Education
Endowment
Foundation

Tutor Trust Primary

Evaluation report and Executive summary

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(National Foundation for Educational Research)

The Education Endowment Foundation (EEF)

The Education Endowment Foundation (EEF) is an independent grant-making charity dedicated to breaking the link between family income and educational achievement, ensuring that children from all backgrounds can fulfil their potential and make the most of their talents.

The EEF aims to raise the attainment of children facing disadvantage by:

- Identifying promising educational innovations that address the needs of disadvantaged children in primary and secondary schools in England;
- Evaluating these innovations to extend and secure the evidence on what works and can be made to work at scale;
- Encouraging schools, government, charities, and others to apply evidence and adopt innovations found to be effective.

The EEF was established in 2011 by the Sutton Trust, as lead charity in partnership with Impetus Trust (now part of Impetus-The Private Equity Foundation) and received a founding £125m grant from the Department for Education.

Together, the EEF and Sutton Trust are the government-designated What Works Centre for improving education outcomes for school-aged children.

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The project was independently evaluated by a team from the National Foundation for Educational Research. The lead evaluator was Helen Aston.

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Executive summary

The project

The Tutor Trust is a Manchester-based charity that aims to provide affordable small group and one to one tuition to schools. The Trust recruits university students and recent graduates, which enables it to provide tuition at a competitive rate. It predominantly aims to support schools in challenging communities and pupils who are looked-after or eligible for free school meals.

This evaluation assessed the impact of the Tutor Trust on the English and mathematics attainment of 95 pupils in Years 6 and 7. Participating students could receive up to 15 hours tuition whilst in Year 6 and a further 10 hours tuition in Year 7. The evaluation also explored schools' perceptions of the need for affordable tuition and their assessments of the quality of the service provided, in order test the feasibility of the approach and provide formative feedback to the Tutor Trust.

The project was funded by the Education Endowment Foundation (EEF), the SHINE Trust and Manchester City Council. A separate evaluation of the impact of the Tutor Trust on the GCSE results of pupils in Years 10 and 11 is available on the EEF website.

Key conclusions	
1.	Due to the study's design and problems recruiting schools to receive tuition or participate in the evaluation, this evaluation has not provided a secure estimate of the impact of the project on pupil outcomes.
2.	Participating pupils made slightly less progress in both English and mathematics than those in the matched comparison group. However, this finding was not statistically significant, meaning that it could have occurred by chance.
3.	Schools involved in the qualitative interviews were positive about the tuition, keen to work with the Tutor Trust again, and largely confident that the tuition was beneficial for their pupils. All teaching staff and senior leaders interviewed believed that there was a need for more affordable, high quality tuition.
4.	School staff who we spoke to believed the quality of tutors was generally high and that, the quality of tutors greatly influenced the impact of the programme.
5.	To ensure pupils derive maximum benefit, it is recommended that the Tutor Trust continues to put additional mechanisms in place to monitor tutor performance and conduct and that schools also implement such mechanisms. In addition, classroom teachers need to be involved in the planning and management of tuition so that it is not viewed as a 'bolt-on' and complements work in the classroom.

Security rating

Security rating awarded as part of the EEF peer review process

Overall, the findings from this evaluation have very low security. The evaluation was set up as an efficacy trial, meaning that it aimed to test the approach under ideal conditions in a moderate number of schools. However, limitations of the evaluation design, and problems with the number of participants that the Tutor Trust were able to recruit to the programme and the evaluation, means that the results should be treated with caution.

The evaluation used a quasi-experimental design, which enabled a comparison to be made between participating pupils and other pupils who were similar in terms of their demographic and socio-economic characteristics. A weakness of this design is that it does not take into account the unobservable characteristics of pupils, such as their motivation or the quality of the leadership in their schools. As a result, the findings are less secure than findings from randomised controlled trials.

It had been hoped that at least 100 pupils would receive tuition in both maths and English, and provide data for the evaluation. However, data was only received from 82 pupils for English and 59 pupils for

maths. This substantially reduced the likelihood that the evaluation would be able to detect an effect with security.

The qualitative fieldwork undertaken was based on the views of 13 senior leaders; 7 classroom teachers; 21 Year 6 pupils and 16 Year 7 pupils who had received tutoring; and 10 tutors.

Results

On average, participating pupils, including those eligible for free school meals, made marginally less progress than pupils in the comparison group. However, the differences in outcomes were not statistically significant, meaning that they could have occurred by chance. Overall, it is not clear from this evaluation whether the approach had an impact on student learning. A large majority of tuition was delivered in small groups rather than one to one, but the evaluation was not able to assess the relative impact of different group sizes. Only pupils who received some tuition in both primary and secondary were included in the analysis.

In general, teachers in participating schools were positive about the tuition provided and a large majority of the senior leaders we interviewed were keen to work with the Tutor Trust again. Tuition was perceived to be most effective when tutors possessed strong pedagogical skills and subject knowledge, and were able to engage and interact successfully with pupils and target sessions appropriately. Other important points noted included: the value of involving English and mathematics teachers in planning sessions; the potential to use tutors as a familiar face across the transition from primary to secondary school. To increase the consistency of tutor quality more formal feedback from schools could be introduced.

How much does it cost?

At the time of the evaluation the Tutor Trust would charge primary or secondary schools between £18 and £26 for an hour of tuition. Based on groups of three pupils receiving 25 tuition sessions, the total cost of the intervention is estimated at approximately £185 per pupil.

In this project primary schools paid a flat fee of £1,000 for tuition irrespective of the number of pupils tutored and secondaries were offered tuition free of charge.

Group	Effect size	Estimated months' progress	Security rating	Cost
All pupils (English)	-0.08	-1 month		**£££**
All pupils (maths)	-0.04	-1 month[1]		**£££**
FSM pupils (English)	-0.05	-1 month		**£££**
FSM pupils (maths)	-0.02	-1 month		**£££**

[1] *Since this report was published, the conversion from effect size into months of additional progress has been slightly revised. If these results were reported using the new conversion, all would be reported as 0 months of additional progress rather than -1, with the exception of the English result for all pupils, which would remain as -1 months. See* ***here*** *for more details.*

Introduction

Intervention

The Tutor Trust is a charity based in Manchester that aims to provide affordable small group and one to one tuition to schools. It was established in 2011 following a £180,000 grant from the Education Endowment Foundation. The Trust recruits university students and recent graduates, which enables it to provide tuition at a competitive rate. It predominantly aims to support schools in challenging communities and pupils who are looked-after or eligible for free school meals.

The Tutor Trust rigorously screens tutor applicants to ensure that they have the appropriate mix of academic skills, teaching ability and interpersonal skills. It accepts around 30 per cent of applicants. It also delivers structured training to equip tutors with the ability to: decide on a long-term tuition plan for pupils; assess pupils' grades/levels; plan a tuition lesson tailored to the needs of the pupil (this includes using the seven-point tuition plan structure); manage pupil behaviour; give praise and encouragement effectively; identify a pupil's preferred learning style(s) and alter tuition accordingly; and teach English and mathematics appropriately. The Tutor Trust also ensures that tutors have valid Disclosure and Barring Service checks and organises the tuition sessions.

In this project, funded through an additional £78,000 grant from the Education Endowment Foundation and co-funding from Manchester City Council and the SHINE Trust, Tutor Trust tutors were paid to deliver tuition to pupils in Year 6 and again in Year 7. The schools selected the pupils who received tuition in Year 6 and these pupils were all offered tuition again in Year 7. Some pupils only received tutoring in Year 6 and so are outside of the scope of this evaluation. Generally, pupils had different tutors in Year 7 than they did in Year 6. All tutoring took place on the premises of the participating schools. Schools chose either one to one or small group tuition. The tuition was designed to meet the needs of individual schools and pupils, hence the format and content of sessions varied (though tutors were provided with a model on which to broadly base tuition sessions). Year 6 pupils received tutoring between January and July 2013. Once in Year 7, these pupils received tuition again between October 2013 and June 2014.

Based on the data provided by schools (see Appendix 4 for the schools' pupil data form), fifteen English tuition sessions were delivered per pupil at primary school and two to ten at secondary school, with an average of six sessions at secondary. The number of mathematics tuition sessions delivered per pupil ranged from ten to 13 at primary school and one to ten at secondary school, with an average of 12 sessions at primary and five sessions at secondary. Some pupils received tuition on a weekly basis, others, particularly in secondary schools, received tuition more frequently (e.g. in one school, pupils received tuition every day for two weeks). Tuition sessions lasted approximately one hour and took place in school hours or during after school sessions. Where tuition was provided in school hours, pupils missed a lesson to receive tuition.[2]

Background

The rationale for establishing the tuition programme was based on the effectiveness of private tuition according to previous academic studies. The evidence synthesised within the Sutton Trust-EEF Toolkit[3] suggests that one to one tuition, where a student receives intensive tuition, generates five months of

[2] Across the primary and secondary schools, pupils missed a variety of lessons for their tuition. Each school adopted their own approach, some choosing to take pupils out of English or mathematics lessons, others opting for students to miss other subjects. In some cases the same lessons were missed each week, in others, the pattern varied.

[3] Available: **https://educationendowmentfoundation.org.uk/resources/teaching-learning-toolkit/one-to-one-tuition/**

progress on average, and that small group tuition generates four months of progress on average. The evidence base related specifically to tuition delivered by university students is weaker. However, a small number of US studies have found that programmes led by college students can lead to improvements in student outcomes (Elbaum *et al*., 2000), suggesting that this is an area worthy of further evaluation in the UK.

Transfer to secondary schools is a time of particular vulnerability for pupils from disadvantaged backgrounds. Pupils experience a significant dip in their learning as they transfer to secondary schools, especially pupils from disadvantaged backgrounds, which contributes to the widening gap in performance between those from more and less advantaged backgrounds (Evangelou *et al.*, 2008; Evans *et al.*, 2010).

The EEF commissioned this independent evaluation to establish whether the Tutor Trust is achieving its aims, and to what extent the model is perceived to be sustainable, in relation to demand and delivery of low-cost tutoring in schools in Manchester. The Trust has expanded since its inception and, in the two years it has been operating, has delivered over 25,000 hours of tuition to more than 3,000 pupils across over 100 primary and secondary schools. It has 450 tutors working in all ten Greater Manchester local authorities.

Our evaluation focuses on the effectiveness of providing tuition to pupils in Year 6 and again in Year 7. It has also provided formative information to the Tutor Trust. We offered suggestions for improvements to the tuition service following the process evaluation in the primary schools, and again following the process evaluation in the secondary schools. The Tutor Trust has taken steps to address our formative feedback at each stage.

An efficacy study looking at the effect of the Tutor Trust's Key Stage 4 tutoring on pupils' GCSE English and mathematics results is available separately on the EEF website.

Objectives

The central object of the impact evaluation is to provide an **outcome** evaluation of tutees' results in English and mathematics:

- Do pupils who have received tutoring obtain higher results than those in the comparison group in Year 6 and Year 7?
- Do pupils who receive tutoring in Year 6 and Year 7 outperform those who only receive tutoring in Year 6?[4]

The process evaluation focuses on the model and its implementation, including the following:

- Is the service fulfilling the identified need (i.e. lack of high quality affordable tutoring)? Do headteachers and school staff agree there is such a need?
- Are the tutors 'high quality'; are they offering high quality tutoring?
- Are tutors delivering the tuition sessions in line with schools' expectations?
- Is the Trust meeting its recruitment targets?

Project team

NFER directed and led the process and impact evaluations. Helen Aston was Project Director. Emily Buchanan led the process evaluation and Jack Worth led the impact evaluation. Nick Bent, Director of

[4] This objective was not met due to small sample sizes. Please see section on 'Analysis' for further detail.

the Tutor Trust was responsible for engaging schools in the tuition, gaining schools' consent to participate in the evaluation and collecting specified student data.

Ethical review

The evaluation was delivered in accordance with NFER's Code of Practice. The Tutor Trust secured schools' consent to participate in the evaluation (see Appendix 1). Schools were also provided with 'opt out' consent letters for parents. These set out the requirements of the evaluation and asked parents to inform the school if they were not willing for their child to participate. Gaining opt-out consent is sufficient to satisfy the requirements of the Data Protection Act[5] for processing personal data (see Appendix 2) Additionally, NFER sought and secured consent from all interview participants to collect and use their anonymised data (see Appendix 3). Given the age of the pupils, it was deemed appropriate for head teachers to act in *loco parentis* and to give their consent for pupils' involvement in interviews.

[5] Data Protection Act (1998) **http://www.legislation.gov.uk/ukpga/1998/29/contents**

Methodology

Impact evaluation design

The evaluation used a quasi-experimental design to evaluate the impact of tutoring on test scores. There was no randomisation at either the school or pupil level. This means that there are limitations (discussed further below) to the extent that we can interpret the measured differences in test scores as the causal impact of tutoring. Given the strong existing evidence base related to tuition (particularly one to one tuition) this design was judged to be appropriate. In essence, the evaluation was designed to enable the evaluation team to check whether the effects were broadly similar to those found in previous studies.. To have the best chance of secondary schools agreeing to provide tuition in Year 7, the Tutor Trust targeted the feeder primary schools of the secondary schools with which they had an established relationship.

The comparison group was formed of pupils who were in the same cohort and the same secondary schools as tutored pupils, but who attended primary schools that did not receive Tutor Trust tuition. This ensured that the reason the comparison pupils were not tutored was because the Tutor Trust was not working with their school, rather than because pupils were not selected based on individual factors. This design means the comparison group is likely to be a more robust comparison than a design comparing tutored pupils with their primary school classmates. The primary school classmates of tutored pupils did not receive tuition because of characteristics/reasons that the teacher was aware of. These characteristics are likely to be associated with progress in test scores, meaning any comparison between tutored pupils and their primary classmates is likely to be biased. Had the untutored classmates been in schools where the tutor trust was working, they may have been selected for tutoring. They are therefore a better estimate of what might have happened to tutored pupils if they hadn't been offered tutoring: in other words, the bias is likely to be lower.

The comparison group pupils are weighted in the analysis to balance the background characteristics at baseline. We did this by giving more weight in the analysis to comparison pupils that are more similar to tutored pupils, and giving less weight in the analysis to comparison pupils that are less similar to tutored pupils. The measure of 'more similar' we used was the propensity score (the propensity score estimates the predicted probability of being in the tutored group). To estimate the propensity score we used a logistic regression[6] with pupils' prior attainment, gender, month of birth, eligibility for free school meals (FSM), English as an additional language (EAL) and special educational needs (SEN) as predictor variables. We drew this data from the National Pupil Database (NPD).[7] The weight for comparison pupils was calculated to be the odds ratio of the propensity score: the predicted probability of being tutored divided by the predicted probability of not being tutored. The intervention pupils had a weight of one in the analysis. We calculated weights separately for English and mathematics because the group of tutored pupils differed between the two subjects. As a result, the average characteristics of comparison pupils are much closer to the average characteristics of tutored pupils than they would be if we simply compared the two groups.

[6] Logistic regression measures the relationship between a set of 'independent' or 'predictor' variables and a binary 'dependent variable', which in this case is whether a pupil was tutored or in the comparison group.

[7] The National Pupil Database (NPD) contains detailed information about pupils in schools and colleges in England. The data includes test and exam results, prior attainment and progression at different Key Stages for pupils in the state sector, and attainment data for students in non-maintained special schools, sixth-form and further education colleges. The database also includes information about pupils' characteristics, such as gender, ethnicity, first language, eligibility for free school meals, special educational needs (SEN), pupil absence and exclusions.

Unlike in a randomised controlled trial, we cannot be confident that unobserved background characteristics that are a factor in schools' decisions to nominate pupils for tutoring (such as a pupil being particularly motivated to learn), or the unobserved characteristics of the schools the pupils attend, are balanced between the intervention and the comparison group at baseline. This means that our estimates of the impact have to be interpreted carefully: any differences in test score could also be the result of underlying differences that were not taken into account in the matching because we had not measured those characteristics.

The NFER team designed pupil data forms which were administered to schools by the Tutor Trust (an example is provided in Appendix 4). These forms asked schools to provide information on the tuition in their school, including pupil names and background characteristics, tuition subject, tutor-pupil ratio, number of tuition sessions and whether or not tutees missed lessons for their tuition. The analysis was based on the information provided in these forms, matched with additional pupil level data from the National Pupil Database.

Eligibility

The Tutor Trust sought to recruit primary schools in Manchester to receive the tutoring. While any primary school in Manchester was eligible to receive tuition and the sample was self-selecting at the school level, the Tutor Trust specifically sought to recruit feeder primary schools of the secondary schools in which it was already delivering tuition. A core part of the model was that schools had freedom to select whichever pupils they wanted to receive tuition. There were therefore no pupil level eligibility criteria for receiving tuition. We asked schools to identify why they had selected individual pupils to receive tutoring, from a list of options (see 'Participants' section in Results). The main reason for selection was underachievement relative to expected attainment at Key Stage 2, which is assessed at the end of Year 6.

Consent

The Tutor Trust secured schools' consent to participate in the evaluation (see Appendix 1). Schools were also provided with 'opt out' consent letters for parents. These set out the requirements of the evaluation and asked parents to inform the school if they were not willing for their child to participate. Gaining opt-out consent is sufficient to satisfy the requirements of the Data Protection Act[8] for processing personal data (see Appendix 2) Additionally, NFER sought and secured consent from all interview participants to collect and use their anonymised data (see Appendix 3). Given the age of the pupils, it was deemed appropriate for head teachers to act in *loco parentis* and to give their consent for pupils' involvement in interviews.

Intervention

Tutors recruited and trained by the Tutor Trust were paid to deliver tuition to pupils in Year 6 and again in Year 7.[9] Some pupils only received tutoring in Year 6, but they are outside of the scope of this evaluation. Generally, pupils had different tutors in Year 7 than they did in Year 6.

All of the tutors involved in the programme had to pass a two-stage recruitment process, administered by the Tutor Trust. The process was designed to ensure that tutors had the appropriate mix of academic skills, teaching ability and interpersonal skills. The first round or recruitment consisted of a written, online application form modelled on the Teach First application form and designed in consultation with Teach First and Pricewaterhouse Coopers (PwC). There were also minimum qualification requirements: primary tutors had to have at least an 'A' in maths and English GCSE (or equivalent). Additionally, tutors

[8] Data Protection Act (1998) **http://www.legislation.gov.uk/ukpga/1998/29/contents**

[9] The tutors were trained in either primary or secondary tuition, or both. There was no specific training for the Year 6 to Year 7 transition.

were asked to detail their previous experience working with children, to provide a personal statement explaining their motivation for working with The Tutor Trust, and to answer competency-based questions looking at humility, resilience, planning and organisation, and creativity. The second round of recruitment involved a short face-to-face interview with Tutor Trust staff to probe applicants' motives, experience, dependability and communication and interpersonal skills.

Tutors received a minimum of two-and-a-half days of structured and unpaid training before starting tutoring. The training sessions comprised:

- A three-hour evening session on safeguarding, professionalism, why tuition matters and working with The Tutor Trust. The session was led by Tutor Trust staff.
- A full-day session on lesson planning, learning styles, behaviour management, varying lessons, differentiation, creating a scheme of work for a tuition assignment and progress tracking across an assignment with the pupil. An educational consultant led this session.
- A full-day session on teaching numeracy and literary to Year 5 and 6 pupils, delivered by educational consultants, who were commonly current or former teachers or senior leaders. The focus was on subject-specific tasks; curriculum understanding; common mistakes and misconceptions pupils may hold; teaching tools; assessing the level that pupils are working at; and selecting suitable tuition material.

Tutors were also given access to additional CPD sessions; a range of Tutor Trust online resources; regular opportunities to interact informally and share problems and solutions with each other; and support from Tutor Trust staff as needed. All tutors were introduced to a seven-point tuition plan to structure tuition sessions (introduction, remember, model, try, apply, secure, reflect) during their training, but encouraged to deviate from it as appropriate. Hence, the nature and content of tuition sessions varied with the needs of individual schools and pupils.

Year 6 pupils received tutoring between January and July 2013, and again between October 2013 and June 2014 once they moved into Year 7.[10] All tutoring took place on the premises of the participating schools. Schools chose either one to one or small group tuition. Table 1 below sets out the proportion of pupils who received individual, small group, or large group tuition and were included in our analysis. Note that there is a high volume of missing data, where schools opted not to provide this information.

Table 1: Tutor to pupil ratios

	Primary		Secondary	
Tutor-pupil ratio	Maths	English	Maths	English
No information given	28%	77%	44%	5%
1 to 1	5%	-	7%	18%
1 to 2	28%	11%	21%	20%
1 to 3	5%	7%	28%	57%
1 to 4	32%	5%	-	-
1 to 9	1%	-	-	-

Based on the data provided by schools (see Appendix 4 for the schools' pupil data form), fifteen English tuition sessions were delivered per pupil at primary school and two to ten at secondary school, with an average of six sessions at secondary. The number of mathematics tuition sessions delivered per pupil

[10] It was intended that the tuition took place in secondary schools between September and December 2013.

ranged from ten to 13 at primary school and one to ten at secondary school, with an average of 12 sessions at primary and five sessions at secondary. Some pupils received tuition on a weekly basis, others, particularly in secondary schools, received tuition more frequently (e.g. in one school, pupils received tuition every day for two weeks). Tuition sessions lasted approximately one hour.

Pupils who received tutoring were compared to other pupils in the same secondary school. We do not know what other initiatives the comparison pupils have been involved in. It may be the case that other pupils received other initiatives, in which case the analysis compares Tutor Trust tuition with what would otherwise have taken place.

The process evaluation highlighted a number of fidelity issues. The delivery model was deliberately flexible and non-prescriptive but, in some cases, the tuition was not delivered in the autumn term (as intended), and not all of the secondary schools agreed to offer tuition in both English and mathematics, which meant that some pupils did not receive the intended tuition in Year 7. A further fidelity issue concerns the quality of tutors. The Tutor Trust programme is intended to provide high-quality tuition, but some schools from both years of the process evaluation have raised issues with tutor quality.[11] More information is provided under the sub-heading 'Fidelity' later in the report.

Outcomes

Tutor Trust tutoring in English and mathematics is designed to increase the development of reading and mathematical ability. Two tests provided by GL Assessment were selected to measure these outcomes: Progress in English 12[12] and Progress in Maths 12[13], respectively. The tests are appropriate for the age of tutored and comparison pupils and are aligned with the National Curriculum in England. The tests were taken by pupils from February to May, 2014. They were administered by staff at the secondary schools and marked and systematically checked by trained NFER markers. Schools were asked to deliver the tests under exam conditions.

The main analysis used the raw score (number of items correct) as the outcome variable, rather than an age standardised score, which could introduce floor and ceiling effects. Progress in English 12 has a maximum mark of 58 and Progress in Maths has a maximum mark of 50.

Sample size

The number of pupils that received tutoring was determined by Tutor Trust, participating schools and the available grant funding. In the academic year 2012-13 the transition tutoring programme intended to offer tuition to around 250-300 Year 5 and Year 6 pupils across a number of primary schools in Manchester. Around 200 of these pupils were intended to receive further tutoring from the Tutor Trust in Year 7 in the academic year 2013-14. This evaluation focused solely on the Year 6 pupils who went on to receive tuition in Year 7.

The evaluation protocol[14] made a conservative assumption that the number of intervention pupils and the number of comparison pupils would each be 100, clustered in 30 primary schools with an intra-cluster correlation of 0.15. The correlation between pre-test and post-test was assumed to be 0.75 and the level of confidence 95 per cent. We estimated that such a sample would give us a 35 per cent probability of detecting an effect size of 0.2 and an 88 per cent probability of detecting an effect size of 0.4. The sample size calculations suggested that the design had a 76 per cent probability of detecting

[11] The Evaluation of the Tutor Trust programme in Secondary Schools (forthcoming) also raises tutor quality as a fidelity issue.

[12] For more information **please see: http://www.gl-assessment.co.uk/products/progress-english**

[13] **For more information please see: http://www.gl-assessment.co.uk/products/progress-maths**

[14] **http://educationendowmentfoundation.org.uk/uploads/pdf/Launch_-_Tutor_Trust_Primary.pdf**

an effect size of 0.34, the average effect size found by previous research on small group tuition, so the study design seemed to be adequately powered.[15]

The comparison group was drawn from a much larger number of pupils than the intervention pupils, but because the comparison sample is weighted by the propensity score odds ratio, the weighted number of comparison pupils was necessarily similar to the number of pupils in the intervention group. Therefore, the determining factor for the statistical power the actual analysis has is the number of intervention pupils that are analysed.

However, the number of tutored pupils tested was below 100. This was largely due to four of the secondary schools withdrawing from the evaluation, and to two of the secondary schools only providing tutoring and/or testing for either English or mathematics, not both.[16] The result of a smaller sample size (plus a lower than expected correlation between pre-test and post-test and a lower than expected intra-cluster correlation (ICC) coefficient) is a larger minimum detectable effect size (MDES): the original design estimated a MDES of 0.36, whereas the actual analysis has a MDES of 0.51 for English[17] and a MDES of 0.54 for mathematics.[18] See the participant flow diagram below for more details of the actual sample size.

Analysis

The analysis was conducted using a weighted linear regression model.[19] A set of covariates are included in the model to explain outcome variance and increase precision: these variables were prior attainment (average points for Key Stage 1 reading and writing, and Key Stage 1 mathematics points); age in months at post-test; gender; eligibility for free school meals (FSM) in the last six years; English as an additional language (EAL); and special educational needs (SEN). Data for all background characteristics, except for gender and age at post-test which were collected from schools, were from the National Pupil Database (NPD).

No information was collected on whether a pupil was selected for tutoring but did not go on to receive it. Therefore, the analysis was not done on an 'intention to treat' basis[20]. Because the sample of comparison pupils was drawn from primary schools that the Tutor Trust had no relationship with, it could not include pupils that opted out of tutoring, or had not been selected for tutoring. The analysis, therefore, estimated the average treatment effect among those that received the intervention.

[15] **Teaching and Learning Toolkit: https://educationendowmentfoundation.org.uk/resources/teaching-learning-toolkit/small-group-tuition/**

[16] The schools were free to decide whether they would offer both English and mathematics tuition, despite the free offer provided by the Tutor Trust. The secondary schools that withdrew from the evaluation did so on the grounds that they did not have time to provide information on the tuition received and to administer the required tests.

[17] Correlation between pre-test and post-test = 0.68, rather than 0.75; number of pupils = 82*2 = 164; ICC = 0.13; number of secondary schools = 13.

[18] Correlation between pre-test and post-test = 0.68, rather than 0.75; number of pupils = 59*2 = 118. ICC = 0.13. Number of secondary schools = 13.

[19] Linear regression measures the relationship between a set of 'independent' variables (also known as covariates) and a continuous 'dependent variable', which in this case is a pupil's test score. The regression model is weighted so that comparison pupils that are most similar to tutored pupils make the biggest contribution to the comparisons in the analysis.

[20] 'Intention to treat' means that the analysis is based on the initial intentions to provide tuition, rather than whether or not pupils actually received tuition. Our analysis was not done on an 'intention to treat' basis: if a pupil was intended to receive tuition, but for some reason did not, they would be excluded from our analysis.

The protocol specified that Year 5 optional test data would be collected from schools and used as the measure of prior attainment. As this test is closer to the beginning of the intervention, it would be a better covariate than Key Stage 1 points because it is likely to be more highly correlated with the post-test outcome. Both Year 5 optional tests and Key Stage 1 points are preferable to Key Stage 2 points, because the Key Stage 2 assessments were taken by pupils after the primary tuition had finished. However, as many primary schools were unwilling to give Year 5 optional test data to NFER, we have used Key Stage 1 points as the measure of prior attainment as this is available for all pupils from the National Pupil Database (NPD). This is a deviation from the published protocol.

We had intended to explore whether pupils who received tutoring in Year 6 and Year 7 outperformed those who only received tutoring in Year 6. We were unable to do this level of analysis due to the smaller than anticipated size of our intervention and comparison groups, and the small number of post-test scores for pupils who received tuition in Year 6 but not in Year 7.

The protocol also specified that a multilevel model would be used to account for clustering of pupils within primary schools. There were two deviations from protocol on this part of the analysis. Firstly, we decided to cluster by secondary school as the size of primary school clusters was very small in many cases. This was due to the wide range of schools that comparison pupils had come from, which was unknown at the outset of the project. Also, as the intervention was at pupil-level and the outcome measure was taken in the spring term of secondary school, clustering at secondary school was most appropriate.

Secondly, the method for accounting for clustering was changed from a multilevel model to simply including school indicators as dummy variables. If clustering is not taken into consideration, the models may result in an overestimation of intervention effects. However, a 'fixed effects' modelling approach to taking account of the hierarchical nature of the data is preferable to multilevel modelling where the treatment is at pupil level; the way pupils are selected into schools is not well understood; and the background data is not very detailed (Clarke *et al*., 2010). All three of these conditions apply to this analysis, so a dummy variable for each of the 13 secondary schools is included in each regression model, with the dummy variable for the largest school excluded as the base.

Along with the main analysis of the impact of English tutoring on reading attainment and of mathematics tutoring on mathematics attainment, we conducted the same analysis for the sub-group of pupils eligible for FSM. Sub-group analysis examines whether the interventions are particularly effective for FSM pupils. Exactly the same regression model as the main analysis was run on a sample restricted to just pupils eligible for FSM.

Process evaluation methods

We collected qualitative data from six of the primary schools and five of the secondary schools in which the Tutor Trust delivered tuition.[21] We selected schools that had received the most hours of tuition (based on data provided by the Tutor Trust) as we felt that they would be better placed to provide rich data on the implementation of the tutoring and its perceived impact than those schools which had only received a small volume of tuition. We also sought to include a range of school types within the qualitative sample. Replacements were made where schools were not able to participate in the research[22]. When selecting the secondary schools, we also avoided those schools participating in the

[21] Out of the eight primary schools and 13 secondary schools that were included in the impact evaluation.

[22] Two primary schools and 3 secondary schools who were initially approached to participate in the process evaluation did not feel able to participate, and were subsequently replaced. This was largely due to the schools not having time to accommodate the evaluation, or because schools were non-responsive to our initial request. However, one secondary school was replaced as they had not received

separate evaluation of the Tutor Trust secondary school programme. NFER researchers collected all of the data. The Tutor Trust was not involved in the selection process and was not told which schools participated.

We spoke to a cross section of Year 6 pupils, staff and tutors in primary schools receiving the tuition, repeating this methodology in Year 7. We did not seek to re-interview the particular pupils we interviewed in Year 6 when they had progressed to Year 7 (i.e. we did not seek to track particular pupils as they progressed from primary to secondary school in the qualitative strand of the study). The data contained interviews with:

- 13 members of senior management
- seven classroom teachers
- 21 Year 6 pupils and 16 Year 7 pupils who had received tutoring
- 10 tutors.

The interviews took place in the primary schools in the Summer term in 2013, and in the secondary schools in the Summer term 2014. This was either after or near to the end of the tutoring period. The interviews (largely carried out face-to-face) allowed us to explore all aspects of the tuition in depth, and to gain a school-, tutor- and pupil-level perception of the tutoring and its effectiveness.

The interviews with senior managers and classroom teachers covered the following topics:

- contextual data on the school and its intake
- how the tuition was implemented in school (e.g. number, frequency, duration and length of sessions, reasons for offering tuition and how pupils were identified, tutor-pupil ratios)
- whether tuition took place as originally planned
- satisfaction with the quality of tutors and tuition
- satisfaction with the service provided by the Tutor Trust
- suggested improvements
- impacts on pupils
- whether the tuition would be beneficial in other schools and other areas.

Interviews with pupils covered:

- their experience of tutoring (e.g. whether they enjoyed it, what they thought of the tutors and the sessions)
- whether the tuition was beneficial or not (and the reasons behind their answers)
- if the tuition could be improved.

Interviews with tutors addressed:

- motivations for becoming a tutor
- the training and support received from the Tutor Trust
- whether they felt any improvements could be made to the training and support
- their experiences of tutoring
- impact on their tutees.

Subject to the permission of participants, interviews were recorded and interviewers took handwritten notes. Interviews were summarised for each question (including verbatim quotes). The data was analysed using thematic codes in relation to each question/section of the interview schedule. The qualitative fieldwork was relatively small in scale and the sample size was insufficient to analyse data

tuition when the process evaluation interviews were due to take place and another withdrew as they opted out of the entire evaluation (e.g. both the process and impacts strands). .

by type of tuition delivered or received – such as one to one tuition versus small group tuition – which was not an aim of the evaluation.

Impact evaluation

Timeline

Activity	Timescale
Recruiting primary schools	April 2012 to April 2013
Tuition in primary schools	January 2013 to July 2013
Recruiting secondary schools	April 2013 to April 2014
Tuition in secondary schools	October 2013 and June 2014
Testing in secondary schools	February to May 2014

Participants

Recruitment

The Tutor Trust recruited primary schools in the run up to, and during, the academic year 2012/13. Manchester City Council, who part-funded the primary pilot suggested certain primary schools to the Tutor Trust that they thought would welcome a partnership with them. The Tutor Trust's partner secondary schools from the 2011/12 academic year also recommended local partner primary schools to the Tutor Trust. The Tutor Trust recruited secondary schools in the run up to, and during, the 2013/14 academic year. The Trust sought to recruit those secondary schools who were receiving the largest numbers of pupils who had been tutored in Year 6. The Tutor Trust recruited schools through: directly approaching schools via letter, email and telephone; word of mouth recommendations; repeat customers; and through Tutor Trust promotion at local authority-wide events.

Participating schools

The characteristics of the pupils in the participating primary and secondary schools are provided in Tables 2 and 3. They are compared with the average respective characteristics of all primary and secondary school pupils in England. The Tutor Trust primary and secondary schools have more pupils with FSM than the average school in England (62 per cent of primary schools and 88 per cent of secondary schools fall into the highest 20 per cent of schools for their FSM intake, compared to 14 per cent and 18 per cent of primary and secondary schools in England, respectively). They also have lower scores in national examinations (e.g. 57 per cent of Tutor Trust primary schools fall into the lowest 20 per cent of schools for their Key Stage 2 average points score, compared to 20 per cent of all primary schools).

Tutor Trust primary schools were lower performing and more disadvantaged on average than comparison schools, and compared to all English primary schools. The only difference between Tutor Trust primary schools and all English primary schools that was statistically significant was that schools are more disadvantaged.

Table 2: Characteristics of participating secondary school pupils

Variable	Value	All secondary schools	Tutor Trust secondary schools
GCSE total point score (quintile)	Lowest 20%	18%	8%
	2nd lowest 20%	20%	31%
	Middle 20%	20%	46%
	2nd highest 20%	20%	0%
	Highest 20%	22%	15%
Free school meals (quintile)	Lowest 20%	16%	0%
	2nd lowest 20%	24%	8%
	Middle 20%	24%	0%
	2nd highest 20%	22%	31%
	Highest 20%	14%	62%
School type	Academy	51%	31%
	Community school	32%	31%
	Voluntary aided	10%	38%
	Voluntary controlled	1%	0%
	Other	6%	0%
Urban	Rural	17%	8%
	Urban	83%	92%
Ofsted rating	Outstanding	23%	8%
	Good	49%	69%
	Requires improvement	24%	15%
	Inadequate	4%	8%
Number of secondary schools		3,389	13

Note: totals may not sum to 100% due to rounding. Chi-squared test of significance, p-values: GCSE quintile = 0.07, FSM quintile = 0.00, school type = 0.07, urban/rural = 0.40, Ofsted rating = 0.34.

Table 3 Characteristics of participating primary school pupils

Variable	Value	All primary schools	Comparison primary schools	Tutor Trust primary schools
Key stage 2 average points (quintile)	Lowest 20%	20%	21%	57%
	2nd lowest 20%	19%	30%	14%
	Middle 20%	20%	20%	14%
	2nd highest 20%	19%	14%	14%
	Highest 20%	22%	15%	0%
Free school meals (quintile)	Lowest 20%	21%	5%	0%
	2nd lowest 20%	21%	5%	0%
	Middle 20%	21%	16%	0%
	2nd highest 20%	20%	16%	13%
	Highest 20%	18%	59%	88%
School type	Academy	9%	13%	13%
	Community school	56%	43%	38%
	Voluntary aided	20%	33%	38%
	Voluntary controlled	13%	11%	13%
	Other	2%	0%	0%
Urban	Rural	33%	2%	0%
	Urban	67%	98%	100%
Ofsted rating	Outstanding	18%	25%	25%
	Good	62%	55%	63%
	Requires improvement	19%	19%	13%
	Inadequate	1%	1%	0%
Number of primary schools		17,641	132	8

Note: totals may not sum to 100% due to rounding.

Table 4 sets out the reasons given for selecting the Year 6 pupils who received mathematics and/or English tuition in Year 6 and then again in Year 7. Some of the data is missing, where schools chose not to provide it. This is particularly the case for English. The data we have indicates that underachievement relative to expected attainment at Key Stage 2, which is examined at the end of Year 6, is the most commonly cited reason. Pupils being at risk of not achieving Level 4 was also a motivating factor in requesting tuition in most primary schools. This is likely due to accountability pressure to reach the floor standard of 60 per cent of pupils achieving at least Level 4 in reading, writing and mathematics.

However, eight and five pupils respectively were given tutoring in order to achieve the relatively high Levels 5 and 6 at Key Stage 2, so pushing the most able was a motivation for some.

Table 4 Reasons for selection of Year 6 English and mathematics tutees

Tutoring subject	Reason for tutoring	Number of pupils	Percentage
English	No reason given	50	57
	Underachieving	15	17
	SATs	9	10
	Sentence structure, writing styles	7	8
	To assist with achieving KS2 reading level 3	1	1
	To assist with achieving KS2 reading level 4	3	3
	Total	87	100
Mathematics	No reason given	21	22
	Pupil is underachieving	13	14
	SATs	34	35
	To assist with achieving KS2 mathematics level 3	2	2
	To assist with achieving KS2 mathematics level 4	13	14
	To assist with achieving KS2 mathematics level 5	8	8
	To assist with achieving KS2 mathematics level 6	5	5
	Total	96	100
Total number of pupils tutored in one or both subjects		103	

Note: includes all pupils that were assessed for eligibility and does not match the sample analysed because some were missing other data. See participant flow diagram.

Participant flow

Figure 1 sets out the number of Tutor Trust and comparison pupils included in the analysis. A number of factors contributed to the lower than anticipated number of pupils included in the analysis, which we outline below.

Firstly, a far larger number of the pupils in our dataset received tutoring in mathematics (n=207) than in English (n=121). This was largely due to the choices made by the primary schools and, in some cases, the secondary schools about which subject(s) their pupils should receive tutoring in. Demand for tutoring in mathematics was higher than demand for English tuition. We had anticipated a more even split in the numbers of pupils tutored in each subject in our evaluation design and were initially concerned that our analysis on the impact of English tuition would be limited by the low numbers. In fact, the imbalance

was reversed, because a higher proportion of math tutees than English tutees attended secondary schools that did not administer the maths test.

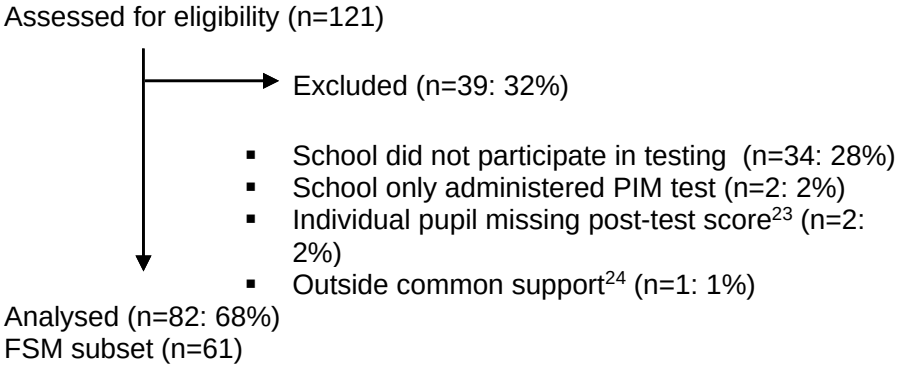
Second, many of the pupils tutored at primary school were not tutored at secondary school, because they went to secondary schools that did not participate in tutoring. Due to the level of administrative burden involved, four of the secondary schools that received the highest numbers of tutored primary pupils chose not to participate in the evaluation and/or the tutoring. Further, two secondary schools only administered one of the two tests we used as our outcome measure: one chose not to administer PiE tests and one chose not to administer PiM tests. This was sometimes due to the preferences of the subject teachers in those schools: some felt that the test would not be beneficial and hence opted not to administer it. One school opted only to provide English tuition for their pupils, despite large numbers (approximately 40) having received tuition in mathematics in their primary school. Again, this was due to the preferences of that school.

This school level non-participation lowered the number of tutored pupils included in our analysis considerably. We excluded 30 per cent (n=36) of pupils who had received tuition in English and 71 per cent (n=146) of those tutored in mathematics because of it. Therefore the number of pupils tutored in mathematics (n=59) in the final analysis was lower than the number of pupils tutored in English (n=82).

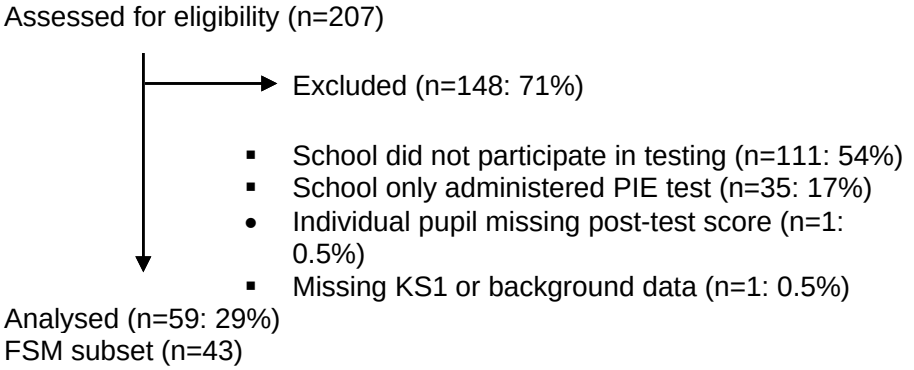
The number of secondary schools that chose not to administer the PiE and PiM tests was also a crucial factor in the size of the comparison group being lower than anticipated. Six of the 13 secondary schools that participated in testing only agreed to test the tutored pupils, which explains the high number of comparison pupils whose school did not administer either test. A large proportion of comparison pupils (70 per cent for English and 67 per cent for mathematics) were excluded from our final analysis for this reason. Schools choosing to administer only one of the two tests, as noted above, also adversely affected the number of pupils in the mathematics comparison group. It should be noted that the large difference between the number of comparison pupils assessed for eligibility and the number of comparison pupils analysed is not a concern in terms of biased attrition because of the quasi-experimental design. The comparison group was constructed after the data collection including every pupil that had test outcome and background data.

Figure 1: Participant flow

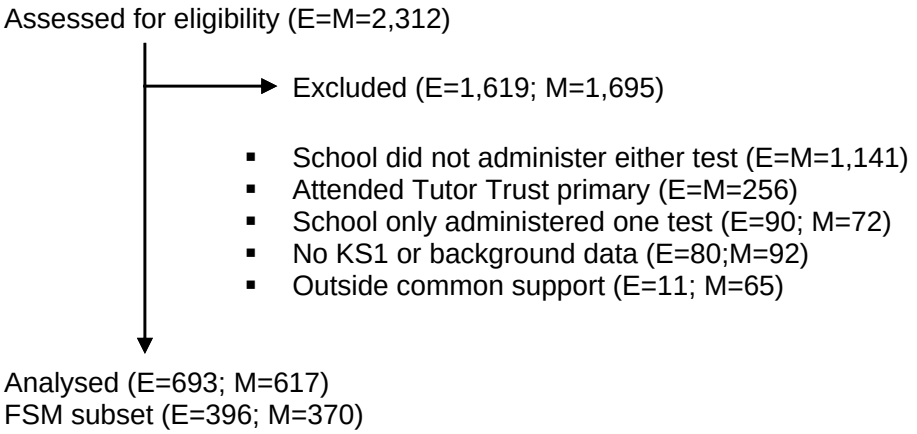
Tutor Trust pupils receiving tutoring in English



Tutor Trust pupils receiving tutoring in mathematics



Comparison Group Pupils: E = n(English), M = n(mathematics)



[23] This could be due to, for example, pupil absence on the day of testing.

[24] Comparison group pupils that had characteristics that were outside the range of characteristics of the intervention pupils (and vice versa) were excluded from the analysis because their characteristics differed too much to make robust comparisons. More formally, if a comparison group pupil is 'outside common support' it means their propensity score is outside the range of propensity scores in the intervention group, and vice versa.

Pupil characteristics

Table 5 displays the average characteristics of pupils in the English tutoring group and the comparison group. The third column shows the difference between the intervention and comparison group averages and the fourth column indicates whether the difference is statistically significant at the five per cent level. Average prior attainment is significantly lower in the intervention group, and tutees are more likely to be eligible for free school meals and less likely to have English as a first language.[25] The fifth to eighth columns show the same for the intervention group and the comparison group weighted by propensity score. The significance test indicates that after weighting there are no significant differences between the tutored and comparison groups on average.

Table 5: Demographic data of English intervention and comparison pupils (full sample and propensity score weighted sample)

	Full sample				Propensity score weighted sample			
Background variable	**Inter**	**Comp**	**Diff**	**Sig**	**Inter**	**Comp**	**Diff**	**Sig**
Average Key Stage 1 points: reading and writing	13.2	14.3	1.1	*	13.3	13.1	-0.2	Ns
Female	54%	58%	4%	ns	55%	54%	-1%	Ns
Pupil Premium	75%	58%	-17%	*	74%	75%	0%	Ns
Special educational needs	22%	17%	-4%	ns	22%	22%	0%	Ns
English as an additional language	7%	23%	15%	*	7%	7%	0%	Ns
Age in months at post-test	145	145	0	ns	145	145	0	Ns
Weighted number of pupils	83	704			82	83		
Unweighted number of pupils	83	704			82	693		
No. of secondary schools	10				10			

*Note: Inter = mean in the intervention group. Comp = mean in the comparison group. Diff = difference in means between intervention and comparison group. Sig = statistical significance of difference in means at 95 per cent confidence level: * = p<0.05, ns = p>0.05. Weighting for each pupil in the full comparison group sample = 1. Differences may appear to not be correct because of rounding.*

Table 6 displays the average characteristics of pupils in the mathematics tutoring group and the comparison group. The table shows that mathematics tutees are more likely to be eligible for free school meals and less likely to have English as a first language.[26] Again, the fifth to eighth columns show that after weighting there are no significant differences between the tutored and comparison groups on average.

Table 6: Demographic data of mathematics intervention and comparison pupils (full sample and propensity score weighted sample)

[25] Tjur's R-squared statistic (the average difference in propensity score between the two groups) is 0.04.
[26] Tjur's R-squared statistic (the average difference in propensity score between the two groups) is 0.02.

	Full sample				Propensity score weighted sample			
Background variable	**Inter**	**Comp**	**Diff**	**Sig**	**Inter**	**Comp**	**Diff**	**Sig**
Average Key Stage 1 points: mathematics	14.2	15.0	0.8	ns	14.2	14.2	0.0	ns
Female	54%	56%	2%	ns	54%	54%	0%	ns
Pupil Premium	73%	56%	-17%	*	73%	74%	1%	ns
Special educational needs	19%	15%	-4%	ns	19%	19%	0%	ns
English as an additional language	14%	26%	13%	*	14%	11%	-2%	ns
Age in months at post-test	145	145	0	ns	145	145	0	ns
Weighted number of pupils	59	682			59	57		
Unweighted number of pupils	59	682			59	617		
No. of secondary schools	12				12			

*Note: Inter = mean in the intervention group. Comp = mean in the comparison group. Diff = difference in means between intervention and comparison group. Sig = statistical significance of difference in means at 95 per cent confidence level: * = p<0.05, ns = p>0.05. Weighting for each pupil in the full comparison group sample = 1. Differences may appear to not be correct due to rounding.*

Numbers analysed

We included 82 tutored pupils and 693 comparison pupils in the analysis of English tutoring; and 59 tutored pupils and 617 comparison pupils in the analysis of mathematics tutoring. The analysis excluded pupils that did not have data for the relevant post-test and pupils that had missing NPD data (Key Stage 1 and background characteristics). Some intervention and comparison group pupils were excluded from the analysis because their background characteristics were not sufficiently comparable (i.e. the propensity score of an intervention pupil lay outside the range of propensity scores in the comparison group, and vice versa). Figure 1 sets out the number of pupils excluded from the analysis for each of these reasons.

Applying the propensity score weights to the comparison pupils means the weighted number of pupils for English and mathematics was 83 and 57, respectively. The comparison group pupils were drawn from eight secondary schools. However, only seven schools were included in each analysis as one school only participated in the English test and another only participated in the mathematics test. The intervention pupils were also drawn from eight secondary schools but an additional five schools only tested the intervention pupils in their school.

Outcomes and analysis

Table 7 presents a summary of results from the impact analysis, summarising the number of pupils in the analysis and the estimated effect size with confidence intervals.

Table 7: Summary of impact analysis results

Group	Effect size (95% confidence interval)	Number of intervention pupils	Number of comparison pupils
English tuition vs. comparison	-0.08 (-0.33, +0.17)	82	693
Mathematics tuition vs. comparison	-0.04 (-0.33, +0.25)	59	617
English tuition vs. comparison (FSM only)	-0.05 (-0.37, +0.27)	61	396
Mathematics tuition vs. comparison (FSM only)	-0.02 (-0.41, -0.37)	43	370

Analysis of English tutoring

The results of the main impact analysis for English tutoring are displayed in Table 8.

Table 8 Analysis of Progress in English raw score

	Coefficient	Standard error	95 per cent confidence interval
Intervention	-1.00	1.57	-4.09 – 2.08
Average Key Stage 1 points: reading and writing	1.69	0.20	1.30 – 2.08
Female	1.49	1.46	-1.37 – 4.35
Pupil Premium (eligible for FSM in the past six years)	-1.93	1.62	-5.10 – 1.25
Special educational needs	-2.03	1.85	-5.66 – 1.60
English as an additional language	6.05	2.88	0.40 – 11.69
Age in months at post-test	0.24	0.19	-0.13 – 0.61
Intercept	21.66	5.88	10.13 – 33.19

Note: Number of pupils: intervention = 82, comparison = 693. Standard deviation of outcome: intervention = 11.98, comparison = 12.36. 'Average Key Stage 1 Points: reading and writing' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 13 per cent of the total variance.

The primary analysis aimed to test whether intervention pupils made significantly more progress than the matched comparison pupils between Key Stage 1 reading and writing and the Progress in English test taken in Year 7. Table 8 shows that there is **no significant difference** between the progress made in the intervention and comparison groups. The standardised effect size calculated using Hedges' g is **-0.08 (CI -0.33–0.17)**.

We also carried out a sub-group analysis to test whether the intervention pupils made significantly more progress than the matched comparison pupils among pupils eligible for FSM in the past six years (the definition used to determine whether the school received extra funding through the Pupil Premium). We did this through:

- restricting the sample to just those pupils eligible for FSM in the past six years. Table 9 sets out these results; and
- including an interaction term in the main regression model, measuring the differential impact of the intervention on FSM pupils compared to non-FSM pupils. The results are shown in Appendix A5.

Table 9 Sub-group analysis of Progress in English raw score

	Coefficient	Standard error	95% confidence interval
Intervention	-0.56	1.91	-4.31 – 3.19
Average Key Stage 1 points: reading and writing	1.70	0.23	1.25 – 2.15
Female	1.64	1.71	-1.72 – 4.99
Special educational needs	-0.07	2.19	-4.36 – 4.21
English as an additional language	4.74	3.21	-1.54 – 11.03
Age in months at post-test	0.09	0.22	-0.35 – 0.52
Intercept	15.88	14.73	-12.99 – 44.76

Note: Number of pupils: intervention = 61, comparison = 396. Standard deviation of outcome: intervention = 11.35, comparison = 11.93. 'Average Key Stage 1 Points: reading and writing' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 16 per cent of the total variance.

The FSM sub-group analysis identified **no significant differences** in progress between pupils in the intervention and comparison groups that were eligible for FSM. The standardised effect size was **-0.05 (CI -0.37 – 0.27)**.

Analysis of mathematics tutoring

Table 10 sets out the results of the main impact analysis for mathematics tutoring.

Table 10 Analysis of Progress in Mathematics raw score

	Coefficient	Standard error	95% confidence interval
Intervention	-0.43	1.58	-3.52 – 2.66
Average Key Stage 1 points: mathematics	1.81	0.21	1.40 – 2.22
Female	0.55	1.54	-2.46 – 3.57
Pupil Premium (eligible for FSM in the past 6 years)	-1.55	1.72	-4.93 – 1.83
Special educational needs	-0.95	1.99	-4.86 – 2.95
English as an additional language	1.11	2.44	-3.67 – 5.89

	Coefficient	Standard error	95% confidence interval
Age in months at post-test	0.03	0.18	-0.33 – 0.38
Intercept	23.16	2.06	19.12 – 27.20

Note: Number of pupils: intervention = 59, comparison = 617. Standard deviation of outcome: intervention = 10.24, comparison = 10.72. 'Average Key Stage 1 Points: mathematics' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 13 per cent of the total variance.

The primary analysis aimed to test whether intervention pupils made significantly more progress than the matched comparison pupils between Key Stage 1 mathematics and the Progress in Mathematics test sat in Year 7. Table 9 shows that there is **no significant difference** between the progress made in the intervention and comparison groups. The standardised effect size calculated using Hedges' g is **-0.04 (CI -0.33 – 0.25)**.

We also completed a sub-group analysis to test whether the intervention pupils made significantly more progress than the matched comparison pupils among a restricted sample of pupils eligible for FSM in the past six years. Table 11 sets out these results. We analysed the FSM sub-group using an interaction term as well and the results of that analysis are shown in Appendix 5.

Table 11 Sub-group analysis of Progress in Mathematics raw score

	Coefficient	Standard error	95% confidence interval
Intervention	-0.24	1.96	-4.15 – 3.47
Average Key Stage 1 points: mathematics	1.72	0.24	1.28 – 2.21
Female	0.91	1.88	-2.08 – 5.18
Special educational needs	-0.13	2.33	-4.58 – 4.35
English as an additional language	1.46	2.57	-3.56 – 6.30
Age in months at post-test	-0.03	0.21	-0.51 – 0.32
Intercept	19.25	2.26	14.86 – 24.01

Note: Number of pupils: intervention = 43, comparison = 370. Standard deviation of outcome: intervention = 9.07, comparison = 10.43. 'Average Key Stage 1 Points: mathematics' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 7 per cent of the total variance.

The FSM sub-group analysis identified **no significant differences** in progress between pupils in the intervention and comparison groups that were eligible for FSM. The standardised effect size was **-0.02 (CI -0.41 – 0.37)**.

Primary schools paid a flat fee of £1,000 for tuition irrespective of the number of pupils tutored. This provided up to ten hours of tuition (and associated preparation) per pupil for the academic year 2012-13. Up to ten hours of tuition (and associated preparation) were provided free of charge for the secondary schools.[27]

[27] At the time of the evaluation, the Tutor Trust would have usually charged schools £18 to £26 for an hour of tuition in primary or secondary schools. The charge would have depended on the ratio of tutors to pupils: 1:1 tuition was charged at £18 per hour; 1:2 at £20 per hour, and 1:3 at £26 per hour.

The cost of managing and delivering the tuition exceeded the fees brought in by the tutoring during the course of the evaluation, with the difference made up by grant income. The Tutor Trust expects to cover its costs from tuition fees alone in the academic year 2014-15.

At the time of the evaluation the Tutor Trust would charge primary or secondary schools not participating in the evaluation project between £18 and £26 for an hour of tuition. Based on groups of three pupils receiving 25 tuition sessions, the total cost of the intervention is estimated at approximately £185 per pupil.

Process Evaluation

Outcomes

At both primary and secondary level, pupils, staff and tutors were positive about the benefits of the tuition. Note however, that the size of the qualitative sample is limited, and the findings should be regarded as indicative.

Progress and attainment. In both primary and secondary schools, teaching staff held mixed views on whether the tuition had helped pupils to advance their learning in the tutored subjects. Very few teachers felt that the tuition would have a direct impact on Key Stage 2 results. When probed, most of the teaching staff we spoke to felt it would be difficult to attribute this impact to any one intervention. Where progress was noted, teachers referred to pupils talking about topics in class that they had covered in the tutoring and making connections between the two. All tutors felt that they observed an impact on their tutees' learning. One Year 7 tutor did assessments at the start and end of the tutoring period and noted real gains in pupils' spelling, punctuation and grammar.

At primary and secondary level, of all the groups of interviewees, pupils were the most positive about the tuition's impact on their learning. They said that tutors had helped them to understand particular topics or to know how to reach higher levels in their assessments. Some pupils directly attributed their successful KS2 or entrance exam results to the extra help they had received from tutors. Year 7 pupils also felt the tuition was helpful as it allowed concepts to be more clearly explained (more than once) and that they got more individual attention: 'when you are in class the teachers didn't get round to you very much because they need to get round to others, but when its one to one it's easier'; '...we had a full 45 minute session and if you still didn't get the hang of it then we will do like another 15 minutes next lesson before you go onto something else'.

Self-confidence, self-esteem and attitude to learning. The qualitative data suggests that the biggest perceived impact of the tuition at primary level was on pupils' self-esteem and confidence. A senior leader described the tutoring as 'a big boost for the children's confidence'. Interviewees reported that, for children from disadvantaged backgrounds in particular, improving confidence around learning can be an important precursor to improving their attainment.

Most teachers, and all tutors and pupils, talked about pupils gaining confidence in their tutored subject, with some being more willing to put their hands up in class or to share learning with classmates. One primary teacher said: 'the children come back and say, "oh I did this with my tutor". What is really nice is a group of children who didn't have a lot of confidence are actually coming into a class and actually sharing what they have been taught and helping other children. It is very positive'. Teachers had also observed pupils contributing more on subjects in which they had received tutoring: 'Before they wouldn't put their hand up, they wouldn't get involved but if they have done it privately with their tutor, they then put their hand up and the involvement's there'. Year 7 pupils (and their teachers) felt they had also grown in confidence in the classroom: 'when you are in a group, you don't want to ask, some people feel embarrassed', and another pupil stated: 'when we went back in class we felt we knew what we were doing'.

Enjoyment: In the main, teachers, tutors and pupils told us that pupils had enjoyed the tuition (in both their primary and secondary school). This in turn impacted on pupils' subject enjoyment and enjoyment of learning more generally.

At primary level, interviewees from several schools reported that pupils wanted to come to school more on days when they had a tuition session scheduled. Pupils were also generally happy to stay on after school to receive tuition, with one pupil commenting: 'Sometimes we had to stay after school but it's worth it because you learn, and it's good for your education'. Some 'loved' the tuition and both primary

and secondary pupils reported that tutors made their sessions fun (for example by letting them plan sessions, giving rewards or treats, and doing computer-based activities). At primary level, working outside the classroom environment was also considered 'exciting' and some pupils enjoyed the stretch provided by the tuition. It created an opportunity to learn different and harder things than they did in class, and offered freedom from having to work at a pace that met the needs of lower-achieving pupils. At both primary and secondary school, many pupils enjoyed the tuition as it provided an opportunity to ask questions without an audience. One Year 7 teacher noted: 'they have really enjoyed it. It has been a really positive thing and it has been in line with what we have been working on in class, and it has shown'.

Transition: The tuition was intended to support pupils' transition by providing additional academic support at the time when pupils from disadvantaged backgrounds are particularly vulnerable to a dip in learning. Tuition was therefore delivered in Year 6 and then in the Autumn Term of pupils' first year in secondary school (Year 7). None of the primary schools had purchased tuition with the aim of improving pupils' transition from primary to secondary school. Some interviewees were surprised to learn that this was an intended outcome of the programme, despite the Tutor Trust making this explicit at the outset. Furthermore, few staff or tutors felt that the tuition would have an impact on pupils' transition to secondary school. However, when prompted, some of these interviewees commented that the improvements seen in attitudes to learning and self-confidence would help pupils to successfully transition. Staff in secondary schools also felt that impacts on transition were limited, but recognised the potential for impact. It was largely felt that the tuition would have had more impact had it been delivered earlier in the academic year, if there had been some communication with the primary schools about the content of the tuition they had received, and if there had been continuity in the tutors: 'It would be nice if tutors could carry on working with them for that transition period...that would be a good bridging between the two schools, helping them to settle in and having that familiar face'. Staff in two secondary schools also noted that the tuition had developed friendship groups and helped pupils to work together better with a wider range of their classmates.

Primary pupils were far more positive about the impact of the tuition on transition. At least some of the pupils from all five of the primary schools felt that the tutoring had helped them to prepare for secondary school. Some pupils told us that they felt less shy about going to secondary school, while others were more confident that they now already knew some of the subject content that they would need post-transition. Year 7 pupils were unsure as to the extent to which the tuition had eased their transition (perhaps unsurprising given that the majority of Year 7 tuition took place in the spring, not the autumn term).

Pupils' aspirations: Impact on aspirations was mentioned by interviewees from three of the primary case-study schools. Each talked about the value of having a university student come into school to act as a positive role model and show pupils what they could achieve. One senior leader noted: 'Children are more motivated and inspired by university students. It shows them this is what you can achieve... you can get to university. Low aspirations are a real issue and the school works hard to say "you can do that". The [Tutor Trust tuition] contributes to that'. Pupils and staff from secondary schools also noted that the tutors being of a more similar age to pupils than their teachers helped to establish rapport and engage pupils.

Behaviour: Almost invariably, interviewees did not report any positive impacts on pupils' behaviour. In most cases, this was because the tutees' behaviour was already good. One secondary teacher commented that as the pupils were used to tutoring from their primary school experience, they were perhaps more willing to engage in the tuition than they might have otherwise been. In a minority of schools, however, while most tuition sessions were well controlled, there were some issues with tutors' ability to manage poor behaviour. As such, these schools felt that the tuition had had a negative impact on the behaviour of some of the children: 'there was a good handful of children who had issues pretty

much every week'. In two secondary schools, pupils' behaviour was said to be problematic in one or two tuition sessions as they were not being stretched appropriately by their tutor.

Does tuition benefit all pupils equally?

There was no clear message from interviewees about the extent to which the tuition impacted on all pupils equally. Rather, interviewees felt that the quality of the tutor and their ability to relate to the pupils and to teach them appropriately was the cause of variations in impact. Primary school teachers who felt that impact had varied according to pupil characteristics, cited one or more of the following groups of pupils as getting more out of the tuition: boys; self-motivated pupils; pupils with a positive attitude (rather than those who felt they were being forced to do the tuition because they were struggling); high achieving pupils; and pupils whose first language wasn't English. Secondary teachers and tutors thought the following benefited most: shy pupils; those who were performing at lower level 4s (as opposed to higher levels 4s and 5s); pupils that usually get overlooked (e.g. they are not particularly high or low achievers and are generally quite motivated and well behaved): 'a lot of the grey kids, who never get noticed, actually get their chance to shine'.

In a minority of cases, the tuition was reported to have some unintended consequences or negative effects. For example, in one secondary school, a tutor consistently turning up late led one pupil to feel very negative about his tutoring session and the fact that he was missing his favourite lesson (drama) to do English tuition. The tutor's lack of reliability also had negative consequences for a range of staff in school who were concerned with keeping the pupil engaged until the tutor turned up, welcoming him back into lessons if the tutor failed to show and liaising with the Tutor Trust to report the unreliability.

Implementation

Is the service attractive to schools and pupils?

The Tutor Trust tuition is attractive to schools, based on the interview data collected. Most of the primary schools accepted the tuition as they needed additional academic support for (some of) their pupils. The tuition offered personalised learning, which schools hoped would have a direct impact on attainment. However, the primary schools involved in the process evaluation did not consider the tuition as a way to ease transition to secondary school. The tuition appealed to the secondary schools too. In most cases the secondary schools were already using Tutor Trust tuition for other year groups. The vast majority of both primary and secondary schools planned to work with the Tutor Trust again. Almost all interviewees stated that they would recommend the Tutor Trust to staff in other schools and spoke very highly of their professionalism and responsiveness: 'Based on providers we've used, the Tutor Trust are the most organised and professional'.

Is the service fulfilling an identified need (i.e. lack of high quality, affordable tutoring)?

Interviewees felt strongly that there is a need for high quality, affordable tuition in Manchester. All interviewed senior leaders felt that this was the case. In some cases, teachers referred to the inability of parents in their school and other 'non-leafy' areas to afford any private tuition, which meant that their children were at a disadvantage.

Most of the teachers we spoke to felt that the Tutor Trust was successfully meeting the need for high quality, affordable tuition. Given that the primary and secondary schools each received either ten or fifteen tutor sessions per pupil, either free of charge or for a one off fee of £1,000 most school staff felt that the tutoring represented good value for money. However in making these judgements, they were often considering the actual costs of tuition, beyond their free of charge/reduced costs entitlement (e.g. primary schools were considering whether or not to buy it next year, and secondary schools were often using Tutor Trust tutors for other year groups). Two secondary schools noted that they can provide the tuition at lower cost in house but they still planned to continue working with the Tutor Trust: 'We've

recognised that this strategy works for our pupils at key points during their education and it is something that will continue to be part of our processes.

Are tutors and tuition sessions high quality?

School staff who we spoke to believed that the quality of tutors was generally high and that the quality of tutors greatly influenced the impact of the programme. For teaching staff, 'high quality' meant possessing the relevant pedagogical skills; being able to engage and interact successfully with pupils and target sessions appropriately; having good subject and curriculum knowledge; and being committed, reliable, flexible to changing needs and willing to work with a range of different pupils. The Tutor Trust advertises its tutors as high quality; indeed, each tutor is subject to a recruitment process, a training programme and ongoing support and quality assurance workshops. Generally, teachers and senior leaders felt that tutors possessed sufficient curriculum or assessment knowledge, but in some cases, there was room for improvement. Some interviewees did not feel able to comment on the quality of tutors teaching style or curriculum knowledge; if they did not work closely with the tutors, they were unable to make that assessment. Across the two years of the process evaluation[28], some concerns over tutor quality remain. In the minority[29] of cases where tutors did not meet the expected quality standards, schools felt that this could have negative impacts on their tutees.

Are tutors delivering the tuition sessions in line with schools' expectations?

The tuition sessions were generally delivered in line with school's expectations. Schools were able to prescribe the frequency and the timing of the tuition, and the Tutor Trust responded appropriately to these requests. By the time of the secondary tuition, senior leaders praised the capacity and flexibility of the Tutor Trust in being able to meet the school's needs, sometimes providing large numbers of tutors in intensive time periods. One secondary school noted that the tuition did not start as early as intended in the school year, which meant that they delivered the tuition in a more intensive time period than was initially planned. The school was positive about this change and did not see it as problematic. Another noted the same shift in timescales, which meant that it was harder to take pupils out of lessons.

There were some deviations from expectations in the primary schools. In one school, tutors did not base their sessions on the children's personalised targets, as requested, and tutor withdrawal or replacement meant that some groups were rearranged, or that some tutors weren't in attendance at the school's briefing meeting. Two primary schools also noted that the tutoring period was shorter than they had expected, but they did not consider this particularly problematic.

In the Tutor Trust meeting its recruitment targets?

The Tutor Trust met its recruitment targets for schools, and succeeded in working with more schools than intended. The Tutor Trust intended that 80 per cent of pupils who received tuition in their primary school would go on to receive tuition in their secondary school. The data we have gathered for the impact evaluation suggests that this target was met for English tuition, but not for mathematics. It should be noted however, that the data set we have been working with is partial and might not truly reflect the numbers of pupils who received tuition. As noted elsewhere in the report, the Tutor Trust were unable to deliver tuition to secondary schools until later in the Academic Year than was intended, reflecting the extensive time and liaison required to recruit and gain access to schools.

Barriers to delivery

The following barriers to delivery were evident across the primary and secondary schools:

[28] And also in the evaluation of the Tutor Trust secondary tuition.

[29]Two of the case-study primary schools and one secondary school raised concerns over tutor quality.

- Variations in tutor quality and reliability. Tutor absences or withdrawal, lateness and (in primary schools) concerns over tutor conduct or ability to manage behaviour were felt to have limited the impact of tuition.
- At secondary level, in most cases, tuition was implemented later than intended. This limited its potential to have an impact on transition.
- A lack of understanding of what was happening in the tuition sessions. This was caused by insufficient communication between classroom teachers and tutors, and was a more significant barrier in the secondary schools. It was evident that senior staff in schools who liaised directly with tutors and the Tutor Trust were not necessarily liaising with the classroom teachers, who were sometimes completely removed from any communication about the tuition.
- One tutor noted that not being able to communicate directly with their school, and vice versa, meant that messages were 'lost in translation' or sometimes not passed on. They felt that this had a detrimental impact on their ability to tutor effectively.
- Lack of feedback for tutors. Tutors would welcome more direct feedback on their performance and tutoring content from both schools and the Tutor Trust. Some called for more quality audits and opportunities to have their progress reviewed.

Key factors for success

Based on the findings from our small-scale qualitative fieldwork, the Tutor Trust tuition is likely to be most successful in bringing about an increase in attainment when:

- Tutors are high quality, possessing the relevant pedagogical skills; subject knowledge; and personal attributes. Tutors need to be able to engage and interact successfully with pupils and target sessions appropriately; have good subject and curriculum knowledge; and be committed, reliable, and flexible to changing needs and willing to work with a range of different pupils. Where tutors are of poorer quality, this can have negative impacts on their tutees.
- English and mathematics teachers are involved in the planning and management of tuition so that it is not viewed as an add-on. It is important that liaison with tutors and the Tutor Trust is devolved to staff who can ensure that the tuition is most appropriate.
- School time is continually invested in working closely with tutors, monitoring progress and establishing feedback mechanisms.
- There is continuity in the tutor-tutee relationship throughout the tutoring period. This helps pupils to form trusting and effective relationships with their tutor, supporting personalisation of learning and consolidation of learning week on week.
- The model of tuition is tailored to best meet the school's and tutee's needs. At primary level, several interviewees felt that one to one sessions were more effective and efficient than small group sessions. This was because tutors found it easier to track pupil progress and pitch work appropriately. Two primary tutors stated that engaging the pupils in after-school sessions was harder than in the sessions they delivered during school time, as the pupils were tired and wanted to be heading home. In contrast, after-school sessions in one secondary school were thought to have worked particularly well.
- Consideration is given to the ways in which schools group pupils (for example, grouping by ability can mean that some groups are 'harder' to manage than others, whilst mixed ability requires more differentiation).
- Particularly at primary level, there is a 'get to know you' session for tutors and tutees so that trusting relationships can be established prior to formal tutoring.

Fidelity

The Tutor Trust model of transition tutoring is flexible by design and primary and secondary schools are free to decide how best to deploy the tutors with their pupils. At primary level, the schools were also

free to choose which pupils would receive tuition. The schools used a combination of pupil-tutor ratios (ranging from one to one to small group tuition). Some schools chose to deliver the sessions after school, others opted to deliver them in school time, either at regular time slots each week, or at varying time slots to avoid pupils consistently missing the same lesson.

Despite the flexibility built into the tutoring, it was not always delivered as the Tutor Trust had intended. The ten sessions of secondary tuition were due to be delivered in the autumn term but, in the majority of schools, the tuition was not delivered until the spring or summer term. Two schools noted that this considerably reduced the value of the transition tutoring. This deviation was due to the schools taking some time to fully understand the offer from the Tutor Trust and to set up the internal logistics to ensure that the right pupils received tuition in their intended subjects, as well as winning the support of teaching staff. In addition, in some schools, the tuition was delivered in a very intensive time period (in one school tuition took place every day for ten school days). This was in order to accommodate the timescales of the evaluation and, although the schools were happy to take on this model of tuition (one believing it would actually be more beneficial for their pupils), it may not always have been the first choice for how to make best use of the free tuition offer. Finally, not all of the secondary schools in the impact and process evaluation delivered both English and mathematics tuition for pupils who were due to receive tuition in both subjects. This meant that some pupils did not receive the tuition intended at secondary school.

A key issue with programme fidelity also relates to quality of tuition. Across the two years of the process evaluation[30], some concerns over tutor quality remain. Given that the quality of the tutor and tuition is considered key to leading to impact, it is imperative that continued attention is given to ensuring all tutors are high quality.

Formative findings

How could the programme be improved?

- The Tutor Trust should continue to address variations in tutor quality to ensure that all tutors are up to the required standard of conduct and performance. Building in additional quality audits, or establishing more formal feedback or performance reviews would be welcomed by schools and tutors alike.
- The Tutor Trust should continue to provide good practice guidance to schools, with practical steps for how schools can make the most out of tuition. This should encourage schools to:
    - better use subject teacher time, with a particular focus on better connecting the tutor sessions with classroom activities and pupils' areas for development
    - set up systems to monitor the content and progress made in tuition sessions
    - host 'start-up' or 'get to know you' events or better utilise the initial tutor meeting to enable staff and pupils to meet tutors and begin to build relationships.
- Schools and the Tutor Trust might seek continuity between tutors across the transition from primary to secondary school.
- The Tutor Trust should enhance clarity around its transition aim to ensure that teachers maximise on this aim and help to improve transition to secondary school.
- It would be valuable for the tuition in secondary school to take place in the autumn term during the transition period for tutees.
- The Tutor Trust should encourage communication between feeder primary schools and secondary schools (specifically regarding the focus that was taken in primary schools and that which is planned for secondary school).

[30] And also in the evaluation of the tutor trust secondary tuition (forthcoming)

Control group activity

There was a matched comparison group for this evaluation, (but no 'active' control group). Rather, we asked the Tutor Trust to refrain from delivering tuition to the classmates[31] of the pupils who received tuition in Year 6, so that we could draw a comparison group from them. At primary level, some pupils did not like the fact that they had been targeted for tutoring, whilst some of their peers had not. This was not a problem for the pupils that we spoke to at secondary level. As the secondary schools effectively inherited pupils with tutoring attached, some schools expressed concern that other Year 7 pupils might have benefitted more from tutoring than those to whom tutoring was being given.

[31] The comparison group did not have Tutor Trust tuition at primary or secondary level, thought we do not know whether tuition was delivered by another provider.

Conclusion

Key conclusions	
1.	Due to the study's design and problems recruiting schools to receive tuition or participate in the evaluation, this evaluation has not provided a secure estimate of the impact of the project on pupil outcomes.
2.	Participating pupils made slightly less progress in both English and mathematics than those in the matched comparison group. However, this finding was not statistically significant, meaning that it could have occurred by chance.
3.	Schools involved in the qualitative interviews were positive about the tuition, keen to work with the Tutor Trust again, and largely confident that the tuition was beneficial for their pupils. All teaching staff and senior leaders interviewed believed that there was a need for more affordable, high quality tuition.
4.	School staff who we spoke to believed the quality of tutors was generally high and that, the quality of tutors greatly influenced the impact of the programme.
5.	To ensure pupils derive maximum benefit, it is recommended that the Tutor Trust continues to put additional mechanisms in place to monitor tutor performance and conduct and that schools also implement such mechanisms. In addition, classroom teachers need to be involved in the planning and management of tuition so that it is not viewed as a 'bolt-on' and complements work in the classroom.

Limitations

There are two main limitations with the impact analysis, one a feature of the design and the other a problem with the implementation of the evaluation. Firstly, the evaluation used a quasi-experimental design to estimate the impact of the tutoring. The second main limitation is that the number of intervention pupils was lower than had been anticipated at the design stage. With only one limitation it may have been possible to generate an evaluation of moderate security. However, together the quality of the assessment was severely limited.

In order to confidently attribute any effect directly to the study, we would have carried out a randomised controlled trial (RCT). As this was not possible, we could not confidently attribute the estimated effect wholly to the tutoring. In an RCT the control group provides an ideal estimate of what would have happened on average if the intervention group had not received the intervention. All the observed, and crucially the unobserved, characteristics of the two groups are likely to be balanced on average at the start of the trial, so when outcomes are measured, the differences can be attributed to the intervention. While propensity score matching balances the observed characteristics at baseline, it does not necessarily increase the likelihood that unobserved characteristics are balanced. If unobserved characteristics are a determining factor of whether the pupil gets tutoring and also correlate with test score outcome, then the impact estimates could be biased, and the extent of the bias is unknown. Interpreting the model relies on the assumption that everything that matters for pupil outcomes is balanced on average between the two groups at baseline.

The research design estimated at the outset that there was a high probability of detecting an effect of 0.34, which is the average size found in previous research on small group tuition. That estimate relied on the conservative assumption that 100 intervention pupils would be tested and analysed for both maths and English. The maximum number of tutored pupils that could have been tested was 121 for English and 207 for mathematics, which would have meant we were more likely to detect smaller effects. However, the analysis was based on (often retrospective) school-level data. Some schools provided very patchy data, despite repeated requests by the Tutor Trust for further detail. Further, the process evaluation revealed that some schools did not keep accurate records of their tuition sessions (e.g. number of sessions per pupil, the tutor-pupil ratio). It is therefore possible that the data provided by schools may not be an accurate record of the tuition that actually took place. Some schools also refused to allow their pupils to be tested and others only agreed to participate in one of the two tests.

This meant that the sample of intervention pupils that were tested and whose results could be analysed was below even the conservative assumption made in the protocol: 82 for English tutoring and 59 for mathematics tutoring. This small final sample size severely limited the ability to detect any effects of reasonable size with the conventional 95 per cent level of confidence: the chances of us detecting an effect size of 0.34 were 48% for English and 42% for mathematics. Therefore, it was expected that that none of the effect size estimates were statistically significant.

In terms of the process evaluation, a larger qualitative sample size would have enabled us to be more confident about the robustness of the findings. This would have been particularly helpful in light of the disconnect between the impact and process evaluation findings.

The Tutor Trust evaluation took place in a small number of secondary schools in Manchester. Tables 2 and 3 show that the schools where tutoring was happening were not representative of schools in the country. In particular, the Tutor Trust primary schools did not have similar average characteristics to schools nationally, nor to primary schools that are feeder schools to the same secondary schools in the same area. The difference in characteristics suggests the findings are not generalisable to a wide set of schools.

Interpretation

It is not surprising that there was no significant difference between the performance of the tutored pupils and their untutored peers due to the small numbers on which the impact analysis is based. It is disappointing that the data set was smaller than predicted as it made detecting any effect highly unlikely. Should the analysis be run again on a larger data set where the tutoring was delivered as intended, the results might be more positive.

The findings do not align with those of other research (synthesised in the Teaching and Learning Toolkit for example[32]) that has highlighted the impact that one to one or small group tuition can have. However, the confidence intervals suggest that the effect of the tuition could be in the range of that seen in similar research. Our process evaluation also highlighted a number of perceived impacts on soft outcomes, such as self-esteem and enjoyment of learning, and on pupils' learning as a result of the transition tutoring.

Our sense is that the Tutor Trust transition tutoring has potential to lead to improved achievement for pupils as they progress from primary to secondary schools, based on the positive findings from the qualitative strand of the evaluation. However, its potential success as a transition-focused intervention – delivered around the time of transition, when pupils from disadvantaged backgrounds are particularly vulnerable to a dip in learning - hinges on it being explicitly linked to transition (in terms of the timing and focus of the tuition) and, in some part, to its delivery in school. If the improvements set out in the process section are implemented, and tuition is delivered at the end of primary school and the beginning of secondary school, then the transition tutoring has a much better chance of having a statistically detectable effect. This requires 'buy-in' from both feeder primary schools and receiving secondary schools at the outset of the primary tuition. It was difficult for the Tutor Trust to get some of the secondary schools to fully embrace the tutoring for their pupils, and this lack of buy-in may have diluted the potential effect of tuition where it was not well integrated into school. This is in line with other research that provides evidence that when the right design and administrative structures are implemented, volunteer tutoring programmes can be effective in primary schools (Tepper Jacob, Smith, Willard and Rifkin, 2014). The Teaching and Learning Toolkit also states that teachers should monitor progress made in one to one tuition to ensure that the tutoring is beneficial.[33]

[32] Available: **http://educationendowmentfoundation.org.uk/toolkit/**

[33] Available: **http://educationendowmentfoundation.org.uk/toolkit/**

Across this evaluation and that of the tuition in secondary schools, small issues with tutor quality remain. Although schools only judge a handful of the tutors to be poor quality, these tutors may be partly responsible for the limited impacts observed. The Tutor Trust needs to continue its efforts to ensure that only the best quality tutors make it through their recruitment and training programme. However, some of this focus might usefully be shifted to schools. Whilst hosting tutors, schools need to recognise that they too have a role to play in enabling the most effective tuition delivery. Schools could help to drive up tutor quality by liaising more closely with their tutors, and providing more instruction and feedback. Liaising with intended secondary schools or feeder primary schools is also important in the context of transition tutoring. If schools better understood the aim of the transition pilot, some statistically significant impact might have been realised.

An evaluation of the impact of the Tutor Trust on outcomes at GCSE is available on the EEF website.

Future research and publications

Further research with a larger sample size is needed to be able to determine the effect of the tuition. The sample should be large enough to facilitate sub-group analysis, to enable exploration of the relationship between pupil attainment and type of tuition delivery (one to one versus small group). Ideally the research design would take the form of an RCT, to attribute any effect to the tuition. Drawing on the learning from this evaluation, securing the buy-in of receiving secondary schools to receive the tuition and participate in the evaluation at the same time as that of feeder primary school will be crucial. A cost effectiveness analysis would also be a beneficial addition to future research.

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Appendix 1: Example consent letters to secure primary and secondary school participation

Example letter for primary schools

Dear [headteacher's name],

As you may be aware, the National Foundation for Educational Research (NFER) is conducting an evaluation of the tuition provided by the Tutor Trust to pupils in Year 6 of your school.

NFER would appreciate your help with the evaluation. We would be very grateful if you would agree to:

- complete and return a pupil data form in Excel for all Year 6 pupils who are receiving or have received tuition from the Tutor Trust in this academic year. Part 1 of the form asks for details about these pupils; the tutoring you intend them to receive; why you selected them to receive tutoring; and which secondary school they have a place at. It needs to be completed and securely returned to the Tutor Trust by 19th April. Part 2 of the form asks you to provide some further details about the tuition each pupil delivered. It needs to be completed and securely returned to the Tutor Trust by 7th July.
- accommodate a half-day case study visit from a NFER researcher if you are selected as part of the sample for this strand of the research. The researcher would want to interview a small number of staff and pupils about their perceptions of the tutoring and its impact.
- provide the Tutor Trust with Year 5 STA/QCA test data for all Year 6 pupils, together with their names dates of birth and UPNs. The Tutor Trust will contact you about this in the Summer Term.

This data will be invaluable in helping us to measure the impact of the tutoring on pupils' learning. Pupils' data will be treated with the strictest confidence and according to the rules laid down by the Data Protection Act and NFER's Code of Practice.

Named data will be matched with the National Pupil Database and shared between NFER, the Tutor Trust and EEF for research purposes. No individual school or pupil will be identified in any report arising from the research. Some analysis will be shared with the SHINE Trust, to inform their evaluation. No named data will be shared with the SHINE Trust.

I hope that this is permissible with you. If you require any further information, please contact XXXXXXX.

Yours sincerely,

Example letter for secondary schools

Dear [Headteacher],

Some of your Year 7 pupils received Tutor Trust tuition in Year 6 (and may be receiving tuition in Year 7 too). The National Foundation for Educational Research (NFER) is evaluating the impact of the tuition on the attainment of disadvantaged pupils for the Education Endowment Foundation (EEF). We very much hope that your school will participate in the evaluation. This would involve:

- providing us with a list of your main feeder primary schools by **17th Sept**.
- providing us with the names, dates of birth and Unique Pupil Numbers of your Year 7 pupils on the Whole Cohort Form provided by **18th Oct**.
- completing a short pupil data form on any Year 6 pupils who are receiving tuition from the Tutor Trust in Year 7 by **20th Dec**. The form asks about tuition subject(s), sessions and whether pupils missed any lessons to receive tuition.
- administering Progress in Maths and Progress in English tests to your whole Year 7 cohort between 13th and 17th January 2014. NFER will provide you with the tests, instructions and SAEs for you to return the tests to us for marking. The two tests should take only around an hour each to administer to the whole group of pupils. **The tests and feedback on your pupils' performance will be provided for free**.
- potentially accommodating a half-day case-study visit from a NFER researcher in Spring 2014. The researcher would want to interview a small number of staff and pupils about their perceptions of the tutoring and its impact.

This data will be invaluable in helping NFER to measure the impact of the tutoring on pupils' learning and helping us to make our tutoring offer as effective as possible.

In the evaluation NFER will match named pupil data for your Year 7s to the National Pupil Database and data will be shared between NFER, the Tutor Trust and EEF for research purposes. NFER will not identify any individual school or pupil in any report arising from the research. Pupils' test responses and the other data will be treated with the strictest confidence and according to the rules laid down by the Data Protection Act and NFER's Code of Practice.

I hope that you are able to contribute to this valuable evaluation. If you require and further information on the tuition please contact XXXXXX]. If you require any further information about the evaluation, please contact XXXXXXX.

Yours sincerely,

Appendix 2: Example opt-out consent letter for parents

Dear parent,

Help with research into the impact of tuition on children's learning.

As you may be aware, your child is receiving tuition from the Tutor Trust. The National Foundation for Educational Research (NFER) is conducting an evaluation of the tuition, to find out how effective it is.

As part of the evaluation, NFER is collecting data about pupils who are receiving the tuition. This will involve:

- A pupil data form which the school will complete. This asks for some data about pupils, including their name, date of birth, Unique Pupil Number (UPN) and their involvement in the tutoring.
- An interview from a CRB-checked NFER researcher, who will ask some pupils what they think of the tutoring and how it has helped them.
- A short, one-off maths and English test which NFER may ask your child to take when they are in Year 7.

All of the above data will be treated with the strictest confidence and according to the rules laid down by the Data Protection Act and NFER's Code of Practice.

NFER will match your child's named data with the National Pupil Database (NPD) and share it with the Tutor Trust and EEF. They will not use your child's name or the name of the school in any report arising from the research.

Participation in this research is voluntary – children can choose not to take part, if they do not want to. **This letter is to ensure that you are happy for your child to be involved in the evaluation and for the researchers to use their data to help us with this research.**

This research is *confidential* and no child will be named in any report of this work.

What do I need to do now?

If you do not want your child to take part in the research, please complete the slip at the end of this letter and return it to your school. **If you are happy for your child to take part, you don't need to do anything.**

If you would like more information, please contact XXXXXX. She will be happy to answer any queries you might have.

Thank you for your understanding.

Yours sincerely,

[Headteacher]

Evaluation of the Tutor Trust Tuition

Parent opt-out form

Please only complete this form if you would prefer your child **not to participate** in this research.

Your child's name ……..

Class…….

Your name (please print)……..

Signed……..

Date ……..

Please ask your child to return this form to [**insert your preferred name/contact here]** at [insert your school name here].

Please return this slip to your school within 5 days if you do not want your child to take part.

Appendix 3: Example letter to secure participation in case-study visits and example wording used at the beginning of interviews with school staff and pupils

A Example letter

Dear XXXXX,

As you are aware, the National Foundation for Educational Research (NFER) is conducting an evaluation of the maths and/or English tuition currently being delivered to some pupils at your school by the Tutor Trust. Thank you for all of your assistance in providing data to the Tutor Trust to inform the evaluation this far.

I would be extremely grateful if you would be willing to assist us further by allowing an NFER researcher to visit your school. The purpose of the visit would be to speak to some staff and pupils who have been involved with the tuition to gather their perceptions of its impact.

During the visit, the researcher would like to speak to:

- The headteacher or another member of the leadership team
- The class teacher of the children receiving the tuition
- A tutor (if present at the school during the visit)
- A group of two to five children who have received tuition.

We would be looking to visit your school in May, June or July 2013. Each visit would take no more than half a day.

Visiting your school would allow us to gain valuable information to inform tuition delivery in future so that it can benefit other young people. We will incorporate the information provided during the visit into our evaluation reports to the Education Endowment Foundation (EEF). These reports may be made publicly available.

Please be assured that all the information collected during the visits will be treated in strict confidence and according to the rules laid down by the Data Protection Act and NFER's Code of Practice. No school or individual will be identified in any report arising from the research.

We will contact you shortly to discuss the visit. In the meantime, please do not hesitate to contact me on **XXXXX** if you wish to discuss any aspect of this work.

Yours sincerely,

B Example wording used at the start of interview with key staff

Thank you for agreeing to be interviewed and for your support for this evaluation. As you are aware, NFER is currently evaluating the effectiveness and impact of Tutor Trust tuition in primary schools, on behalf of the Education Endowment Foundation.

As part of the evaluation we are carrying out case studies of schools that have received tuition from the Tutor Trust in this academic year. The purpose of this interview is to explore why you chose to work with the Tutor Trust, and your perceptions of the quality and impact of Tutor Trust tuition.

The information that you provide will be treated entirely confidentially. We will not identify any individual or school in our evaluation outputs.

The interview will take up to 60 minutes. I would like to record it, to supplement my notes. The recording will be deleted once I have taken notes from it. Are you happy for me to do this?

Is there anything that you would like to ask me about the evaluation?

C Example wording used at the start of interview with year 6 pupils

My name is XXXX,

I'm here today to ask you about the [name which pupils know the TT scheme by] that you've been getting from [name of tutor]. The people who run the tuition want to know how the tuition has helped you, and how to make it better in future.

This isn't a test, and there are no right or wrong answers to the questions I will ask you. I just want to hear what you have to say. No one will know what you tell me today, other than me. I won't write your name down next to anything. But, I will use what you say to help me to write a report for the people who run the tuition. I won't put your name anywhere in the report and your tutor won't know what you said about them. Is that all ok?

Are you happy for me to ask you some questions then?

[If yes] Is to ok if I record our chat? I will delete it once I've written up my notes but I want to make sure I don't forget anything you say. If you want to stop talking to me at any time, please just tell me, because that is absolutely fine and you can go back to your classroom. Is there anything you would like to ask me before we start?

[If no] OK.

Appendix 4: Example pupil data form

Tutor Trust Evaluation: Year 7 Pupil Data Form
Academic Year: 2013-14

Name of School	
School postcode	
DfE number	

Please use this form to record data on all Year 7 pupils who received Tutor Trust tuition.

Pupil's name			Unique Pupil Number (UPN)	Date of Birth			Maths tutor-pupil ratio	Maths sessions	Did pupil miss lessons to receive maths tuition?	English tutor-pupil ratio	English sessions	Did pupil miss lessons to receive English tuition?
First name (personal)	Second name (personal) *if applicable*	Family or surname		dd 00	mm 00	yy 00	*From the drop-down list, select the tutor-pupil ratio for the maths tuition sessions that the pupil took part in. For example, if a tutor delivered tuition to two pupils, select '1:2'*	*Type in the number of maths tuition sessions attended by the pupil in the Autumn Term 2013*	*Select 'Yes' from the drop-down list if the pupil habitually missed a lesson to receive maths tuition. Otherwise, select 'no'*	*From the drop-down list, select the tutor-pupil ratio for the English tuition sessions that the pupil took part in. For example, if a tutor delivered tuition to two pupils, select '1:2'*	*Type in the number of English tuition sessions attended by the pupil in the Autumn Term 2013*	*Select 'Yes' from the drop-down list if the pupil habitually missed a lesson to receive English tuition. Otherwise, select 'no'.*

Appendix 5: Regression results from sub-group analysis

Table A1: Sub-group analysis of Progress in English raw score

	Coefficient	Standard error	95% confidence interval
Intervention	-1.97	2.71	-7.29 – 3.35
Intervention * Pupil Premium	1.34	3.04	-4.62 – 7.29
Average Key Stage 1 points: reading and writing	1.69	0.20	1.30 – 2.08
Female	1.47	1.46	-1.39 – 4.32
Pupil Premium	-2.56	2.17	-6.81 – 1.68
Special educational needs	-1.93	1.87	-5.59 – 1.72
English as an additional language	6.05	2.81	0.55 – 11.56
Age in months at post-test	0.24	0.19	-0.12 – 0.60
Intercept	22.07	3.72	14.79 – 29.35

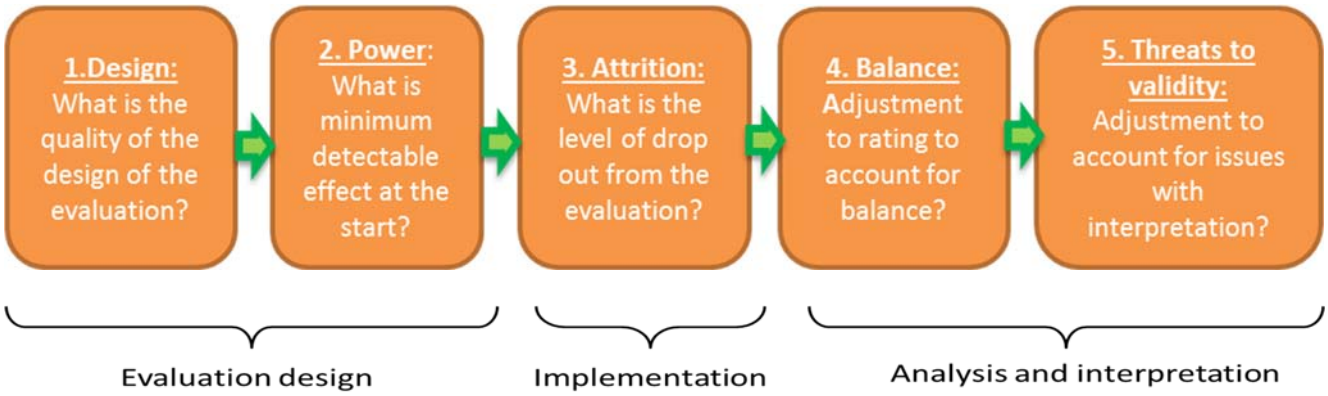
Note: Number of pupils: intervention = 82, comparison = 693. Standard deviation of outcome (FSM pupils): intervention = 11.35, comparison = 11.93. 'Average Key Stage 1 Points: reading and writing' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 12 per cent of the total variance.

Table A2: Sub-group analysis of Progress in Maths raw score

	Coefficient	Standard error	95% confidence interval
Intervention	-1.31	2.80	-6.79 – 4.17
Intervention * Pupil Premium	-0.20	3.25	-6.56 – 6.17
Average Key Stage 1 points: mathematics	1.78	0.21	1.36 – 2.20
Female	0.35	1.58	-2.74 – 3.44
Pupil Premium	-2.21	2.32	-6.75 – 2.33
Special educational needs	-1.14	2.06	-5.19 – 2.90
English as an additional language	2.39	2.44	-2.39 – 7.17
Age in months at post-test	-0.11	0.18	-0.45 – 0.24
Intercept	22.63	2.39	17.95 – 27.31

Note: Number of pupils: intervention = 59, comparison = 617. Standard deviation of outcome (FSM pupils): intervention = 9.07, comparison = 10.43. 'Average Key Stage 1 Points: mathematics' and 'Age in months at post-test' both centred using sample mean. The linear regression model also included secondary school fixed effects, which explained 7 per cent of the total variance.

Appendix 6: Security classification of findings



Rating	1. Design	2. Power (MDES)	3. Attrition	4. Balance	5. Threats to validity
5 🔒	Fair and clear experimental design (RCT)	< 0.2	< 10%	Well-balanced on observables	No threats to validity
4 🔒	Fair and clear experimental design (RCT, RDD)	< 0.3	< 20%		
3 🔒	Well-matched comparison (quasi-experiment)	< 0.4	< 30%		
2 🔒	Matched comparison (quasi-experiment)	< 0.5	< 40%		
1 🔒	Comparison group with poor or no matching	< 0.6	< 50%		
0 🔒	No comparator	> 0.6	> 50%	Imbalanced on observables	Significant threats

The final security rating for this trial is 0 🔒. This means that findings from this trial have very low security.

The evaluation was designed as a matched trial and could have achieved a maximum of 3 🔒. Many variables were used to match intervention pupils with comparison pupils, including SEN and EAL status. However, the within-school selection of pupils is not well understood and indeed the intervention did not apply selection criteria at either the school or pupil level. Based on data provide by schools, for English 57% of pupils were selected for tutoring for 'other' reasons, and 22% of pupils selected for maths were selected for 'other' reasons. Therefore, security of the design was reduced by one padlock. The evaluation was designed to detect a moderate effect size of around 0.35. Unfortunately, despite the best efforts of the Tutor Trust to engage schools to participate in both the tutoring and the tests, there was substantial attrition from both. Only 29% of pupils who received mathematics tuition and 68% of those who received English tuition were tested (i.e. overall 43% of the pupils in the intervention arm were tested). The propensity score matching method achieved balance between the groups at baseline, and there were no threats to validity. Therefore, the security of the conclusions was reduced to 0 🔒.

Appendix 5: Cost rating

Cost rating	Description
£	*Very low:* less than £80 per pupil per year.
£ £	*Low:* up to about £200 per pupil per year.
£ £ £	*Moderate:* up to about £700 per pupil per year.
£ £ £ £	*High:* up to £1,200 per pupil per year.
£ £ £ £ £	*Very high:* over £1,200 per pupil per year.

This document is available for download at **www.educationendowmentfoundation.org.uk**

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