



Department
for Education

Defining Achieving Excellence Areas

Methodology guidance note

March 2016

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Introduction

The Educational Excellence Everywhere White Paper sets out the Department for Education's intention to eradicate areas of chronic and persistent underperformance, where not enough children have access to a high quality school place, and there is insufficient capacity to drive improvement.

In order to target a wide range of interventions toward these areas we need a clear way to establish which areas need attention most, and to monitor over time how this might change so we can measure impact.

This paper outlines the methodological approach, data sources and issues to establish a measure to identify these areas – referred to as Achieving Excellence Areas.

Experimental analysis

This is experimental innovative analysis which we will be looking to refine with external experts over the coming months. It is published now to provide more detail on the direction of travel for this work, and to encourage comments from users.

The data used in maps in the white paper can be found in the [ad hoc statistical release](#) published alongside this document.

The overall Achieving Excellence Areas map is included on page 13 at the end of this paper. This paper includes the sources of the more detailed underlying datasets.

Methodology

The Achieving Excellence Areas experimental analysis seeks to combine indicators which show *current educational performance* with indicators which show *capacity to improve* to define areas which are most in need of support.

We have included a total of 11 indicators – 5 educational standards indicators, and 6 capacity to improve indicators. These are outlined below.

The 5 educational standards indicators are equally weighted to provide an overall score for educational standards, and the 6 capacity to improve indicators are likewise equally weighted to provide an overall score for capacity to improve.

These two indicators are then combined to provide an overall score to identify the Achieving Excellence Areas.

The measure covers state funded mainstream schools (age 5-16) in England.

The analysis has been conducted using Local Authority Districts (LAD) because they provide a familiar set of locations. This approach balance between not missing areas

which would benefit from support (that at top tier Local Authority (LA) level might be disguised by nearby higher performing areas) and not going to too disaggregated a level whereby we would be focusing on an individual school.

Standards indicators

Access to a good secondary school

This indicator estimates what proportion of secondary school pupils in a given geographical area have access to a good school. This is calculated by drawing a circle of 5km radius around the home postcode of pupils who started secondary school in 2015 and considering the capacity of schools within this range which had a good or outstanding Ofsted rating.

As we develop this work, we will be reviewing both how we calculate distances to better account for natural obstacles, and whether we should have different ranges for rural and urban areas and for primary and secondary schools – as we extend the work to also cover primary schools.

The district level outputs are produced by combining data held within DfE on pupil address with published school address and Ofsted rating data.

The sources of the latter two datasets are:

[Ofsted, Monthly management information, Ofsted's school inspections outcomes, 31st December 2014](#)

[DfE, Edubase data download \(all schools\)](#)

Attainment and progress data

Two indicators have been used for primary school aged pupils, and two for secondary pupils – in each case one is an attainment indicator, and one an indicator of progress. These measures have been calculated for all pupils in all eligible schools (including special schools) to be consistent with published data.

For the primary phase we have used the 2015 Average Point Score in Reading, Writing and Mathematics as the attainment indicator, and the 2015 Key Stage 1 to Key Stage 2 value added score as the progress indicator – these are both available from published [performance tables data](#).

For secondary schools we have used the new Attainment 8 and Progress 8 indicators, based on 2015 data. From 2016 these will be used as headline indicators of school performance. More information on these can be found here

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/497937/Progress-8-school-performance-measure.pdf

The LA level data included (and [published alongside this note](#)) is a further breakdown of the previously published national data for [Attainment 8 and Progress 8](#) – we have not broken this data down to LA district level for this analysis as we have only published school level data for schools which opted in to using this measure for accountability purposes a year early, and therefore we do not want to disclose any individual school result for schools which have not opted in. In future years, we will be able to provide this to LAD level.

Capacity to improve indicators

System Leader coverage

The purpose of this indicator is to consider disparities in the capacity of areas to improve through school-to-school support. The indicator estimates local provision of Teaching Schools and National Leaders of Education (NLEs) relative to need from schools that are either below floor standards or, are inadequate or require improvement.

The indicator estimates the support available from system leaders within a 20km circle of an underperforming school, after all other demands on those leaders have also been factored in (technically termed 'the two-step floating catchment area method'). A distance of 20km has been used because this is the average distance over which support by NLEs is observed when looking at historical data on deployments.

The indicator is calculated separately for primary and secondary phases, e.g. coverage by system leaders in primary schools versus need from underperforming primary schools.

The support available per underperforming school is then totalled over each local authority district area. A final rate is calculated by dividing the number of pupils in underperforming schools by the net level of support that has been estimated for the area. Where there is one or fewer system leaders in an area the rate is set to the total number of pupils in underperforming schools at that location.

As we develop this work we will be looking to refine the calculation of distance to better consider geographical obstacles, and the ranges over which system leaders are assumed to support schools in different types of area.

The sources of this data are:

Current System Leaders and their schools

[DfE / NCTL, School-to-school support - Teaching Schools and NLEs](#) (extracted Feb. 2016).

School quality and performance data

[DfE, School and college performance tables - KS2 and KS4 results 2015](#) (extracted Feb. 2016)

[Ofsted, Maintained schools and academies: inspections and outcomes September 2014 to August 2015: school inspection data \(provisional\), Most recent 31 August 2015,](#) (extracted Feb 2016)

School locations and their pupil numbers

[DfE, Edubase data download \(all schools\)](#) (extracted 18/01/2016)

[DfE, SFR 16/2015: Schools, pupils and their characteristics: January 2015](#) (extracted Feb 2016)

Initial Teacher Training (ITT) provider coverage

The purpose of this indicator is to consider the capacity of areas to recruit new teachers. The indicator estimates the local supply of teacher trainees based on the location of providers and number of trainees they recruited and trained in 2015/16.

The supply is estimated by apportioning a provider's trainees out to nearby schools, with trainees in primary or secondary school subjects apportioned out to schools of the same respective phase. Most trainees are spread over a distance of 25km of an HEI provider, or 15km for SCITTs, with progressively smaller numbers apportioned as distance increases (technically termed 'the two-step floating catchment area method with distance decay'). These distances have been informed by evidence on the average distance between providers and the locations of their graduate's first school.

The estimated number of trainees is totalled up for each local area and a rate per 10,000 pupils calculated.

The measure is recognised to have weaknesses; not least it is insensitive to training provision through School Direct. As we develop this work we will be looking to investigate alternative data sources which can indicate the spread of trainees with a greater accuracy and consider how national providers are factored in.

The sources of data for this are:

[DfE / NCTL, Initial teacher training \(ITT\) census: 2015 to 2016 - provider level tables](#) (extracted Feb 2016)

[DfE, Edubase data download \(all schools\)](#) (extracted Jan 2016)

[DfE, SFR 16/2015: Schools, pupils and their characteristics: January 2015](#) (extracted Feb 2016)

Quality of leadership

The purpose of this indicator is to consider the capacity of an area to provide high quality school leaders.

The measure uses Ofsted judgements on Leadership and Management to calculate the proportion of pupils in schools which have good or outstanding leadership.

The measure is calculated separately for primary and secondary schools.

The aim here is to assess the balance between the proportion of schools which have potentially available high quality leaders to support those schools in the area who are in need of support.

The sources for this data are:

[Ofsted, Maintained schools and academies: inspections and outcomes September 2014 to August 2015: school inspection data \(provisional\), Most recent 31 August 2015](#) (extracted Feb 2016)

[DfE, SFR 16/2015: Schools, pupils and their characteristics: January 2015](#) (extracted Feb 2016)

Academy sponsor coverage

The purpose of this indicator is to illustrate sponsor capacity by mapping the estimated spatial disparity between lead or outstanding schools in sponsor chains and pupils in nearby, underperforming maintained schools (that is excluding academies and free schools).

The indicator is calculated using a similar approach as described above for System Leaders. It estimates the coverage by lead or outstanding schools in an academy sponsor chain, of maintained schools which are either below floor standards or, are inadequate or require improvement. The coverage is restricted to a range of 10km in urban areas and 20km in rural settings. These distances have been informed by the average geographic spread of schools in an academy chain.

The final rate is calculated by dividing the number of pupils in underperforming maintained schools by the estimated sponsor coverage. Where there is one, or fewer sponsor schools, in an area the rate is set to the total number of pupils in underperforming maintained schools at that location.

The current indicator is preliminary as we develop this work we plan to review the methodology and explore whether it can be developed further to produce a more robust measure of sponsor capacity, or whether an alternative would be more appropriate.

The data for this indicator is sourced from:

[DfE, Edubase data download \(all schools\)](#) (extracted 18/01/2016)

[DfE, SFR 16/2015: Schools, pupils and their characteristics: January 2015](#) (extracted Feb 2016)

Composite indicator

The composite indicator is calculated by transforming, scaling and weighting component indicators and then taking the average of their scores. Transformation

Two of the indicators, ITT provider coverage and Academy sponsor coverage, have been transformed to balance their distributions (reduce skewness). This ensures that extreme values do not have a disproportionate influence over the indicator.

Scaling

Each indicator is standardised over its value range so that it takes a value of between 0 and 1. For example, Knowsley had the lowest KS4 attainment in England in 2015 and so receives a score of zero, Kingston upon Thames had the highest and so receives a score of 1, and any other areas are spread out based on their average attainment relative to these extremes.

To perform this calculation the Min-Max standardisation procedure is used. This subtracts the smallest value an indicator takes across all areas from the value in a given area. The result is then divided by the difference between the smallest and largest values the indicator takes across all areas.

$$x_i^{scaled} = \frac{x_i - \min_{districts}(x)}{\max_{districts}(x) - \min_{districts}(x)}$$

The scaled system leader and sponsor capacity indicators are reversed by subtracting their scores from one. This is so that the indicators are all ordered in a way that is logically consistent, i.e. that a zero score means the worst performance or the weakest capacity and a score of one the best.

Weighting

A 50% overall weight is given to each of the indicator groups; standards and capacity. Indicators within these groups are then equally weighted. The table below gives the weights used.

| | Indicator | Weight |
|-----------|--|--------|
| Standards | Attainment 8 Score | 10.0% |
| | Progress 8 Score | 10.0% |
| | Average Point Score in Reading Writing and Mathematics | 10.0% |
| | KS1-2 Value Added | 10.0% |
| | % of pupils able to access a good or outstanding secondary | 10.0% |

| | | |
|----------|---|------|
| Capacity | Primary pupils per primary Teaching School or NLE | 8.3% |
| | Secondary pupils per secondary Teaching School or NLE | 8.3% |
| | Teacher trainees per 10,000 pupils | 8.3% |
| | % of primary pupils in a school with good or outstanding leadership | 8.3% |
| | % of secondary pupils in a school with good or outstanding leadership | 8.3% |
| | Pupils per lead or outstanding sponsor academy | 8.3% |

Testing

The indicators have been tested for relevance using factor analysis, and for the significance of their spatial patterns.

As we develop this work, we will be undertaking both a more comprehensive programme of sensitivity analysis as well as investigating the relationship between the composite indicator and other geographical distributions e.g. the deprivation.

The current form of the indicator is a relative measure of local performance and capacity to improve. This means there will always be a group of areas that is weakest and a group that is strongest. This is important because striving for excellence must be an ongoing aspiration. However it makes assessing the impact that policies targeted on Achieving Excellence Areas have had, in absolute terms, difficult. So, as part of the development of this work we will also be looking to determine methods which allow us to evaluate progress in absolute terms.

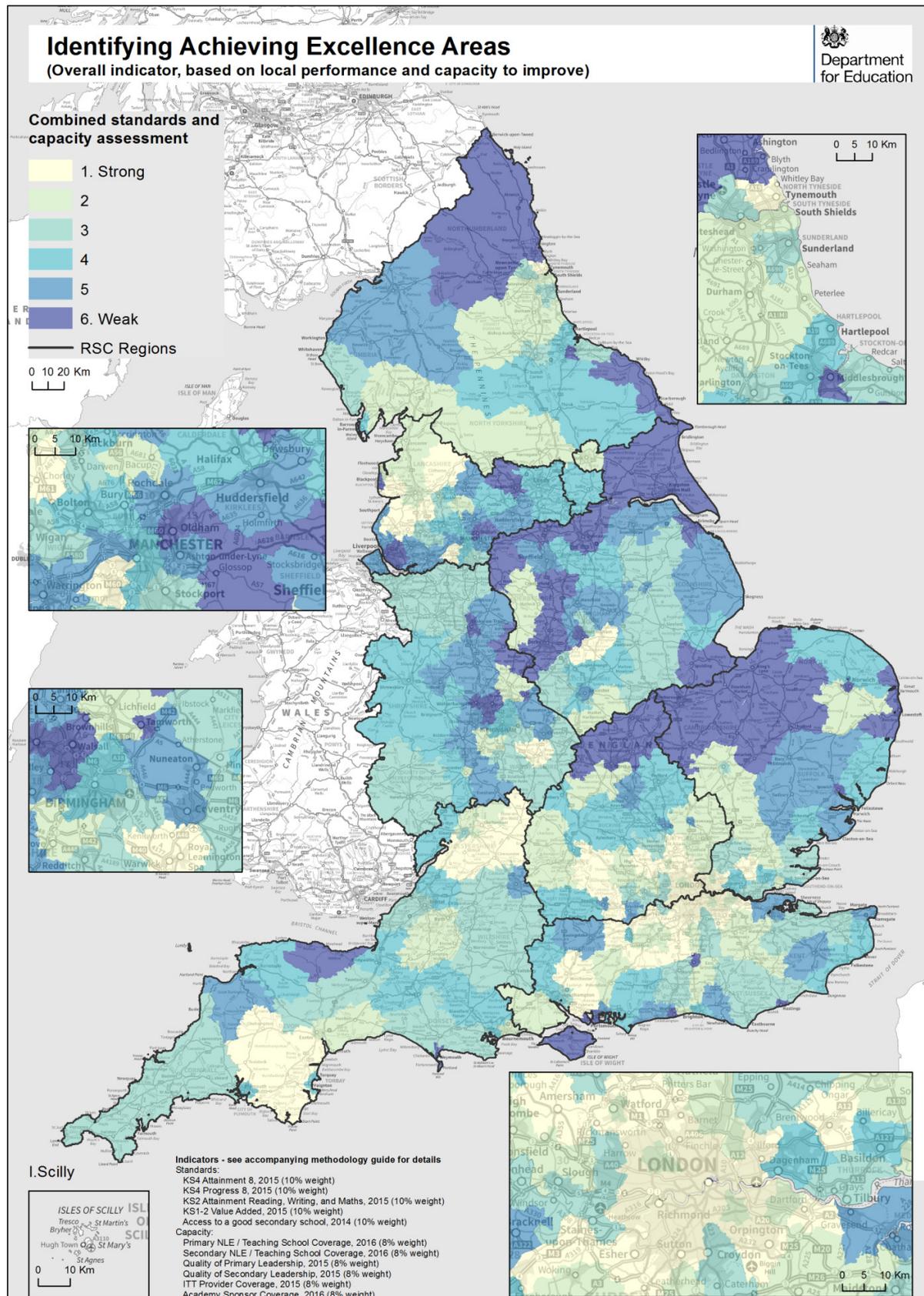
We will be working with external and internal partners to develop this work.

Give us your views

Please send in any comments / ideas you have on this methodology and approach to aea.comments@education.gsi.gov.uk which we will consider as we develop the methodology over the coming months.

Achieving Excellence Areas map

The map shows the experimental composite indicator mapped using six groups (sextiles) to identify Achieving Excellence Areas.



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