Assessment of compliance with the Code of Practice for Official Statistics

Statistics on the School Workforce in England
(
produced by the Department for Education)

Assessment Report 174
February 2012
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About the UK Statistics Authority
The UK Statistics Authority is an independent body operating at arm’s length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the Statistics and Registration Service Act 2007.

The Authority’s overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:
1. oversight of the Office for National Statistics (ONS) – the executive office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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Assessment of compliance with the Code of Practice for Official Statistics

Statistics on the School Workforce in England

(produced by the Department for Education)
ASSESSMENT AND DESIGNATION

The Statistics and Registration Service Act 2007 gives the UK Statistics Authority a statutory power to assess sets of statistics against the Code of Practice for Official Statistics. Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the Code of Practice. The Code is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the Code requires statistics to be produced to a level of accuracy that meets users’ needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, reports may point to such questions if the Authority believes that further research would be desirable.

Assessment reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment reports also describe aspects of the ways in which the producer addresses the ‘sound methods and assured quality’ principle of the Code, but do not themselves constitute a review of the methods used to produce the statistics. However the Code requires producers to “seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews”.

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the Code’s requirements. This is to avoid public confusion and does not reduce the obligation to comply with the Code.

The Authority grants designation on the basis of three main sources of information:

i. factual evidence and assurances by senior statisticians in the producer body;
ii. the views of users who we contact, or who contact us, and;
iii. our own review activity.

Should further information come to light subsequently which changes the Authority’s analysis, it may withdraw the Assessment report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the Code of Practice.
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Summary of findings

1.1 Introduction

1.1.1 This is one of a series of reports prepared under the provisions of the Statistics and Registration Service Act 2007. The Act requires all statistics currently designated as National Statistics to be assessed against the Code of Practice for Official Statistics. The report covers the set of statistics reported in School Workforce in England (SWF), produced by the Department for Education (DfE).

1.1.2 Section 3 of this report adopts an ‘exception reporting’ approach – it includes text only to support the Requirements made to strengthen compliance with the Code and Suggestions made to improve confidence in the production, management and dissemination of these statistics. This abbreviated style of report reflects the Head of Assessment’s consideration of aspects of risk and materiality. The Assessment team nonetheless assessed compliance with all parts of the Code of Practice and has commented on all those in respect of which some remedial action is recommended.

1.1.3 This report was prepared by the Authority’s Assessment team, and approved by the Board of the Statistics Authority on the advice of the Head of Assessment.

1.2 Decision concerning designation as National Statistics

1.2.1 The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action in this report. The Statistics Authority confirms that the statistics published in SWF are designated as National Statistics, subject to DfE implementing the enhancements listed in section 1.5 and reporting them to the Authority by May 2012.

1.2.2 DfE has informed the Assessment team that it has started to implement the Requirements listed in section 1.5. The Statistics Authority welcomes this.

1.3 Summary of strengths and weaknesses

1.3.1 DfE has maximised the use of School Workforce Census data by using them for other research publications and more in depth analysis, for example to develop a profile of teaching staff in England.

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6 https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-RR151
1.3.2 The release does not present commentary alongside the school workforce statistics to draw out key messages and trends, and identify relevant contextual issues. SWF does not include sufficient explanation of specialist terms, which is likely to make the release inaccessible for non-expert users.

1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that DfE could strengthen its compliance with the Code. Those which the Assessment team considers essential to enable designation as National Statistics are listed in section 1.5. Other suggestions, which would improve the statistics and the service provided to users but which are not formally required for their designation, are listed at annex 1.

1.5 Requirements for designation as National Statistics

Requirement 1  Take steps to develop a greater understanding of the use made of the statistics, publish the relevant information and assumptions and use them to better support the use of the statistics (para 3.1).

Requirement 2  Publish more complete information about the methods used to compile the statistics (para 3.3).

Requirement 3  Ensure that SWF provides users with accurate information about the difficulties encountered when combining previous data sources, and explain the implications for making comparisons with statistics produced using the new methods (para 3.5).

Requirement 4  Further investigate potential bias introduced as a result of incomplete coverage, and publish the outcome (para 3.6).

Requirement 5  Improve the information provided about the quality of the statistics to ensure that users are informed of all main sources of error and bias, and the implications for the expected uses of the statistics (para 3.7).

Requirement 6  Provide links to where users can find similar statistics for Wales, Scotland and Northern Ireland and information on the comparability of these statistics (para 3.8).

Requirement 7  Improve the commentary and contextual information provided in SWF so that it aids user interpretation of the statistics (para 3.10).
2 Subject of the assessment

2.1 The School Workforce Census was first conducted in its complete form in November 2010 to enable the production of statistics on the school workforce in England. The census will continue annually with a reference date during November each year. The statistics on the school workforce in England are presented annually in School Workforce in England (SWF). Previously, these statistics were compiled from data collected via: the school workforce element of the pupil level School Census\(^7\); the Secondary School Curriculum and Staffing Survey\(^8\) (SSCSS); the Annual Survey of Teachers in Service and Teacher Vacancies\(^9\) (Form 618g); and the Database of Teacher Records. Following a National Statistics Quality Review of School Workforce Statistics in 2004\(^10\) DfE introduced new methods to improve the quality and to enable the production of more detailed school workforce statistics.

2.2 The census is a statutory data collection under section 114 of the 2005 Education Act\(^11\). Schools and local education authorities\(^12\) (LEAs) provide individual level teacher and other school staff data to DfE through an online data collection system called COLLECT. The system has been specifically designed for data collection purposes; only those data items already held by schools and LEAs are asked for. The returns are based on the Common Basic Data Set\(^13\) which provides standard definitions and codes so that data can be easily transferred from the Schools and LEAs own management information systems into COLLECT.

2.3 SWF presents statistics on the characteristics of the school workforce in local authority maintained schools and academies in England. It also includes statistics on pupil to teacher ratios and on the number of vacancies, presented by teaching subject, staff grade, and type of school. The statistics are used

- by government to inform policy decisions and model teacher supply and demand;
- by Devolved Administrations to provide a comparison with their equivalent statistics\(^14\);

\(^7\) http://www.education.gov.uk/rsgateway/schoolcensus.shtml
\(^8\) http://www.education.gov.uk/researchandstatistics/statistics/allstatistics/a00194083/secondary-schools-curriculum-and-staffing-survey
\(^9\) http://www.education.gov.uk/researchandstatistics/statistics/allstatistics/a00196889/total-teachers-in-the-maintained-sector
\(^11\) http://www.legislation.gov.uk/ukpga/2005/18/contents
\(^12\) In England, there are 152 local authorities with responsibility for education: 27 'shire' counties; 32 London boroughs; 36 metropolitan districts; 55 unitary authorities; and the City of London and the Isles of Scilly. Although the Education and Inspections Act 2006 - http://www.legislation.gov.uk/ukpga/2006/40/contents abolished the term local education authority (part 9 section 162), the term is still used as a statistical geography to distinguish those local authorities with responsibility for education from the 326 lower tier English local authority districts
• by schools and LEAs for comparison purposes;
• by professional organisations and campaign groups to promote evidence based policy within the education sector, and;
• by academia for research on the educational sector in England.

The Government also used the statistics during the 2010 spending review to forecast how much money would be needed in the next few years for the salaries of teachers. The new data collected on teacher characteristics and pay will also be provided as evidence as part of the discussions around teachers’ pay awards and their terms and conditions.

2.4 DfE told us that the annual cost of managing the census, producing and disseminating the statistics and providing analytical support to colleagues within DfE is £260,000.
3 Assessment findings

3.1 DfE runs a school workforce working group, which meets monthly to discuss the implementation and ongoing management of the census. The working group comprises representatives from different areas of DfE, including the statistical team and policy analysts. The strategic management of the census is governed by the SWF Service Board; users within DfE are able to present requests for new questions or other changes for approval to the Service Board, which will then determine whether or not to submit them to the Star Chamber Scrutiny Board (Star Chamber). There are currently no arrangements for users outside DfE to feed into this planning process. Whilst developing the census, DfE held discussions with key users and conducted an online survey. DfE has not yet published the outcome of the survey. DfE also has not published any other information about the experiences of users, although it is aware of the needs of some external users through ad hoc queries that have been submitted to the statistical team. As part of the designation as National Statistics, DfE should take steps to develop a greater understanding of the use made of the statistics, publish the relevant information and assumptions and use them to better support the use of the statistics (Requirement 1). We suggest that DfE refer to the types of use put forward in the Statistics Authority’s Monitoring Brief, The Use Made of Official Statistics, when documenting use.

3.2 All new data requests must be approved by DfE’s Star Chamber. Membership of the Star Chamber includes local authorities (LAs) and head teachers and its remit is to ensure that new data collections do not create unnecessary burdens or duplicate existing collections. For example, DfE told us the census was going to collect information about which schools centrally employed teachers were visiting and why. The Star Chamber determined that although the data may exist, they would be too difficult and burdensome to collect. As a result, this proposed collection was excluded from the census. Similarly, the Star Chamber rejected a request for the SWF to include the class of degree of teachers’ qualifications as being too burdensome. We welcome this integrated assessment of data collection burdens as an example of good practice.

3.3 SWF includes brief information about the methods used to produce the statistics, including details about some production processes and the target population for the census. For example, SWF explains that data are collected at teacher level and describes some of the characteristics of staff eligible for inclusion, such as having a contract length of 28 days or more. However, some details are not explained, for example whether the data are provided by the schools or by LAs. DfE has published information and guidance documents on its Schools Administration web pages but these are not linked from the

15 http://www.education.gov.uk/schools/toolsandinitiatives/cuttingburdens/starchamber
16 Including the General Teaching Council for England, the Training and Development Agency for Schools and the National College for School Leadership
17 The survey was conducted during early 2011 and received 17 responses from users representing local and central government, academia, private sector and charities
18 In relation to Principle 1, Practice 2 and Principle 1, Practice 5 of the Code of Practice
20 http://www.education.gov.uk/schools/adminandfinance/schooladmin/ims/datacollections/swf
statistics web pages. As part of the designation as National Statistics, DfE should publish more complete information about the methods used to compile the statistics\(^21\) (Requirement 2).

### 3.4

The timing of the census means that information about teacher vacancies is now collected in November rather than January. SWF explains that as a result, the number of vacancies reported by schools has reduced. The statistical team told us that users within DfE think the new measurement arrangements provide a more accurate count of hard-to-fill vacancies. However, another user told us that they were concerned that the new statistics do not accurately portray staff shortages in schools, and suggested that vacancies data be collected at different points during the school year. We suggest that DfE provide users with (a) a clear statement describing what the vacancies statistics are intended to measure and (b) an analysis of the impact of methodological changes on the estimation of vacancies. We further suggest that DfE engage with users to establish what demand exists for publishing more frequent estimates of the number of vacancies.

### 3.5

DfE told us that the census was introduced in part to reduce the inconsistent and sometimes contradictory picture that previous data collections provided. For example, Form 618g provided only LA-level data, so demographic breakdowns had to be constructed using data from other sources, such as the Database of Teacher Records. Often, these other sources were not up to date or of the same level of quality. SWF does not include any information about the difficulties encountered when combining data sources before the new approach was introduced. Furthermore, SWF provides potentially contradictory information\(^22\) about the comparability of the new statistics, stating ‘the majority of the statistics... should be comparable to previously published data’ and that ‘figures may not be fully comparable’. The Assessment team considers that a more transparent analysis of the comparability between the two approaches is necessary so that users are aware of potential inconsistencies in the time series. As part of the designation as National Statistics, DfE should ensure that SWF provides users with accurate information about the difficulties encountered when combining previous data sources, and explain the implications for making comparisons with statistics produced using the new methods\(^23\) (Requirement 3).

### 3.6

Some schools do not have the software capability to be able to provide detailed data about the qualifications held by teachers so the data are weighted to provide national estimates. DfE told us that it has conducted some preliminary analysis to identify potential sources of bias and found that schools with higher salaried teachers are more likely to have the software capabilities to respond. Simple weighting may therefore not be adequate to remove any biases resulting from this non-response. As part of the designation as National Statistics, DfE should further investigate potential bias introduced as a result of incomplete coverage, and publish the outcome\(^24\) (Requirement 4).

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\(^{21}\) In relation to Principle 4, Practice 1 of the Code of Practice

\(^{22}\) See page 1, paragraph 4 and page 6, note 1: http://media.education.gov.uk/assets/files/pdf/sfr062011v4pdf.pdf

\(^{23}\) In relation to Principle 4, Practice 1 of the Code of Practice

\(^{24}\) In relation to Principle 4, Practice 2 of the Code of Practice
3.7 **SWF** includes some information about the quality of the statistics. It describes issues influencing the accuracy of the estimates and some potential sources of error, for example the possibility that some data providers may misreport data items following the change to the definition of ‘vacancies’. However it does not include sufficient detail about all sources of error or bias, or how this may affect the ways in which the statistics can be used. The information about quality would also be improved by clearly identifying the most important factors so that they are not lost within the text. As part of the designation as National Statistics, DfE should improve the information provided about the quality of the statistics to ensure that users are informed of all main sources of error and bias, and the implications for the expected uses of the statistics\(^{25}\) (Requirement 5). In meeting this Requirement, we suggest that DfE make the information published about the quality of the SWF statistics more accessible by clearly identifying the most important issues that affect the quality of the statistics.

3.8 **SWF** presents statistics on the school workforce in England only. Comparable statistics for Wales\(^ {26}\), Scotland\(^ {27}\) and Northern Ireland\(^{28}\) are published by each country separately. SWF does not provide a link to these comparable statistics, or provide information about how the statistics for England compare with those for the other countries. As part of the designation as National Statistics, DfE should provide links to where users can find similar statistics for Wales, Scotland and Northern Ireland and information on the comparability of these statistics\(^ {29}\) (Requirement 6).

3.9 **SWF** provides some contextual information about the way that data are categorised and describes a mapping document\(^ {30}\) which helps to promote consistency. For example, the mapping document can be used alongside the Joint Academic Coding System\(^ {31}\) (JACS) to identify whether or not a qualification should be categorised as relevant to a given teaching subject. This guidance helps to ensure that all data providers categorise data consistently. The Assessment team consider the categorisation guidance to be good practice. We suggest that DfE include a link to the mapping document within SWF to improve accessibility.

3.10 **SWF** presents detailed statistics in tables, and includes a summary of the main messages at the start of the publication. However **SWF** does not provide commentary alongside the tables to explain the statistics, neither does it provide sufficient contextual information to enable users to understand and interpret the statistic appropriately. As part of the designation as National Statistics, DfE should improve the commentary and contextual information in SWF so that it aids user interpretation of the statistics\(^ {32}\) (Requirement 6). We suggest that in meeting this requirement DfE should consider the points detailed in annex 2.

\(^{25}\) In relation to Principle 4, Practice 2 and Principle 8, Practice 1 of the *Code of Practice*


\(^{27}\) [http://www.scotland.gov.uk/Topics/Statistics/Browse/School-Education/TrendTeacherNumbers](http://www.scotland.gov.uk/Topics/Statistics/Browse/School-Education/TrendTeacherNumbers)


\(^{29}\) In relation to Principle 4, Practice 6 of the *Code of Practice*

\(^{30}\) [http://media.education.gov.uk/assets/files/xls/sfr062011mappingxls.xls](http://media.education.gov.uk/assets/files/xls/sfr062011mappingxls.xls)


\(^{32}\) In relation to Principle 8, Practice 2 of the *Code of Practice*
Annex 1: Suggestions for improvement

A1.1 This annex includes some suggestions for improvement to DfE’s School Workforce Statistics in the interest of the public good. These are not formally required for designation, but the Assessment team considers that their implementation will improve public confidence in the production, management and dissemination of official statistics.

Suggestion 1 Refer to the types of use put forward in the Statistics Authority’s Monitoring Brief, The Use Made of Official Statistics, when documenting use (para 3.1).

Suggestion 2 Provide users with (a) a clear statement describing what the vacancies statistics are intended to measure and (b) an analysis of the impact of methodological changes on the estimation of vacancies (para 3.4).

Suggestion 3 Engage with users to establish what demand exists for publishing more frequent estimates of the number of vacancies (para 3.4).

Suggestion 4 Make the published information about the quality of the SWF statistics more accessible by clearly identifying the most important issues that affect the quality of the statistics (para 3.7).

Suggestion 5 Include a link to the mapping document within the SWF release to improve accessibility (para 3.8).

Suggestion 6 Consider the points detailed in annex 2, in seeking to improve the statistical release (para 3.9).
Annex 2: Compliance with Standards for Statistical Releases

A2.1 In October 2010, the Statistics Authority issued a statement on Standards for Statistical Releases. Whilst this is not part of the Code of Practice for Official Statistics, the Authority regards it as advice that will promote both understanding and compliance with the Code. In relation to the statistical releases associated with the School Workforce Statistics, this annex comments on compliance with the statement on standards.

A2.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical releases, we encourage the producer body to apply the standards as fully as possible.

**Appropriate identification of the statistics being released**

A2.3 The title of the release describes the coverage of the statistics and the point in time to which the statistics relate.

A2.4 SWF does not state the frequency of the release, although this is implied within the text.

A2.5 SWF clearly displays the name of the originating department and contact details for the responsible statistician. The release includes a brief account of what it includes.

**Include commentary that is helpful to the non-expert and presents the main messages in plain English**

A2.6 SWF includes a Key Points section. However the release includes no commentary which goes beyond describing the rises and falls in the data, or graphs to illustrate comparisons.

A2.7 SWF includes a definitions section; however some terms are still unexplained which may make the statistics inaccessible for some users. For example, SWF does not explain what is meant by an Academy school and how they differ from local authority maintained schools.

**Use language that is impartial, objective and professionally sound**

A2.8 The text in the publication is impartial and the statements that are made about the statistics are professionally sound.

**Include information about the context and likely uses**

A2.9 SWF does not include any information or discussion about the uses of the statistics, or the quality of the statistics in relation to potential uses. SWF does not provide sufficient information about the policy and operational context within which the statistics have been produced and are used.

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Include, or link to, appropriate metadata

A2.10 *SWF* provides a useful description of recent methodological changes and explains that the census was introduced to replace several different data collections that were previously used to compile the statistics. *SWF* does not include sufficient detail about the difficulties encountered with the previous method, nor does it sufficiently explain the implications of the changes for the time series.

A2.11 *SWF* includes some information about the methods used to compile the statistics, but there is scope to improve this. For example *SWF* does not make clear whether data are collected from local education authorities or schools, nor how they are sent to DfE.

A2.12 *SWF* includes some information about the quality of the statistics, for example confidence intervals are presented alongside some of the statistics. *SWF* also describes some sources of error, for example in relation to recent changes to definitions. However *SWF* does not provide sufficient detail about all sources of error or bias, and the implications for the way in which the statistics can be used.

A2.13 *SWF* does not provide information about the degree to which the statistics presented are similar to other official statistics that relate to the School Workforce in other countries of the UK.

A2.14 *SWF* clearly states that it is a statistical first release; however it does not make it clear when the data are expected to be revised. The November 2010 publication of *SWF* is marked as provisional but it is not clear within the text when revisions are planned to take place. Some users reported confusion about the labelling of provisional and revised figures, and over plans for scheduled revisions.
Annex 3: Summary of assessment process and users’ views

A3.1 This assessment was conducted from May 2011 to January 2012.

A3.2 The Assessment team – Rachel Beardsmore and Ruth James – agreed the scope of and timetable for this assessment with representatives of DfE in May. The Written Evidence for Assessment was provided on 7 October. The Assessment team subsequently met DfE during November to review compliance with the Code of Practice, taking account of the written evidence provided and other relevant sources of evidence.

Summary of users contacted, and issues raised

A3.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority’s website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users’ needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare assessment reports.

A3.4 The Assessment team received 8 responses from the user consultation. The respondents were grouped as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DfE</td>
<td>2</td>
</tr>
<tr>
<td>Other government</td>
<td>1</td>
</tr>
<tr>
<td>Academia</td>
<td>1</td>
</tr>
<tr>
<td>Campaign groups</td>
<td>1</td>
</tr>
<tr>
<td>Professional organisation</td>
<td>1 (on behalf of a group of 5 users)</td>
</tr>
<tr>
<td>Data suppliers</td>
<td>2</td>
</tr>
</tbody>
</table>

A3.5 Some users expressed concern or confusion over the labelling of provisional and revised figures, and told us that dates for planned revisions were not always specified. Some users were concerned that a number of local authorities were unable to submit returns, and felt that this undermines confidence that the statistics reflect a true national picture. Another area of concern was the quality of the vacancies statistics, some users told us that they felt that the statistics do not provide a reliable snapshot of staff shortages in schools. The group told us that since DfE relies on vacancy data to model teacher supply and to inform the allocation of resources, DfE should find a way to collect vacancy data throughout the year. Other suggested improvements include a more detailed breakdown of some categories, for example presenting data for individual science subjects, rather just science, and splitting leadership group data into its component parts of head and deputy or assistant head.

A3.6 Data suppliers said that it is likely they would collect the data for their own monitoring purposes, regardless of DfE’s statistical needs. One expressed concern about the short notice that had been provided in the past regarding changes to definitions; another said that this no longer happened now that the census has become more established.
Key documents/links provided

Written Evidence for Assessment document