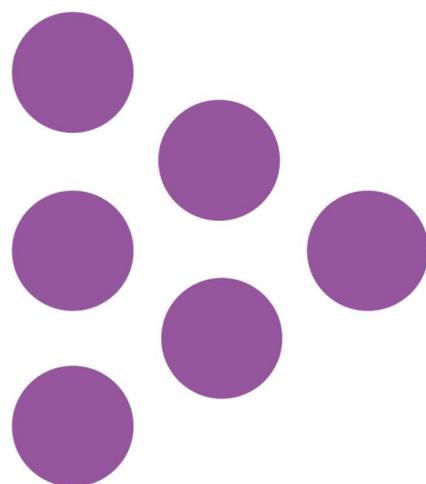


Technical Report

The Further Education Teacher Workforce in England Annual Report 2026

Methodology Appendix

National Foundation for Educational Research (NFER)



The Further Education Teacher Workforce in England Annual Report 2026

Methodology Appendix

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1. Introduction

This methodology appendix explains the data we used and the analysis we undertook to produce our findings in “The Further Education Teacher Workforce in England: Annual Report 2026”.

Section 2 lists the data sources we used in the analysis, as well as how we defined Further Education (FE) teachers and secondary school teachers (as a comparison group) in national surveys. The remaining sections then each cover methodological detail relevant to the analysis in the main report.

Section 3 discusses how we used Annual Survey of Hours and Earnings data to estimate FE teachers’ pay, including how we defined FE teachers in this data.

Section 4 shows how we used the Labour Force Survey to measure FE teachers’ working hours and perceptions of their working hours. This section explains key variable and group definitions, provides sample sizes and outlines our methodology for defining a group of similar workers to compare FE teachers too.

Section 5 outlines how we used the Annual Population Survey to measure FE teachers’ wellbeing and workplace perceptions.

This work was undertaken in the Office for National Statistics Secure Research Service using data from ONS and other owners and does not imply the endorsement of the ONS or other data owners.

2. Data sources and the definition of FE teachers

2.1. Data sources

The following data sources were used to inform the analysis in this research report:

- The Further Education Workforce Data Collection (FEWDC). More information [here](#).
- Annual Survey of Hours and Earnings (ASHE). Available from Office for National Statistics (ONS). More information [here](#).
- The Labour Force Survey (LFS). Available from UK Data Service. More information [here](#).
- The Annual Population Survey (APS). More information [here](#).

2.2. Definition of FE teachers

The definition of FE teachers in FEWDC data is set by DfE. More information can be found in the methodology of DfE’s statistics release.

ASHE, LFS and APS are all national surveys that include workers in a wide range of occupations and industries. We therefore use the information in these surveys to identify FE teachers for the purposes of our analysis.

We define FE teachers using codes that classify a worker’s occupation (SOC codes) and codes that classify a worker’s industry (SIC2007). We use SOC2000, SOC2010 and SOC2020 depending on which is available in each dataset. We built a definition based on two parts.

Firstly, we include everyone who works in the main occupation we had identified as relevant to FE teachers. Because we use a narrow occupational definition, we also look at those who worked in a relatively wide range of industries.

Table 1 Occupations that are classed as FE teachers in a wider range of industries

SOC2020 Code	SOC2020 Group
2312	Further education teaching professionals
SOC2010 Code	SOC2010 Group
2312	Further education teaching professionals
SOC2010 Code	SOC2010 Group
2312	Further education teaching professionals
AND	
SIC2007 Code	SIC2007 Group
8531	General secondary education
8532	Technical and vocational secondary education
8541	Post-secondary non-tertiary education
8542	Tertiary education
8559	Other education nec

Note: n.e.c. stands for ‘not elsewhere classified’.

Secondly, and in addition, we also include those who work in a wider list of occupational groups related to teaching, but who work in a narrower range of industries which is more tightly focused on FE than the group of industries we used in the first part of the definition.

Table 2 - Occupations that are also classed as FE teachers in a narrower range of industries

SOC2020 Code	SOC2020 Group
2311	Higher education teaching professionals
2313	Secondary education teaching professionals
2321	Head teachers and principals
3574	Vocational and industrial trainers and instructors
SOC2010 Code	SOC2010 Group
2311	Higher education teaching professionals
2314	Secondary education teaching professionals
2317	Senior professionals of educational establishments
3563	Vocational and industrial trainers and instructors
SOC2010 Code	SOC2010 Group
2311	Higher education teaching professionals
2314	Secondary education teaching professionals
3563	Vocational and industrial trainers and instructors
AND	
SIC2007 Code	SIC2007 Group
8532	Technical and vocational secondary education
8541	Post-secondary non-tertiary education

In some other reports in this series we use a public/private sector marker in the data when defining a workforce group. We do not do that with FE teachers because many FE providers are in the private sector (even if they deliver publicly funded provision).

2.3. Secondary School Teachers

In our report, we compare FE teacher pay to secondary school teacher pay in ASHE. To do this, we define secondary school teachers as follows:

Table 3 – Definition of secondary school teachers

SOC2020 Code	SOC2020 Group
2313	Secondary education teaching professionals
SOC2010 Code	SOC2010 Group
2314	Secondary education teaching professionals
SOC2010 Code	SOC2010 Group
2314	Secondary education teaching professionals
AND	
SIC2007 Code	SIC2007 Group
8531	General secondary education
AND	
The individual works in the public sector	

3. ASHE: analysis of FE teachers' pay over time and their position in the wider earnings distribution

To analyse where the pay of FE teachers sits within the earnings distribution in England and how it has changed over time, we used data from ASHE for 2020 to 2025. Since the ASHE is collected in April of each year, we re-aligned the data so that 2025 represented the 2024/25 academic year.

Our sample consisted of individuals in the ASHE working in one 'main job'. To ensure a like-for-like comparison between school teachers and FE teachers, we look at full-time, annual earnings. For those working in a 'main job' and an 'additional job', we discarded the 'additional job'. For those working in multiple part-time jobs or multiple full-time jobs, we discarded their records altogether. We also discarded anyone not on a permanent employment contract, anyone with missing earnings records or occupation / industry codes, anyone working a junior pay rate or who were on an apprenticeship and anyone whose earnings were affected by leave.¹

The ASHE has some known limitations, such as non-coverage of those in self-employment, relatively high non-response rates and non-sampling bias (since the ASHE only samples jobs registered on a pay as you earn (PAYE) scheme). To minimise the impact of these limitations, we applied the ASHE calibration weight to our analysis. This helped to ensure that our estimates were weighted to be representative of the entire labour force in England, as per the Labour Force Survey (LFS). Finally, we identified FE teachers and secondary school teachers in the sample using the definitions outlined in Section 2.

The annual sample sizes of individuals in our main analysis sample, as well as those who are FE teachers and secondary school teachers, are provided in **Table 4**.

Using our full sample of all full-time workers, for each year we estimated each percentile of the annual earnings distribution for these workers (i.e. we estimated 100 percentiles so that each represented one per cent of the earnings distribution). We also estimated the median annual earnings of (full-time) FE teachers in the sample for each year (using the definitions outlined in Section 2). We then combined the data series to find where the median of earnings for FE teachers is placed within the entire earnings distribution in each year.

¹ We included in the analysis those who were put on furlough during the Covid-19 pandemic but who were still paid at their full rate of pay. We excluded those who were put on furlough where it impacted their earnings. Due to small sample sizes in 2020 (when the collection of the ASHE was impacted by the pandemic), excluding all workers on furlough would have dramatically reduced sample sizes and likely also had implications for the occupational composition of the sample.

Table 4: Sample sizes for ASHE analysis

Year	Total number of full-time workers in England in sample	Total number of full-time FE teachers in England in sample	Total number of full-time secondary school teachers in England in sample
2011	102,739	549	353
2012	98,556	547	498
2013	99,315	570	593
2014	101,337	597	559
2015	100,336	543	679
2016	97,590	508	668
2017	98,397	520	670
2018	98,366	492	700
2019	96,476	507	717
2020	63,678	340	654
2021	68,608	330	690
2022	76,486	310	616
2023	85,802	285	602
2024	91,443	300	705
2025	87,759	297	696

Source: NFER analysis of ASHE data for 2011 to 2025.

4. LFS: analysis of FE teachers' perceptions of their working hours and attitudes to work compared to those of similar workers

Our analysis of FE teachers' working hours and perceptions of their working hours primarily uses data from the LFS. The LFS data enables us to measure how working hours and working hours perceptions have changed over time. It also enables us to compare how working hours and working hours perceptions compare to those in other occupations.

The analysis involved several key steps, including identifying FE teachers and a suitable comparison group in the data, ensuring comparability in the two groups, and defining the key indicators for reporting.

4.1. Identifying FE teachers and a suitable comparison group

FE teachers

We define these using SOC codes and SIC2007 codes, as defined in Section 2.

Similar workers

For our comparison group, we included all other workers in the LFS in England who are not FE teachers. We reweight this group so that it better resembles FE teachers in terms of key characteristics: highest qualification level, age, gender, region and – in some instances – working pattern (i.e. whether the person is full-time or part-time).

We reweight the other workers group to improve comparability in these specific characteristics with the FE teachers group. This ensures that the distribution of these characteristics is the same among the FE teachers and the comparison group. We use a technique called entropy balancing to reweight the other workers group within each survey wave and derive a 'similar workers' group.² The original ONS weights are used as a starting point for these adjustments.

It is important to note that this re-weighting approach does not remove all the underlying differences in characteristics and motivations between FE teachers and similar workers. However, it minimises the risk that any observed differences in working conditions are driven by differences in the distribution of these key characteristics. Nonetheless, no comparison of different occupations should be interpreted as the effect of entering that occupation, although working conditions, and employees' perceptions of them, can be influenced by entering that occupation rather than another.

4.2. Variables used in the analysis

The variables in the LFS survey which we reported on are as follows:

Working hours in the reference week for full-time workers

Average (mean) response to a derived variable which calculated total hours worked across all jobs in the latest week.

² Hainmueller, J., & Xu, Y. (2013). ebalance: A Stata Package for Entropy Balancing. *Journal of Statistical Software*, 54(7), 1–18. <https://doi.org/10.18637/jss.v054.i07>

We looked at the average hours for workers for full-time workers only. We also restricted analysis to those who worked a full-time schedule, identifying individuals who had worked at least five days during the reference week using responses to the question ‘In the week ending Sunday the ..., on which days were you scheduled to work?’. We also restricted this analysis to those who were not off work on those days despite being scheduled to work, using responses to the question ‘In that week, did you have any days off work because you were sick or injured?’.

Proportion who ever report working overtime

Average (mean) of a measure based on a question about whether people ever work paid or unpaid overtime.

Proportion wanting to work fewer hours

Average (mean) of a measure that is derived from a combination of responses and routed questions regarding whether someone is seeking to work fewer hours. This variable is created based on whether respondent is looking for a different or additional paid job, and whether they would like to work fewer hours than in their current job. See LFS user guide for further details.

Proportion wanting to work fewer hours even with less pay

Same as above except we also look at information about whether they want to work fewer hours than in their current job even with less pay.

4.3. The analytical approach to the LFS

Obtaining an average

The LFS is a quarterly data collection with a longitudinal design. This means that respondents are sampled for one quarter and can then feature in up to four further quarters. For this project, we are primarily concerned with annualised estimates of the variables of interest. To obtain these estimates from quarterly data, we followed the suggested approach by ONS. For an approximation of an academic year, we look at four successive quarterly waves, starting with those in October to December, and finishing with those in July to September.³ We then:

1. Calculate the mean of the variable of interest (see above) for FE teachers and similar workers in each quarter, using the weightings obtained from entropy balancing for the latter group. We also calculate the standard error of that estimate.
2. Obtain a value for the academic year by calculating an ‘average of averages’ using the averages obtained from the four quarterly waves for that academic year. (Specifically, we sum the quarterly averages and divide by four).

Because respondents will feature in successive waves, estimates from each wave will be correlated. We specifically adjust our estimate of the standard errors for this using a variance formula. The variance formula for the annual estimate described above equals:

³ FE academic years begin in August and end in July. Here, we treat an academic year as being between October and September. Unlike our other workforce reports, this is not quite the closest alignment that can be achieved in the data (which would be July to June). We do this for simplicity in analysing four workforce groups and the ability to compare groups in future reports.

$$\text{Var}\left(\frac{\hat{\theta}_4 + \hat{\theta}_1 + \hat{\theta}_2 + \hat{\theta}_3}{4}\right) = \frac{1}{16} \left(\sum_{j=1}^4 \text{Var}(\hat{\theta}_j) \right) + 2 \sum_{j < k, j, k=4} \rho_{jk} \sqrt{\text{Var}(\hat{\theta}_j) \text{Var}(\hat{\theta}_k)}$$

where $\hat{\theta}_j; j = 1, \dots, 4$ are the quarter-specific estimates (averages) for a specific academic-year, $\text{Var}(\hat{\theta}_j); j = 1, \dots, 4$ is the variance of each estimate and ρ_{jk} is the correlation coefficient between the estimate in the quarter j and k for a specific academic year.

This latter term means that, for example, the correlation between quarters 1 and 2, ρ_{12} , differs between the 2015/16 and 2016/17 academic years. We therefore simplify this formula by following Holmes and Skinner's⁴ observations: for a given variable, we use only one representative correlation coefficient for any pair of quarters a given number of periods apart. Hence, regardless of the academic year, we use one correlation coefficient for estimates separated one period (i.e. $\rho_{43}, \rho_{12}, \rho_{23}$ are the same across academic years), another for estimates separated two periods (i.e. ρ_{42}, ρ_{13} are the same across academic years) and another for those three periods apart (i.e. ρ_{41} are the same across academic years).

Estimation of these three coefficients is based on the autocorrelations of the quarterly estimates. In other words, the correlation coefficient for estimates separated by one period is given by the first autocorrelation coefficient across the estimates, and so on.

4.4. Sample sizes

The sample sizes in the LFS analysis are shown in **Table 5**. Sample sizes for each individual measure differ depending on the extent of missing data for each measure. The table is illustrative as it summarises the sample sizes from only one measure: **proportion reporting wanting to work fewer hours**. (The sample size for some questions, like those about working hours, have smaller sample sizes, because we limit the sample to full-time workers.)

The sample sizes of both FE teachers and similar workers have generally been falling slightly over time, which is due to falling response rates to the LFS across the whole population, although there has been a partial recovery in the later years.

Where we compare our key measures over time and between FE teachers and similar workers, we test whether any differences were statistically significant by conducting a t-test that the difference was statistically significantly different from zero (at the five per cent level).

⁴ Holmes, DJ and Skinner, CJ (2000) Variance estimation for Labour Force estimates of Level and change. *GSS Methodology Series*, No 21.

<https://webarchive.nationalarchives.gov.uk/ukgwa/20160105160709/https://www.ons.gov.uk/ons/guide-method/method-quality/specific/gss-methodology-series/gss-methodology-series--21--variation-estimation-for-labour-force-survey-estimates-of-level-and-change.pdf>. Last retrieved: January 2026

Table 5 - Sample sizes for LFS analysis

Year	Number of FE teachers	Number of similar workers
2010/11	756	133,710
2011/12	757	134,600
2012/13	634	129,766
2013/14	553	132,152
2014/15	519	130,068
2015/16	442	124,564
2016/17	515	122,146
2017/18	531	123,385
2018/19	495	115,919
2019/20	418	101,091
2020/21	428	112,209
2021/22	335	93,099
2022/23	172	65,616
2023/24	198	65,218
2024/25	316	95,127

Source: NFER analysis of Labour Force Survey data for 2010/11 to 2024/25.

5. APS – Analysis of FE teachers’ wellbeing and workplace perceptions

5.1. Overview of the approach

The APS is comprised of aggregated data from four quarters of LFS data plus a boost sample. As the APS includes additional measures that are not available in the LFS, such as wellbeing and workplace perceptions, we also analyse data from the APS to look at how FE teachers compare to similar workers.

We take the same approach to this analysis as described for LFS above, with the following exceptions:

- Instead of pooling quarterly data into academic years, we simply use the APS in calendar years. This means each wave of data only contains one observation from each individual and our variance estimates do not need adjusting as in the LFS.
- We only had APS data to the end of 2024, rather than the end of the 2024/25 academic year. In addition, much of the data we use is only available from 2020.

5.2. Variables used in the analysis

The variables in the APS survey that we reported on are as follows:

Proportion who agree they have opportunities for career progression

Average (mean) based on a 5-category Likert scale variable (Strongly disagree, Disagree, Neither disagree nor agree, Agree and Strongly agree) that reports workers' agreement with the following statement: 'My job offers good opportunities for career progression'. We treat 'Agree' and 'Strongly Agree' as 1 and any other response as 0.

Proportion who agree their employers involve employees and their representatives in workplace decision making

Average (mean) of a 5-category Likert scale variable (Very poor, Poor, Neither good nor poor, Good, Very good) that reports workers' opinion on how poor or good their managers are at involving employees and their representatives in decision making. We treat 'good' and 'very good' as 1 and any other response as 0.

Subjective wellbeing (0-10 scale)

Average (mean) of a 10-point scale variable that reports workers' response to the following questions:

- Life satisfaction: 'Overall, how satisfied are you with your life nowadays where 0 is 'not at all satisfied' and 10 is 'completely satisfied'?'
- Feelings things done in life are worthwhile: 'Overall, to what extent do you feel that the things you do in your life are worthwhile where 0 is 'not at all worthwhile' and 10 is 'completely worthwhile'?'
- Happiness: 'Overall, how happy did you feel yesterday where 0 is 'not at all happy' and 10 is 'completely happy'?'

- Anxiety: ‘On a scale where 0 is ‘not at all anxious’ and 10 is ‘completely anxious’, overall, how anxious did you feel yesterday?’

You can find out more about these questions [here](#).

5.3. Sample sizes

The sample sizes in the APS analysis are shown in **Table 6**. Sample sizes for each individual measure differ depending on the extent of missing data for each measure. The table is illustrative as it summarises the sample sizes from only one measure: **the proportion who agree they have opportunities for career progression**. Sample sizes in the APS appear smaller than the LFS data because each APS wave strictly contains one response per person, whereas in the LFS data the same person could be featured up to four times – see LFS section for more details.

Table 6: Sample sizes for APS analysis

Year	Number of FE teachers	Number of similar workers
2020	201	35,258
2021	121	32,560
2022	111	27,163
2023	79	20,248
2024	91	23,559

Source: NFER analysis of Annual Population Survey data for 2021 to 2024.

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