

The Effects of High-Quality Professional Development on Teachers and Students

Introduction and background

By international standards, the quantity of CPD currently provided in England is low. The most reliable international comparisons of teachers' CPD are found in the OECD's 2018 Teaching and Learning International Survey (TALIS). This study found that full-time primary teachers in England reported spending, on average, 55 hours a year on professional development, while full-time lower-secondary teachers averaged only 43 hours a year, well below the OECD average for full-time lower-secondary teachers of 62 hours a year.

Furthermore, it is likely that the majority of CPD currently being provided in England does not meet all the criteria for high-quality CPD. Recent Research carried out by Wellcome as part of the 'CPD challenge' found that only 11 per cent of survey respondents' CPD met all the criteria of 'high quality CPD' as defined by the Department for Education.

The Education Policy Institute (EPI) was commissioned by Wellcome to evaluate the costs and benefits of a policy which would entitle all teachers to 35 hours of high-quality, continuing professional development (CPD) every year. In order to do this, analysts from EPI conducted wide-ranging review of existing research and examined a large number of relevant datasets.

Key findings

Existing research and research gaps

- There is a lack of data on the quantity and quality of CPD undertaken by teachers in England. The best nationally representative data is collected in the OECD's TALIS survey, which was most recently conducted in 2018. However, TALIS surveys only 4,400 teachers at 300 schools every 5 years and does not always ensure that data is comparable across waves.
- It has been suggested that an increase in teaching skill may improve not only pupil outcomes, but also teachers' wellbeing. However, the evidence on this is very mixed: in the literature review, EPI found that of 53 trials, only 7 quantified effects on other outcomes for teachers, and most did not find statistically significant results.
- EPI's literature review did, however, uncover some evidence that CPD can have an impact on teachers' practices and on pupil attainment.
- An evaluation of the Nat STEM learning network provides robust evidence of a link between CPD and teacher retention. It found that the odds that an individual teacher stays in the profession the year after participating in an NSLN course are around 160 per cent higher than similar non-participants. The extent to which this finding is generalisable across all phases and subjects is not clear.
- A study by Chetty, Friedman and Rockoff concluded that an improvement in teacher quality produced young adults who are more productive in the labour market, and who receive higher earnings. There is a big jump in lifetime productivity returns around achieving below or above 5 good GCSEs. As teachers become more skilled, pupils are likely to achieve more good GCSEs, to progress further in education, benefitting from the CPD which teachers have received.
- There is a problem with using test scores as the single measure of pupil attainment. Firstly, they do not capture improvements in pupils' socioemotional skills. Secondly, they do not capture data for pupils who are unlikely to gain 'good' GCSEs, such as those with special needs.
- A previous study by EPI previously undertook a comprehensive literature review to find the impact of high-quality professional development on pupil learning. The review found that high-quality CPD for



teachers has an average effect size equivalent to one month of extra learning. The effect size on external tests was one extra GCSE grade on average. However, within that average effect, there are also many CPD programmes that have no measurable effect on pupils' attainment.

- The literature review uncovered evidence about how long it takes for CPD to have an impact on teaching. It found many programmes which took a year or less to produce an impact. However, several meta-analyses such as the study by Fletcher-Wood and Zuccollo, found no connection between the length of time and the impact.

policy could reap significant benefits for the country, whereas poor implementation would achieve little or no gain.

Cost-benefit analysis

- In order to estimate the cost-benefit analysis of the implementation of the policy, analysts constructed a number of scenarios. They construct a central scenario which is based on exact implementation – i.e., an additional 35 hours of high-quality CPD.
- The central scenario uses a 10-year time frame and assumes that 425,000 teachers a year will be undertaking the high-quality CPD.
- The central scenario assumes an annual per-pupil cost of £54. This is based on the cost of the Dialogic Teaching study which was evaluated by the Education Endowment Foundation. It offered round the same number of hours as the proposed policy and had a positive effect size. The estimated pupil cost equates to an annual cost of approximately £398 million in the first year of the policy. The total cost of the policy is £4bn over the 10-year period.
- According to the central scenario, over the 10-year period, an estimated 13 million pupils will be impacted. It is assumed that the impact will be strongest for those who are affected by the policy for the longest period.
- Using the above-mentioned Nat STEM study, the central scenario assumes that the policy would reduce attrition by around 12,000 full time equivalent (FTE) teachers a year.
- Based on 2 prominent estimates from the US (Hanushek, 2010 and Chetty et al, 2014), the central scenario estimates that pupils each gain a total benefit of around £3,000 from their teachers' additional CPD.

Costs, benefits, and conclusions

- Collating costs and benefits in line with the central scenario gives a net value of £61 bn – i.e., implementation of the policy over 10 years provides benefits equal to a £61 bn increase in lifetime incomes. With a total estimated cost of £4bn, this implies that the benefits of this policy proposal are around 19 times the costs.
- Analysis of different scenarios (e.g., modelling different levels of CPD quality, hours of delivery) revealed that the quality of the CPD is the most important factor. Excellent implementation of the

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<https://epi.org.uk/publications-and-research/the-effects-of-high-quality-professional-development-on-teachers-and-students/>