



# Discrete choice experiments

## A unique approach to understanding teacher retention in England

Maintaining an adequate supply of teachers in the education sector is both a challenge and an area of significant concern. Of the teachers who qualified in 2013, 67.7 per cent remained in service after five years.<sup>1</sup> The number of secondary school teachers has been falling since 2010 and the number of teachers leaving for reasons other than retirement has been rising since 2012. Coupled with the fact that the number of secondary pupils is increasing, and is expected to keep rising, this situation has placed intense pressure on teacher supply.

Previous evidence shows that pay is deemed to be one of the most important factors influencing a teacher's decision to stay in a role, together with the workload and flexibility of working hours.<sup>2</sup> However, up until now, no study has measured the relative importance of all the various factors that could influence teacher retention, nor quantified the impact that changes to these factors could have. To help fill this gap, researchers from RAND Europe analysed the evidence with the use of discrete-choice experiments – the first time, to our knowledge, that this approach has been used to better understand teacher retention and preferences.

## An innovative approach

At the core of the project was a survey that contained two discrete-choice experiments (DCEs), in which respondents were presented with ten scenarios of teacher job options, described by pay, rewards and other employment characteristics.

The rigorous design of the DCEs was built on detailed background research, discussion and consultation with experts in the subject area, including members of the School Teachers' Review Body secretariat.

We surveyed 2,210 school teachers in England via Teacher Tapp, an online application, the Survey Engine Ltd platform and the Teacher Voice Omnibus Survey service from the NFER (National Foundation for Educational Research). The survey sample was broadly nationally representative of the teacher population, covered a wide range of school types, school roles and contract types and was drawn from the full spectrum of the pay scale. This provided a robust dataset for our analysis of teachers' preferences.

**Figure 1: Sample question from the study's discrete choice experiments**

## Which job would you choose?

**Remain in your current post**

### JOB A

Your annual pay is 5% higher than now

Total working hours increase by 10%

10 days Continuing Professional Development (CPD) in total each year:

- 3 days CPD in school with all the staff
- and 7 days CPD at courses of your choice out of school

Very likely to be able to move from full-time to part-time working if you request it

You have sufficient support in your role from school leadership; but insufficient support from peers and supporting staff

Poor behaviour is rarely a serious problem

### JOB B

Your annual pay is 15% lower than now

Total working hours reduce by 5%

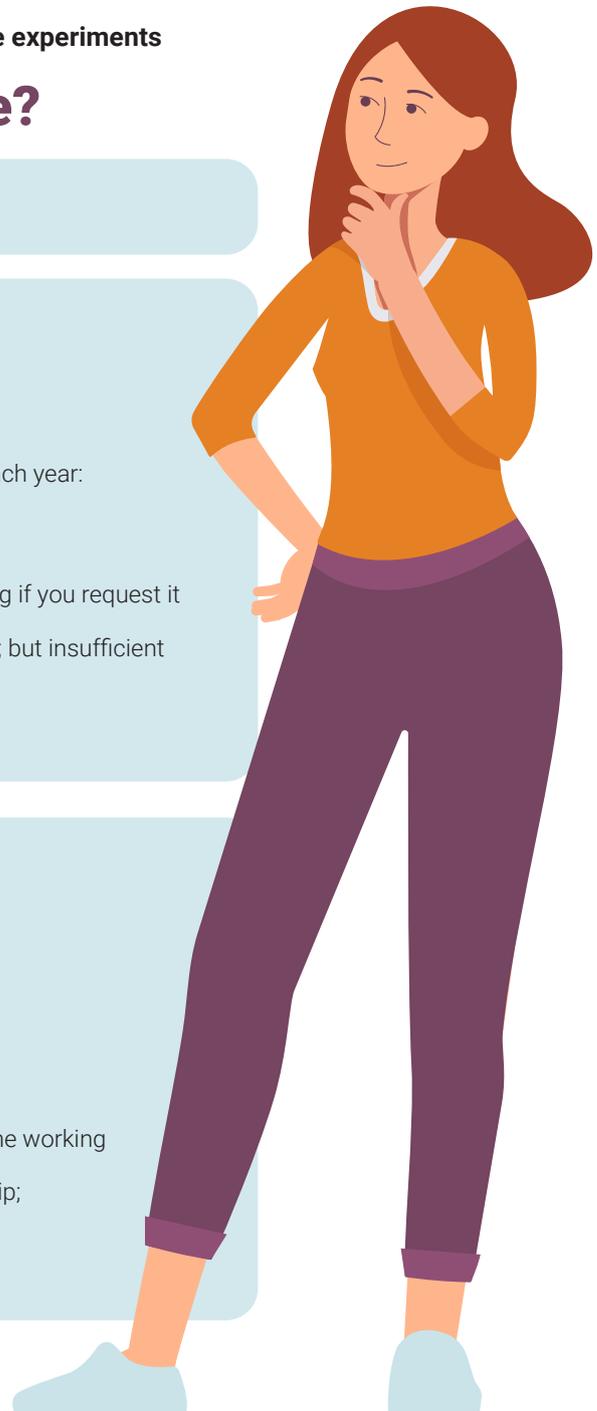
10 days CPD in total each year:

- 5 days CPD in school with all the staff
- and 5 days CPD at courses of your choice out of school

Very little possibility regarding moving from full-time to part-time working

You have insufficient support in your role from school leadership; but sufficient support from peers and supporting staff

Poor behaviour from a few students disrupts a few lessons



## Key findings



Teachers would be willing to trade-off higher pay/rewards for non-financial work characteristics, such as work in a supportive environment with fewer challenges from pupil behaviour.



Pay and rewards are important retention factors, but they are not the only factors that shape teachers' retention choices.



The level of workload impacts significantly on teachers' choices.



Teachers value greater investment in their professional development.



Respondents value the option of having the flexibility to access part-time arrangements.



Teachers prefer situations where they receive support from school leadership and peers. They have shown a strong disinclination towards poor teaching environments.



Respondents prefer larger pay-scale steps, and a quicker rate of progression when their performance is rated as excellent.

## Policy implications

The choices made by teachers are influenced by a variety of work-related factors, as well as variables related to an individual's current employment and socio-economic characteristics. Previous evidence has repeatedly found that a wide range of factors have influenced teacher retention, such as pay, workload and flexibility of working arrangement, etc. Our findings are consistent with this but go deeper by providing insight into how they interact with each other in teachers' retention choices, quantifying their relative impact and revealing how these preferences differ between different groups of teachers.

No single intervention will effectively resolve teacher workforce shortages. Policies seeking to improve retention rates of teachers are likely to be multi-faceted. Therefore, a set of interventions, developed to target the preferences and expectations of specific groups of teachers, is likely to be necessary.

Using the DCE model output, an accompanying forecasting model was used to provide unique insights into the relative effectiveness of different policy interventions to strengthen or highlight those characteristics of the employment environment that are valued by teachers.

Our study shows which job characteristics matter most to teachers in England, highlights

the trade-offs they would be willing to make between pay and other characteristics of the work environment, and provides knowledge of which subgroups of teachers may be more or less responsive to different changes.

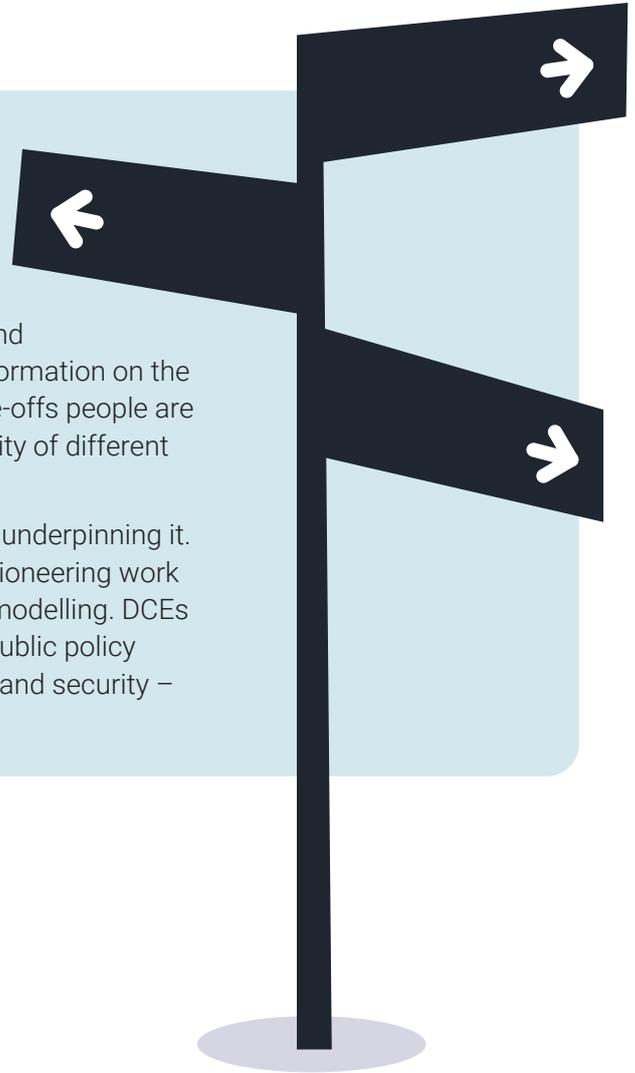
Implications from the study that are relevant to policymakers include:

- Supporting schools to improve current working conditions – such as reducing workload, and enabling flexibility of moving to part-time working – could assist in improving teacher retention.
- The levels of support within the school environment and levels of student behaviour are highly valued by teachers.
- Larger pay scale steps and a quicker rate of progress for performance that is rated as excellent are both valued by teachers. The policy focus might therefore be on how to ensure this is applied in a way that is fair and consistent.
- While pay levels are clearly important, this research suggests that investment in non-pay aspects could be highly effective in improving retention, and there could be benefits from undertaking a fuller cost-benefit analysis of different options.

## What is a DCE?

Discrete-choice experiments are a quantitative research method for valuing different factors that influence people's choices. This approach has emerged as a very attractive method for researchers and policymakers alike, because it provides quantitative information on the relative importance of various characteristics, the trade-offs people are willing to make between these factors and the probability of different combinations being taken up.

This research method has thorough economics theory underpinning it. Daniel McFadden won the Nobel Prize in 2000 for his pioneering work in developing the theoretical basis for discrete-choice modelling. DCEs have been widely applied to several different areas of public policy – for example, health and social care, the environment and security – and now, in education and teacher retention.



## Caveats

All the development work and survey fieldwork took place before the COVID-19 pandemic, which seriously affected England, particularly the education sector. Some attitudes towards teaching may have changed in the light of subsequent experiences.

## Endnotes

- 1 Department for Education (DfE), 2019, 'School workforce in England: November 2018.' As of 13 January 2021: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/811622/SWFC\\_MainText.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811622/SWFC_MainText.pdf)
- 2 National Foundation for Educational Research (NFER), 2018, 'Teacher Retention and Turnover Research – Research Update 4: How Do Teachers Compare to Nurses and Police Officers'. As of 14 December 2020: <https://www.nfer.ac.uk/publications/NUFS05/NUFS05.pdf>

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