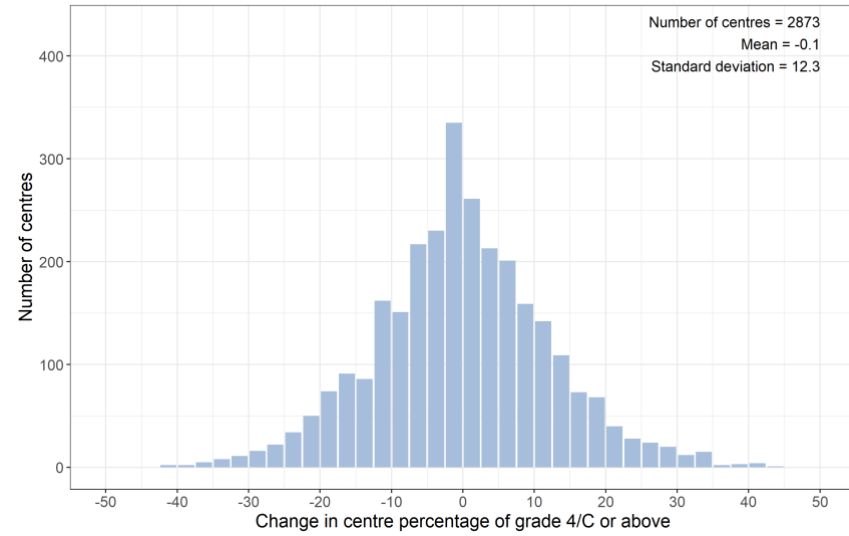


## GCSE geography

Geography summer 2018 vs summer 2019: All students

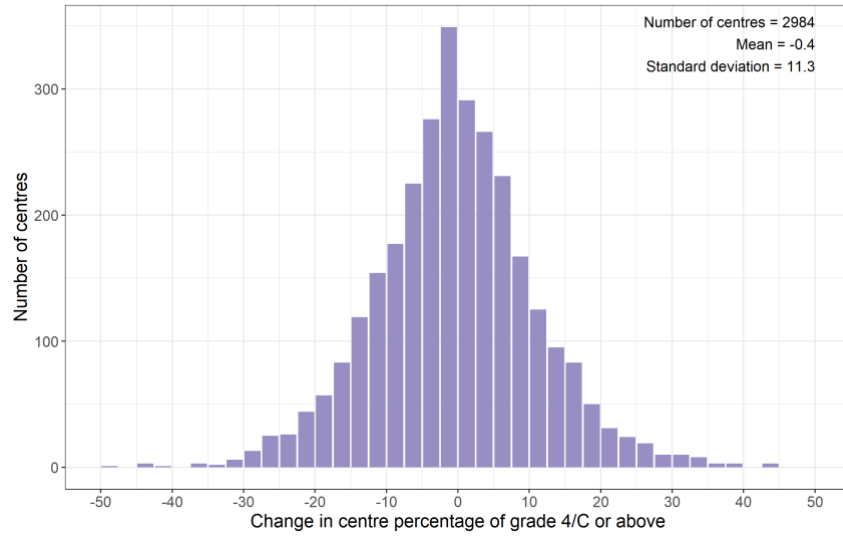


Geography summer 2017 vs summer 2018: All students

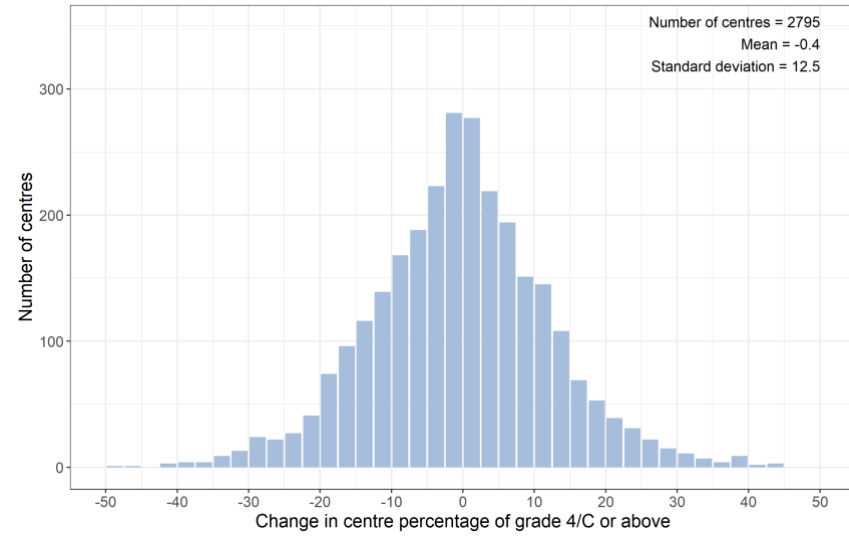


## GCSE history

History summer 2018 vs summer 2019: All students



History summer 2017 vs summer 2018: All students







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