



Department
for Education

Multi-academy trust performance measures at key stage 2: England 2017 to 2018

Quality and methodology information

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1. About these statistics

Academies are state schools directly funded by the government. Each one is part of an academy trust. Trusts can be single-academy trusts, responsible for one academy, or multi-academy trusts (MATs), responsible for a group of academies.

The MAT level data in performance tables and key stage 2 (KS2), key stage 4 (KS4) and 16-18 statistical releases provides data and analysis on the performance of MATs in England. The MAT level performance measures are created using data from the school level accountability measures published for the academies within the MAT. Where an academy sponsor oversees a number of multi-academy trusts, results are presented under the sponsor rather than the individual constituent MATs. This is in line with the approach adopted in recent years in the statistical working papers on MAT performance.

Eligibility

Academies, like maintained schools, have their performance data published at school level and have inspection reports at this level too. Where a MAT is sufficiently large and established we also publish performance data at MAT level.

These statistics do not include all MATs. MATs included within these statistics have:

- at least three schools with results at KS2 as published in the 2018 school performance tables, and
- those schools have been with the MAT for at least three academic years (defined as having joined that MAT before 12 September 2015).

A school is not included if:

- they joined as an academy new to the MAT but had previously been with another MAT. They are included in the previous MAT if they meet the eligibility criteria.

These statistics cover state-funded mainstream schools only. Special schools, pupil referral units, alternative provision academies and alternative provision free schools are not included.

Who is this guide for?

This guide is for:

- **MATs:** MATs use this information to benchmark their performance against others and to support improvement activity
- **School leaders, school staff and governing bodies:** school leaders, staff and governing bodies will be interested in seeing how their MAT is performing, or may use this data to help them identify a prospective MAT to join
- **Regional Schools Commissioners (RSCs):** the data is used by Regional Schools Commissioners to support performance discussions with MATs and to celebrate the success of MATs
- **Local authorities:** the data is used by local authorities that are interested in performance of MATs within their area

Performance measures

The MAT level performance measures are aligned with the school level performance measures to ensure consistent incentives at MAT and school level. The MAT level measures are weighted averages of the data from their constituent academies.

As at school level, the KS2 MAT measures include key stage 1 (KS1) to KS2 progress measures in the three separate subjects: ¹

- average reading progress, adjusted
- average maths progress, adjusted
- average writing progress, adjusted

These three measures are also presented separately for disadvantaged and non-disadvantaged pupils. MATs measures are also published on the Compare School Performance website, including unadjusted progress measures which are available in the download data section:

www.compare-school-performance.service.gov.uk

All these measures are calculated from published school level performance data for the 2017-18 academic year. Wider background and a technical guide for the primary school accountability framework can be found here:

www.gov.uk/government/publications/primary-school-accountability

¹ In a small number of cases, progress scores calculated for individual pupils can be so largely negative that they can distort the overall picture of performance for a school. The progress methodology has been refined by using adjusted scores for 2018 to reduce the impact of these large negative extreme progress scores. The primary school accountability [guidance](#) provides further information.

Interpreting this data

MAT performance measures are intended to give an indication of how well MATs are currently performing. The overall performance of MATs has many dimensions including pupil outcomes, financial management, governance, value for money, workforce management and capacity to expand. MATs also vary from each other in terms of size, geographic area, types of schools they are running, how they are set up and run, and other factors.

No single measure is ever likely to capture every element of performance or impact of a MAT. This should be borne in mind when considering the outcomes reported in these statistics. It is also for this reason that contextual data is provided alongside the results (including the percentage of disadvantaged pupils within the MAT, average prior attainment, percentage of pupils with special educational needs and percentage of pupils with English as an additional language). Underlying data at school level for the 2017-18 academic year is also published.

Data sources

The underlying data sources for MAT statistics are the published data for eligible schools, which can be found here:

www.compare-school-performance.service.gov.uk

To get information about schools, the department's database of school records can be found here:

get-information-schools.service.gov.uk

Calculating the measures

Progress measures

There are three separate measures of MAT performance at KS2: average progress in reading, in writing, and in maths. These measures capture the progress that pupils make in each subject from the end of KS1 to the end of KS2. They are a type of value added measure, which means that pupils' results are compared to those of other pupils nationally with similar prior attainment.

The respective progress score for each MAT is based on the weighted average of its individual schools' respective progress scores. Weighting is employed when calculating the average to ensure a school's contribution to the overall score is proportional to its size.

A schools' progress score is weighted for:

- the number of pupils at the end of the key stage
- the length of time the school has been with that MAT (those that have been with a MAT for three years are given a weight of three, those with the MAT for four or more years are given a weight of four; the usual duration of KS2 is four years).

There is no combined measure at KS2. The production of separate reading, writing and maths progress measures for MATs reflects the approach for school performance in the annual school performance tables.

The example below illustrates the calculation for reading progress measures at KS2. To calculate the writing and maths progress scores the same process is used.

	(i) Reading progress score, adjusted	(ii) Number of pupils at end of key stage	(iii) Number of years with MAT	(iv) Total weight (ii) * (iii)	(v) Weighted score (i) * (iv)
Academy 1	-4.3	25	4	100	-430.0
Academy 2	-2.5	59	3	177	-442.5
Academy 3	3.3	50	4	200	660.0
Academy 4	-1.5	22	3	66	-99.0
Academy 5	5.0	90	3	270	1350.0
Total		246		813	1038.5
MAT score (sum of weighted scores / sum of weights)					+1.3

Disadvantaged and non-disadvantaged progress measures

Reading, writing and maths progress measures are also calculated for disadvantaged pupils only. To do this, the same calculation as above is used but the progress score for all pupils is replaced with the progress score for disadvantaged pupils, and the cohort is the number of disadvantaged pupils at the end of the key stage.

The example below illustrates the calculation of the *disadvantaged pupil maths progress* measure at KS2 for a MAT:

	(i) Disadvantaged Maths progress score, adjusted	(ii) Number of disadvantaged pupils at end of key stage	(iii) Number of years with MAT	(iv) Total weight (ii) * (iii)	(v) Weighted score (i) * (iv)
Academy 1	-1.8	19	4	76	-136.8
Academy 2	-0.5	21	3	63	-31.5
Academy 3	0.0	26	4	104	0.0
Academy 4	1.2	17	4	68	81.6
Total		83		311	-86.7
MAT score (sum of weighted scores / sum of weights)					-0.28

To calculate the writing progress score and reading progress score for a MAT the same calculation is used but the maths progress score is replaced with the writing or reading progress score respectively. An analogous process is followed to calculate progress scores for non-disadvantaged pupils.

Interpretation

For each of the above progress measures:

For all mainstream pupils nationally, the average progress score is zero. The MAT level progress scores will be presented as positive and negative numbers either side of zero:

- if a MAT has a score of zero this means that, on average, pupils within the MAT do about as well as those with similar prior attainment nationally
- a positive score means that, on average, pupils within the MAT do better than those with similar prior attainment nationally
- a negative score means that, on average, pupils within the MAT do worse than those with similar prior attainment nationally.

For each of the disadvantaged pupil progress measures:

Evidence shows that overall performance of disadvantaged pupils is lower than that of other pupils. This data indicates how well a MAT does at tackling performance of disadvantaged pupils. Disadvantaged pupils are those who were eligible for free school meals at any time during the last six years and children looked after (in the care of the local authority for a day or more or who have been adopted from care).

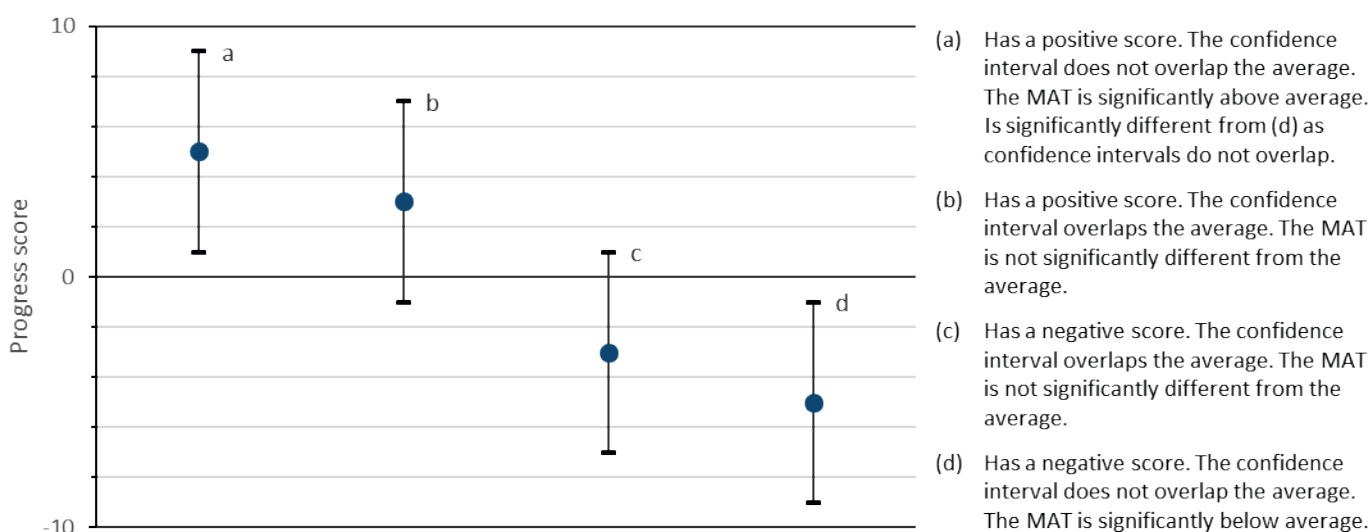
Confidence intervals

There is a level of uncertainty within the progress measures as they are based on a given set of pupils' results. MATs could have been equally effective and yet the same set of pupils might have achieved slightly different results and would almost certainly have shown different results with a different set of pupils. In recognition of this, the measures are presented with 95% confidence intervals. These provide a range in which users can be confident that the true progress score lies. Smaller groups have wider confidence intervals because their progress scores are based on smaller numbers of pupils. Confidence intervals can be used to identify MATs performing better than average or worse than average by a statistically significant amount, and close to average.

Many MATs will have scores that are not significantly different from the average. As a rule of thumb:

- if the confidence intervals of one MAT do not overlap the confidence intervals of another, then they are significantly different from each other
- if the confidence intervals for one MAT overlap with the score of another MAT, then they are not significantly different from each other
- if the confidence intervals for one MAT does not overlap with the average (zero) then their progress is significantly different from the average

The chart illustrates some example MAT progress scores and confidence intervals.



It is possible to be statistically different from the average anywhere within the distribution – not just at the extreme ends. In addition, the confidence intervals (that result from uncertainty) mean it is inappropriate to specify a precise performance-based ordering of all MATs. For each MAT progress measure, its confidence interval is given by:

2. Accuracy and reliability

Accuracy describes the closeness between an estimated result and the (unknown) true value.

Measurement error

Measurement error is the difference between the actual value of a quantity and the value obtained by a measurement. Repeating the measurement will reduce the random error caused by accuracy of the measuring instrument but not any systematic error caused by incorrect calibration of the measuring instrument.

For the steps taken to minimise measurement error in the school performance data please refer to the further information and guidance on the performance tables website:

www.compare-school-performance.service.gov.uk

Validation and quality assurance of the data

The production team minimise measurement error and perform validation and quality assurance by independently dual running each output. Any discrepancies in the data produced are discussed and more experienced staff involved as required. Additional checks are also carried out on the data produced. These include:

- Comparisons with previous figures
- Check totals are consistent across tables
- Check patterns in the data are as expected
- Check figures against those produced for school performance tables

Disclosure control

The Code of Practice for Statistics requires reasonable steps to be taken to ensure that published or disseminated statistics protect confidentiality.

The data published in this release does not reveal the identity of individuals. School level results are suppressed in the underlying data where the relevant measure was not published for a school.

3. Accessibility and clarity

Accessibility is the ease with which users are able to access the data. It also relates to format(s) in which data are available and the availability of supporting information.

Clarity is the extent to which easily comprehensible metadata are available, where these metadata are necessary to give a full understanding of the statistical data.

The text in the statistical releases for MAT measures and accompanying supporting text documents are published in pdf format so that they are accessible to all users. Care is also taken to ensure that the statistical releases and accompanying supporting text documents meet accessibility guidelines. Key figures are highlighted in the statistical releases which draw out the key messages such as changes over time. Small tables or charts illustrating key figures are also included.

The text in the statistical releases are accompanied by formatted Excel tables with clear titles which allow users to find more detail than provided in the text. Important limitations or inconsistencies in the data are mentioned in footnotes so that users do not have to refer to the text or this document.

4. Comparability

Comparability is the degree to which data can be compared over time, region or other domain.

Over time

New performance measures for all schools were introduced for the 2015/16 school performance tables. In the MATs publications of March 2015 and July 2016 the previous value added based performance measures were used, which are not directly comparable to subsequent releases.

The MAT level progress measures produced for the 2016/17 data (published January 2018) were consistent with those for 2015/16 data (published January 2017). The headline progress measures in 2017/18 are adjusted progress scores which are not consistent with those published previously. The progress methodology has been refined in 2018 to limit the impact of extremely negative pupil scores on a school's overall score. Further details can be found in the primary technical guidance.² The unadjusted progress scores are consistent with 2015/16 and 2016/17 and are available on the school performance table website.

The coverage of data in this publication remains the same as the 2016/17 release (published January 2018). As in the 2016/17 release, data is only included for schools from their third academic year under a particular MAT. This ensures these measures are in line with inspection policy for new and rebrokered schools, recognising the amount of time needed for a MAT to have full effect on a school's results. Prior to the 2015/16 release, data was included for schools with one academic year of results under a particular MAT.

The measures cover MATs with at least three schools in the relevant phase (this means that a MAT that has three schools with it for three years, but with two primary schools and one secondary school will not be included in either the KS2 or KS4 MAT performance tables). This threshold is the same as releases from 2014/15. However, in the output of the 2013/14 release (published March 2015), the threshold was at least five schools and only covered KS4. In addition, disadvantaged data has only been included in 2017/18 if there are at least three schools within the MAT with at least one disadvantaged pupil. In previous years disadvantaged data was included as long as there were three schools with KS2 results in the MAT, regardless of the number of schools with disadvantaged pupils.³

² <https://www.gov.uk/government/publications/primary-school-accountability>

³ Each measure must have at least three schools with eligible pupils with progress data to be included. This means it is possible that figures will be published for some but not all subjects for a particular MAT.

The progress bandings and confidence intervals for 2017/18 are not comparable to previous years. The methodology used to derive them has been aligned to the same methodology used to calculate bandings and confidence intervals at school level, including moving from three bandings to five.

These measures presented at MAT level will continue to reflect the school accountability measures.

Differences between school, local authority and national figures

The KS2 MAT measures use the same school level data published within the school performance tables on 13 December 2018.

Measures for local authorities or national figures are not included.

Across different types of schools

Only state funded mainstream academies are included in the MAT measures. These are sponsored academies, converter academies, free schools, studio schools and University Technology Colleges. Special schools are not included in the analysis.

Each MAT is different and they each operate under a variety of challenging circumstances. In an attempt to account for this, measures are weighted by the length of time the school has been in the MAT and by cohort size. Schools are also required to be in the MAT for at least three years to be eligible to be included.

With other parts of the UK and internationally

Currently multi-academy trusts operate solely in England.



Department
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