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Endowment
Foundation

Perry Beeches Coaching Programme

Evaluation report and Executive summary

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The Education Endowment Foundation (EEF)



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The project was independently evaluated by a team from the National Foundation for Educational Research. The lead evaluator was Dr Ben Styles. For the impact evaluation he was assisted by Sally Bradshaw and Pippa Lord and for the process evaluation by Eleanor Stevens with Pippa Lord.

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Executive summary

The project

The Perry Beeches Coaching Programme aimed to improve the reading and writing skills of Year 7 pupils with low levels of attainment in four English secondary schools. Across the project, 16 coaches were employed to provide academic support to pupils who had not reached level 4c in English at the end of Key Stage 2. Originally it had been intended that pupils would only receive one to one support, and that all coaches would be graduates. However, in practice pupils received a range of targeted support that varied between schools and most, but not all, coaches were graduates.

The programme built on a successful pilot in Perry Beeches Academy in Birmingham, and the school co-ordinated the project across participating schools. The approach was based on a one to one coaching programme used in Match Charter School in Boston, USA.

This project sought to assess the impact of the programme on the academic outcomes of 186 students who were offered support during the 2013–2014 school year.

The study was funded by the Education Endowment Foundation as one of 24 projects in a themed round on literacy catch-up at the primary–secondary transition. Projects funded within this round aimed to identify effective ways to support pupils not achieving level 4 in English at the end of Key Stage 2.

Key Conclusions

1. The programme had a positive impact on pupils' attainment in reading, spelling and grammar, equivalent to approximately five additional months' progress. The evaluation did not seek to prove that the approach would work in all schools, but did identify strong evidence of promise.
2. The programme had a similar effect for pupils eligible for free school meals as for their peers.
3. There was considerable variation in the way that the initiative was delivered across the four schools. Pupils received a mixture of one to one and small group support, but the frequency and duration of sessions ranged widely between schools and students. There was also variation in the training and supervision coaches received.
4. Coaches felt that pupils engaged well with the variety of sessions and that both one to one and small group work was beneficial. However, it was not possible to identify the precise contribution of one to one sessions and greater definition of the approach may be required were the approach to be trialled in a larger number of schools.
5. The cost of the programme was high compared to other literacy catch-up approaches—including those delivered one to one—due to the salary costs of coaches and the intensity of support provided.

Security rating

Security rating awarded as part of the EEF peer review process

Overall, the findings are rated as **moderate**. This assessment takes into account a number of factors, including implementation fidelity, and level of drop-out.

Impact was assessed through a randomised controlled trial in four schools. The trial was classified as an 'efficacy trial', meaning that it sought to test whether the approach can work under ideal conditions, but did not seek to demonstrate that the approach would work in all types of schools.

Due to the number of pupils who took part in the project and the size of the observed effect, it is highly unlikely that the observed effect occurred due to chance. However, security was weakened by 22% of randomised pupils not completing tests at the end of the project.

Results

- On average, the programme had a positive impact on reading and writing outcomes across all groups of pupils. The average impact for all pupils was roughly equivalent to five additional months' progress. It is possible to say with a high degree of confidence that the pupils who experienced the intervention in this trial benefited from it.
- The average impact on pupils from low income families was also five additional months' progress; the differences in effect between students who had been eligible for free school meals at any point in the previous six years and their peers was less than one mark.
- This impact is consistent with existing evidence on the effects of one to one tuition and small group tuition. However, to date, there have been few studies of one to one or small group tuition approaches in English secondary schools, which made this study worthwhile.
- Observations and interviews with coaching staff suggested that pupils generally engaged well with the variety of coaching sessions, and that they found all types of sessions beneficial. However, limitations in the data recorded in coaching logs meant that it is not possible to say with confidence how much of each type of coaching was provided across the whole sample, and it is not possible to assess quantitatively the impact of the one to one sessions only.
- Given the nature of this initiative—using tutors for reasonably intensive tuition over a whole academic year—we might have expected to have seen even greater impact on literacy outcomes. However, variations in delivery, including 14 pupils who received coaching in maths but no additional support in English, may have diluted its potential.
- There was a clear positive relationship between the total amount of contact time pupils received (whether individually or in group sessions) and their outcomes.

How much does it cost?

The cost of the approach as delivered in the trial is estimated at £1,400 per pupil. This estimate includes the annual salaries for each coach employed, one day per fortnight of administrative personnel support time, training materials, and training time. Additional costs could include purchasing laptops and other materials for graduate coaches. Costs associated with the trial itself, such as testing and senior leadership time, are not included in this estimate.

There are clearly economies of scale in training and equipping groups of coaches (for example the cost of training just one or two coaches in a school would be more expensive than linking with other schools to co-train five or six coaches). The minimum core cost for a school to train and equip five coaches to deliver the intervention to 60 pupils for a year is estimated as £76,300 (£1,272 per pupil). The maximum cost (core costs plus higher coach salary and additional training and resource costs) is estimated at £87,100 (£1,452 per pupil).

Group	Effect size	Estimated months' progress	Security rating	Cost
All pupils	+0.36	+5 months		£££££
FSM-eligible	+0.40	+5 months	N/A	N/A

Introduction

1.1 Intervention

The Perry Beeches Coaching Programme provided academic coaching to Year 7 pupils through one to one or small group tuition sessions. The programme was developed at Perry Beeches Academy, and is based on a one to one programme used at Match Charter School in Boston, USA. A pilot of English and maths tuition at Perry Beeches Academy was felt by the developers to have helped children's academic results. The programme evaluated here aimed to improve the reading and writing attainment of pupils in Year 7. It focused on coaching in literacy, and involved four schools and 16 coaches. The programme was intended to be delivered in five one-hour one to one sessions per fortnight over an academic year to children struggling with reading and writing at age 11. Children who have not reached a secure level in English at the end of Key Stage 2 (that is, are below National Curriculum level 4c in reading and/or writing) are the target group for the programme. The programme did not include a pre-defined set of activities or content to cover, although starter packs and lists of literacy elements were available. Coaches were intended to tailor sessions to individual pupils. (Section 2.3 provides further details about the programme.)

The delivery of the programme varied across the four schools. Pupils experienced a mixture of one to one coaching, and sessions involving one or two coaches working with two or three children. The frequency and length of tuition sessions also varied among the four schools. The intervention sessions replaced a variety of usual subject lessons from late October or early November 2013 until late June 2014. (Section 4 provides further details about how the programme was delivered.)

1.2 Background evidence

The summary of evidence on the effectiveness on one to one tuition in the Teaching and Learning Toolkit produced by the EEF and the Sutton Trust states that there is strong evidence for the benefits of one to one tuition in reading for primary school children who have below average attainment (Higgins et al., 2014).¹ Meta-analyses indicate that pupils can make the equivalent of about four or five months of progress during an intensive programme (although it should be noted that most studies have involved primary school children).

Studies have looked at different aspects of tuition-based interventions. Broadly, they have identified that intensive programmes, where pupils have short, regular sessions (for, say, up to an hour, three or four times a week, for five to ten weeks) tend to have greater impact (see for example Elbaum et al., 2000).

Evaluations which have examined provider characteristics found that receiving tailored training and being a qualified teacher were important (Chappell et al., 2010; Slavin et al., 2011). Practical aspects— such as having a specific focus tailored to learners' individual needs (Slavin et al., 2011); including sufficient preparation time (Rutt et al., 2014); and adhering to the delivery protocol (Gorard et al., 2014)—also tend to influence the effectiveness of one to one tuition. In addition, evidence reviewed by the What Works Clearinghouse shows that one to one tutoring to young students struggling with reading and writing through the Reading Recovery Programme has positive effects on general reading achievement, and on alphabets, reading fluency and comprehension. The programme involves tailored individualised lessons to supplement normal literacy teaching (Institute of Education Sciences, 2013).

¹ <http://educationendowmentfoundation.org.uk/toolkit/one-to-one-tuition/>

Small group tuition can also be beneficial (Higgins et al., 2014).² Studies typically find that smaller groups have the greatest impact (Slavin et al., 2011) and that the effect size decreases as the group size increases (Schwartz et al., 2012). Varying the content of the tuition sessions in line with learners' requirements is also an important factor in the success of small group tuition, as is extending delivery over several years (Vaughan et al., 2010). However, the EEF's summary toolkit states that the evidence of small group tuition is not conclusive and is confounded by issues such as teacher/tutor quality, levels of intensity of tuition, and the effect of other approaches employed such as peer tutoring and collaborative learning.

There have been fewer studies of one to one tuition in secondary schools. The Perry Beeches initiative helped address this gap. The programme trialled here followed a pilot in Perry Beeches Academy which employed recent graduate coaches in English and maths, and where children received five one-hour one to one sessions per fortnight in literacy and maths over an academic year. The developer felt the pilot contributed substantially to pupils' academic success (the school draws a high proportion of pupils from low income families but achieves above average GCSE results). The initiative is based on work observed in Match Charter School in Boston, USA. The programme evaluated here was set out as an efficacy trial, with developer-led conditions in a small number of schools.

For academic years 2014–2015 and 2015–2016 secondary schools have £935 extra to spend on each child in receipt of the pupil premium. Whilst one to one tuition is expensive, this funding makes it viable for most schools to consider. To support schools' funding decisions, further evaluation of the effectiveness of one to one tuition programmes at scale may be required.

1.3 Evaluation objectives

The impact evaluation sought to answer the following research questions:

1. What is the impact of the one to one coaching intervention on attainment in reading and writing (specifically pupils' abilities in reading, spelling and grammar as assessed by the GL Assessment Progress in English (PiE) Short Form test)?
2. Are improvements in attainment moderated by having English as an additional language (EAL) or ethnicity?

The effectiveness of the intervention for pupils eligible for free school meals (FSM) was also explored, as standard in all EEF trials.

The purpose of the process evaluation was to assess the intervention in terms of fidelity to the programme intentions, and the scalability of the programme.

The delivery and evaluation of this project was funded as part of the EEF's round of grants dedicated to literacy catch-up at the primary–secondary transition.³ Twenty-four projects were funded exploring specific aspects such as comprehension, decoding, reading for pleasure, and writing, as well as mixed approaches of which the Perry Beeches project is one.

1.4 Project team

The programme was developed by Perry Beeches Academy and delivered at four participating schools. The evaluation team at NFER was led by Dr Ben Styles and Pippa Lord. Sally Bradshaw

² <http://educationendowmentfoundation.org.uk/toolkit/small-group-tuition/>

³ In May 2012, the Department for Education (DfE) awarded EEF £10million for projects related to this theme.

carried out the statistical analysis. Eleanor Stevens carried out the process evaluation with support from Pippa Lord.

1.5 Ethical review

The pattern of headteacher consent followed by parental opt-out consent, as adopted for other EEF literacy catch-up trials run at NFER, was approved by NFER's Code of Practice Committee on 23 January 2013.

Trial registration

This trial has been registered at: <http://www.controlled-trials.com/ISRCTN46140578/>.

Methodology

2.1 Design

The evaluation was run as a randomised controlled trial, with 373 pupils in Year 7 across four secondary schools, randomised at pupil level to two groups—intervention and a control (set up as a waitlist). Pupils in the intervention group were intended to receive coaching support for one academic year; pupils in the control group experienced their usual English teaching. The programme was provided mainly as additional to pupils' usual English lessons (withdrawals were mainly from other subject lessons). Pupils were randomised within each school and those pupils in the intervention groups were assigned to a coach. There were 16 coaches in total; each coach was assigned roughly 12 pupils. Intervention and control arms occurred within the same school. Pupils were tested for reading and writing ability (specifically reading, spelling and grammar as assessed by the GL Assessment Progress in English (PiE) Short Form test, see below), both before and after the intervention. This design sought to determine whether the Perry Beeches Coaching Programme improved reading and writing ability at rates above those of usual literacy teaching only (in English lessons and any other literacy support to which all pupils had access). The control group will receive coaching support in 2014–2015 (when they are in Year 8).

The developers had piloted an intervention with coaches in English and maths. Focusing the trial on literacy (that is, on English) was a requirement of the EEF funding as part of its round of grants dedicated to literacy catch-up at the primary–secondary transition. The developers recruited three other schools with whom they had existing working relationships to take part in the trial. In a change to the published protocol, this trial used the GL Assessment PiE12 Short Form at follow-up testing; the specified PiE12 Long Form had not then been developed. The PiE11 Short Form used at pre-test acted as covariate in the analysis.

2.2 Eligibility

Year 7 pupils in the four schools involved who were below National Curriculum level 4c in reading and/or writing at the end of Key Stage 2 were eligible for inclusion in the trial. The final intervention design agreed in June 2013 provided funding for a fixed number of coaching places—a total of 192 places, with 16 coaches being assigned 12 pupils each—and so it was anticipated that not all struggling pupils would be able to receive a place. The four schools received their pupils' Key Stage 2 results via their local authorities (LAs) in early September. A total of 665 students (their Year 7 intakes) were screened for eligibility by the schools. Schools were then asked to supply lists to the evaluator of pupils who met the eligibility criteria. According to the protocol, no pupils with National Curriculum level 4c or above in reading and/or writing at the end of Key Stage 2 ought to have been included in the trial: in practice, in two of the schools not all eligible places were filled with pupils below level 4c due to insufficient pupil numbers at these levels. Eligible places were filled using primary school teacher assessment as collated by the schools' Local Authority during July and August of 2013. This occurred prior to lists being passed to the evaluator and hence prior to randomisation.

Consent was initially sought from headteachers who had to complete a memorandum of understanding (Contract for Schools—see Appendix B): these were signed over the period 5–23 September 2013, although email confirmation of engagement in the trial had been received prior to this. Opt-out consent was sought from parents of pupils whose children met the eligibility criteria and had been selected for participation (see Appendix C). No opt-outs were received by schools.

Pupil lists were transferred to the evaluator after parental opt-out was obtained. Pupils sat the pre-test during the period 11–16 September 2013. Randomisation took place later in September 2013. One school sent their full Year 7 list, which was randomised in error and returned to the school. The school

then sent their list of eligible pupils only for randomisation. The previous list returned to the school had no bearing on the eligible pupil list, or on the intervention, as pupils had not yet been assigned to coaches and no intervention activity had yet taken place. Coaching interventions started in early October in two of the schools, and in late October/early November in the other two schools.

2.3 Intervention

The elements of the programme

The Perry Beeches Coaching Programme provided academic coaching to Year 7 pupils through one to one or small group tuition sessions. The programme was developed at Perry Beeches Academy, and is based on a one to one programme used at Match Charter School in Boston, USA. The Perry Beeches Coaching Programme intended to:

- deliver five, one-hour, one to one sessions per fortnight to children struggling with reading and writing at age 11 (delivered over an academic year in this trial);
- be delivered by graduate coaches;
- integrate coaches into school, to better connect what pupils learn in the classroom with the support they receive in tuition sessions;
- be tailored to individual pupils; and
- be received in addition to pupils' usual English lesson provision.

Due to its individually tailored nature, a targeted programme is difficult to replicate. In practice, there was variation in how the coaching programme was delivered. Most coaches were university graduates while others had Level 3 qualifications plus experience of working with school children. In addition, the frequency and length of tuition sessions varied among the four schools. Pupils experienced a mixture of one to one coaching, and sessions involving one or two coaches working with two or three children. (Section 4 provides further detail on variation in delivery.)

The programme did not include a pre-defined set of activities or content to cover, although starter packs and guidance on pupils' typical areas of weakness were available for some coaches and, in two schools, a session plan for the whole year was set out. A suggested list of literacy elements used by some of the coaches included: phonics; word recognition; responding to vocabulary; spelling and punctuation; tenses; sentence structure and paragraphs; paired reading and reading aloud; letter writing; and rhyme and poetry.

Training

The programme is intended to include an element of training for coaches. For this intervention, the developer was meant to agree a training programme prior to the start of coaching, and each school was to organise delivery of this programme to its coaches. Section 4.1 sets out the detail on the training actually received. There was variation among the schools in training the coaches and in coaches' preparedness to tutor pupils.

Deliverers

Individual schools recruited their own coaches to the programme. Coaches were intended to all be graduates. (Section 4.2 'About the coaches' provides further detail about the backgrounds and skills of the coaches involved in this trial.)

Control group

Pupils in the control group were not intended to receive academic coaching. They were to receive a similar programme of tuition in the following academic year, when they would be in Year 8. (Section 4.2 discusses control group activity further.)

2.4 Outcomes

The programme aimed to improve pupils' reading and writing abilities in Year 7. There was no one main component of the programme, but rather it was tailored to support Year 7 pupils struggling with reading and writing. The primary outcome was pupils' reading and writing ability—specifically reading, spelling and grammar as assessed by the GL Assessment Progress in English (PiE) Test Short Form paper version. The Short Form contains two themed reading comprehension passages (fiction and non-fiction) and spelling and grammar exercises. It is a standardised English assessment, available in paper and digital formats.⁴

For this study the PiE11 Short Form was used as a pre-test and the PiE12 Short Form as the follow-up test. The PiE Long Form was originally specified in the protocol as the follow-up measure, however as the PiE12 Long Form had not yet been developed, a decision was taken with full agreement of the EEF to use the PiE12 Short Form for follow-up testing. This adequately measures the outcome areas of interest for this trial.

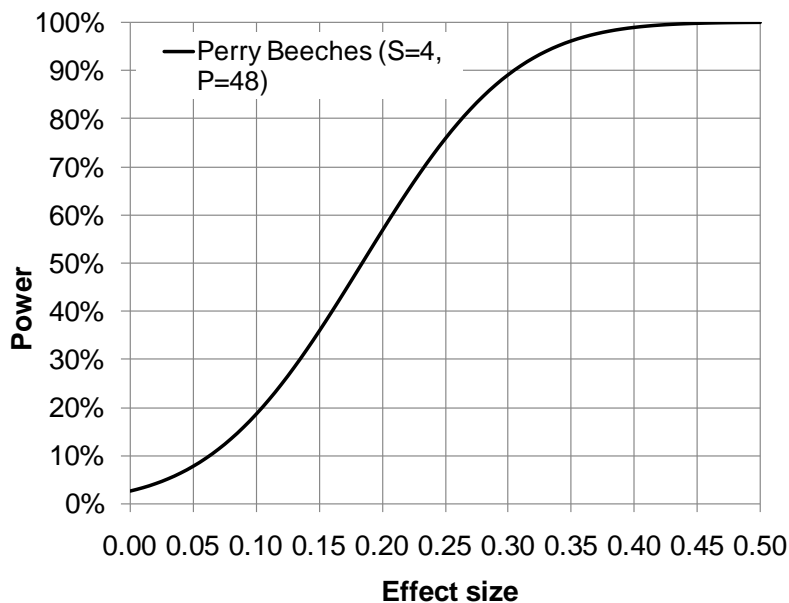
Formal evaluator visits to independently check test administration were not part of the agreed protocol, however efforts were made to ensure that test administration was 'blind'. The protocol stated that the graduate tutors should not be involved in test administration. Two weeks before the testing window, the evaluator contacted the delivery lead to ensure all plans were in place for the test administration. Pupils in all schools sat tests in exam-like conditions, seated in alphabetical order. In two schools, members of the administration team were involved in test administration. In the other schools, a variety of staff, including members of the senior leadership team, administered the tests in exam-like conditions. The delivery lead reported that, other than staff who worked with the Year 7 pupils, staff would not have known which groups the pupils were in. GL Assessment carried out the test marking which was therefore blind.

The secondary outcomes of interest for this trial were to evaluate whether improvements in attainment are moderated by having English as an additional language (EAL) or ethnicity. In addition, we analysed results by free school meal (FSM) entitlement and prior attainment.

⁴ Further information is available: <http://www.gl-assessment.co.uk/products/progress-english>.

2.5 Sample size calculations

Figure 1: Power curve



S = Number of participating schools
P = Number of participating pupils per intervention group per school

Randomisation was conducted at the pupil level, and variation in baseline scores was controlled for in the final analysis. Intra-class correlation (ρ) was therefore likely to have a minimal impact on the effective sample size, and so in designing the trial we conservatively assumed a value of $\rho = 0.02$ for the purposes of our calculations. At design stage, we also assumed a correlation of 0.75 between baseline and follow-up scores on the basis of a previous RCT with reading test outcomes (Smith et al., 2007). The power curve in Figure 1 illustrates that a sample size of 384 would be sufficient to detect effect sizes of the order of 0.27. This could be considered moderate, equivalent to around four months of progress and well within the bounds of what might be expected from a one to one intervention.

2.6 Minimum Detectable Effect Size (MDES)

Once all the data from the trial was available, the assumed parameters from the above calculations were compared to the actual parameters and included in a calculation of Minimum Detectable Effect Size (MDES). As this is an efficacy trial across a small non-random sample of schools, we analysed the data only in terms of 'conditional inference' (Hedges and Vevea, 1998). Results are only generalisable to the schools and pupils within the trial. We do not attempt to estimate what the effect might have been across all schools as the trial was not designed to do this. MDES calculations therefore do not take into account the intra-cluster correlation or heterogeneity of treatment effects between schools.

Randomisation was carried out at the pupil level, cancelling out the effect of clustering when estimating internally valid uncertainty around the effect. ρ can consequently be regarded as zero. A value of ρ greater than zero was assumed in the sample size calculations due to the possibility of addressing external validity, but this turned out not to be appropriate. The adjusted R-squared for the primary outcome model without the intervention term was 0.486, implying a value of 0.70 would have been more appropriate for the correlation between baseline and follow-up scores. Using the actual number randomised, this yields an MDES of 0.21 at 80% power.

2.7 Randomisation

The lead school, Perry Beeches Academy, was responsible for school recruitment. They recruited three other schools with whom they had existing working relationships. An NFER statistician carried out randomisations using a full syntax audit trail within SPSS (see Appendix D). Randomisation was stratified by school, and in two of the schools also by separate halves of the timetable. In each of the schools or timetable halves, we carried out simple randomisation of eligible pupils into two groups of the same size. This was necessary to aid timetabling and funding of sessions within the schools.

We sent schools the results of randomisation after opt-out consent had been obtained, and after pupils had taken baseline tests, but before NFER had received any baseline test results from GL Assessment.

In response to NFER's request for eligible pupil lists, one school sent their full Year 7 list to NFER. This was randomised in error and returned to the school. The school then sent their list of eligible pupils only for randomisation. The previous list returned to the school had no bearing on the eligible pupil list, or on the intervention, as pupils had not yet been assigned to coaches and no intervention activity had yet taken place.

A further school also sent their full Year 7 list to NFER. This was returned unrandomised, and the list of eligible pupils only was then provided by the school.

2.8 Analysis

The primary outcome was reading, spelling and grammar ability as assessed by raw scores from the Short Form of the PiE test. Raw scores were used in preference to age-standardised scores due to potential ceiling or floor effects in the latter. We carried out sub-group analysis on the primary outcome for the pre-specified sub-groups of EAL and ethnicity. We explored whether the intervention was differentially effective for higher and lower attainers as this was also pre-specified in the protocol. The effectiveness of the intervention for pupils who had been eligible for free school meals on any pupil-level census since the summer of 2007 (FSM Ever 6) was also tested. This FSM analysis is a prerequisite of all EEF trials.

The definitive analysis was 'intention-to-treat', reflecting the reality of how interventions are delivered in practice. It was necessary to take school into account in the analysis due to the fact that randomisation was restricted by school (Kahan and Morris, 2012). Three 'dummy' variables were included in the regression model to represent school; one school was the default category. In two schools, randomisation was also restricted by timetable half. It was decided not to allow for this in analysis as there was no reason to believe that students in the two halves differed fundamentally in terms of ability. The definitive primary outcome analysis regressed post-test raw score on pre-test score, school, randomised group, sex, FSM and age in months. Sub-group analysis was carried out using a separate regression model on FSM pupils, and by exploring the interaction between randomised group and EAL, ethnicity, FSM and pre-test score.

The use of a linear regression model represents a slight deviation from the protocol where it was specified that a multi-level model would be used. Because randomisation was restricted by school, it was necessary to account for school in the model, but this was done using dummy variables rather than in a multi-level model. This method was used in preference since a multi-level model would not have estimated school-level variance adequately with only four schools. As this was a pupil-randomised trial, clustering for the intervention effect is not an issue in terms of internal validity. For the same reason that a multi-level model would not estimate school-level variance (and effect heterogeneity) adequately with only four schools, the analysis only attempted to generalise to the pupils and schools in the trial, in other words, conditional inference (Hedges and Vevea, 1998).

We followed the main analysis by an 'on-treatment' analysis, where data from 'coach logs' (records of what had been done in each session) was used to determine the extent of each pupil's involvement with the intervention (see Section 2.9 for further detail on dosage calculations). The total delivery time was used as a measure of dosage in place of the dichotomous group allocation. Control pupils were allocated a dosage of zero. This analysis allows for an estimate of 'pure intervention effect' (net of any fidelity issues, contamination or non-completion).

2.9 Process evaluation methodology

The process evaluation encompassed the entire duration of the intervention from the start-up meeting in January 2013 to completion of the intervention in July 2014. The evaluator collected information from observations of a 'Coaches Literacy Conference' convened half way through the academic year (February 2014); observations of intervention sessions in situ followed by face-to-face interviews with coaches; and a review of the qualitative and dosage parts of the 'coach logs'. The evaluators aimed to cover all the different elements of the intervention, although no training sessions other than the literacy conference were observed—the planned training session for August/September 2013 did not take place.

Detailed schedules for the session observations and telephone interviews were developed to ensure that data collection was consistent and comprehensive. As two researchers were involved in observing intervention sessions and undertaking interviews, a meeting was held after the school visits to share information.

Literacy coaches' conference observation: The evaluator attended the second day of a two-day event hosted by one of the schools during February 2014 (the first day was for arrivals and orientation). This was an opportunity for coaches and other staff at the participating schools to share their experiences of the project and approaches they thought were effective. Not all coaches attended the conference (see Section 4.1).

Session observations and interviews with coaches: The evaluator made one visit to each school, each lasting up to one day. The protocol specified a minimum of one session observation per school. The evaluator asked to observe up to three sessions in each school, and to interview all available coaches as a group during the visit. Interviews took approximately one hour to complete and researchers produced detailed write-ups of the interviews and session observations. The interview topics included perceptions of any training and preparation the coaches had had, facilitators and barriers to delivering the tuition, the resources required, perceived outcomes, issues of cross-contamination, and other issues such as perceptions of scalability. A total of nine sessions were observed (400 minutes of tuition) in the four schools, involving 9 of the 16 coaches. The session observation times were chosen by the school. Twelve of the 16 coaches were interviewed (at least two in each school). In two schools, visits took place in March 2014; the other two schools indicated that they were too busy to host visits in March so the visits were made in June 2014.

Coach logs: Coach log templates were devised by the evaluator in September 2013 and agreed with the developer who agreed to pilot the logs with a small number of coaches. Good feedback was received on the usability of the logs. All coaches were then provided with an Excel proforma on which they were asked to record an outline of each intervention session (date, duration, content) throughout the trial. Coaches were asked to note any deviation from their intervention plan in terms of content or, for example, the session being cancelled or taught by a different coach. The data on the coach logs was then used to calculate the intervention dosage, that is, the amount of time that each pupil was exposed to the intervention. For ease of inputting data, the coach logs contained pre-set ranges of intervention times (0 minutes, 1–10 minutes, 11–20 minutes, 21–30 minutes, and so on). To calculate dosage, a mid-point has been used across all coach logs as a consistent measure—five minutes for the range 1–10, 15 minutes for the range 11–20, and so on. Information from the coach logs also

informed the assessment of intervention implementation and fidelity—whether pupils had received five hours of one to one tuition per fortnight. Section 4.2 sets out the nature and extent of what was actually delivered, according to coach log data as well as interview and process data. Section 4.6 describes the limitations in the coach log data received.

Costs: The lead project deliverer collated the core and additional costs of delivering the intervention in the trial schools according to a number of criteria specified by the evaluator. The evaluator specified core costs as those relating to: coach salaries; salaries required for anyone else to support the intervention delivery (but not the salary costs for overseeing this project as a trial); training (salaries, time, materials); and resources (the core resources required to deliver the coaching initiative over and above a school's normal literacy resources). Variable costs were to be collated in terms of further non-core resources and project oversight. Because some intervention costs are associated with start-up, the delivery lead was asked to estimate the above core and variable costs for the second year of the programme. Cost calculations were then carried out—assuming a school employs five coaches working with 12 pupils each over one academic year—to arrive at a cost per pupil per year. The maximum and minimum costs for each area were specified, the maximum being core costs including start-up costs (including, for example, the core cost of supplying each coach with a laptop), and the minimum being core costs taking into account economies of scales after start up.

Impact evaluation

3.1 Timeline

Table 1: Timeline

Month / date	Activity
By June 2013	Recruitment of schools by developer
By July 2013	Recruitment of coaches by schools
August/September 2013	Coach training (cancelled)
September 2013 (5–23 Sept)	Consent from schools (although email agreement obtained prior to signed documents)
September 2013 (by 9 September)	Opt-out parental consent obtained (schools asked to flag parental opt-out through 'letters in bags' by this date)*
September 2013 (11–16 September)	Pre-testing window
September/October 2013 (18 September–4 October)	Randomisation
October 2013–end June 2014	Delivery of intervention programme
February 2014	Conference on literacy for coaches and school staff
March 2014	Process evaluation visits in two schools
June 2014	Process evaluation visits in a further two schools
July 2014 (7– 11 July)	Post-testing window (in one school pupils took the test the following week, 14–18 July)
August–October 2014	Test paper marking (couriering of test papers was delayed by one week in one school, and by eight weeks in another)
November 2014–	Analysis and reporting

**Parental consent had to occur before eligible lists were finalised due to tight timescales at the start of term. Parental consent was obtained for the whole year group.*

3.2 Participants

Recruiting schools

The intervention was designed and piloted by Perry Beeches Academy in Birmingham. This lead school recruited three other schools to the trial. Perry Beeches had existing working relationships with these three schools. The assistant headteacher of Perry Beeches Academy co-ordinated the trial across the participating secondary schools (three in inner city urban areas, and one in an urban coastal area) which have varying contexts in terms of the communities served. For instance, at one school, the proportion of EAL pupils is about four times the national average, and there is considerable pupil 'churn', while in the other schools the pupil population is more settled and EAL pupil numbers are below or just above average. The schools range in performance from 'requires improvement' to 'outstanding' according to their most recent Ofsted inspections at the time of the evaluation.

Table 2: Ofsted ratings for schools

Ofsted rating of overall effectiveness of the school	Number of schools
Outstanding	2
Good	1
Requires Improvement	1

Table 3: School type

School type	Number of schools
Comprehensive to 18	1
Academy	2
Free School	1

Table 4: Pupils eligible for FSM

Pupils eligible for FSM	Number of schools
Middle quintile	1
Highest quintile	2
Unknown	1

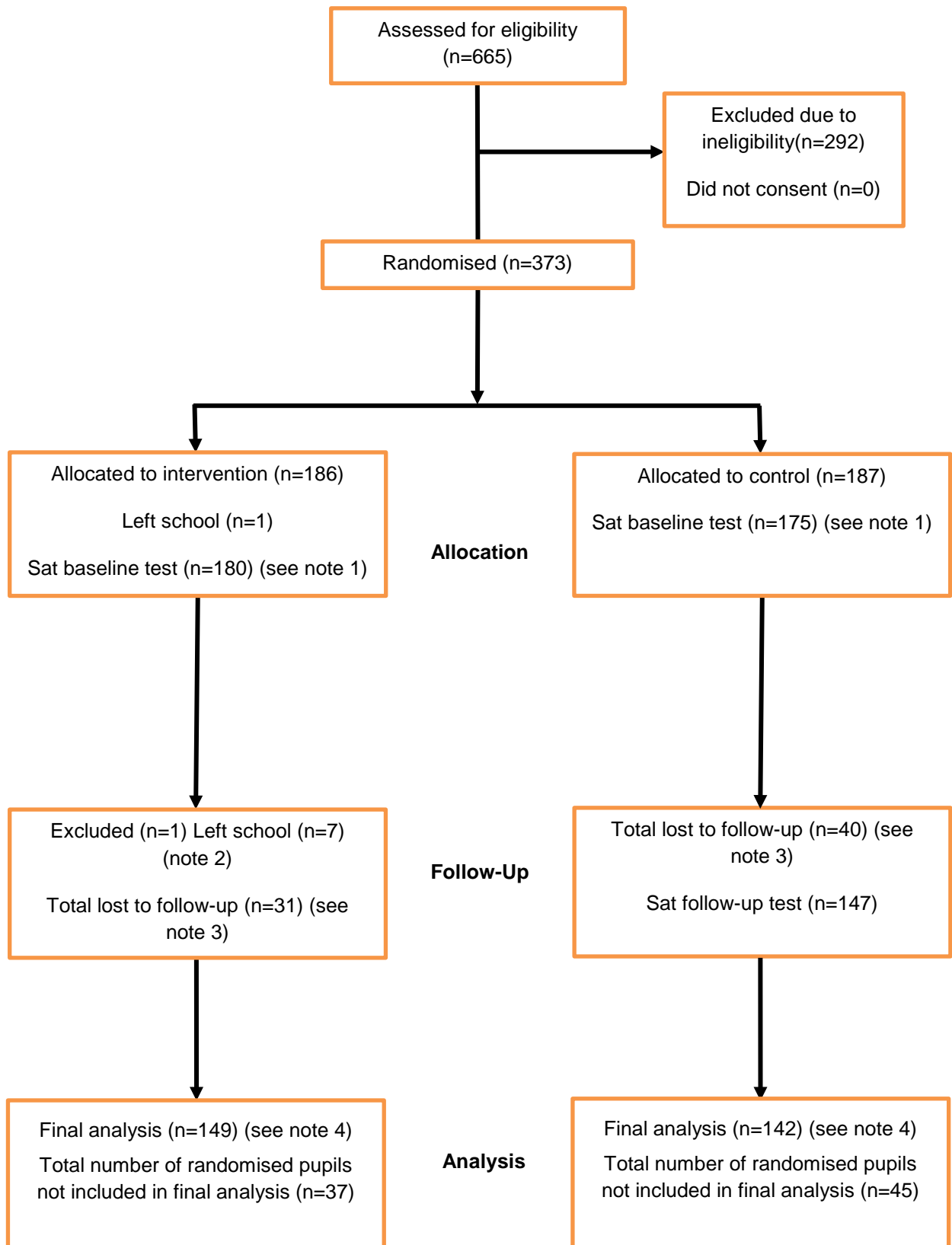
Recruiting coaches

Each individual school was responsible for recruiting its own coaches. Most coaches were university graduates; some had Level 3 qualifications plus experience of working with school children. Some coaches had worked at the school in which they were employed during the trial in the previous year(s).

Pupils involved

Of the 665 pupils screened for eligibility, 373 pupils were deemed eligible for the study on the basis of Key Stage 2 and teacher assessment results, and were randomised to the intervention or control groups. Figure 2 provides details of the numbers of pupils receiving the treatment, completing the outcome measures, and analysed. The reasons for attrition and exclusions are outlined in the Notes to Figure 2 below.

Figure 2: Participant flow diagram



Notes to Figure 2

1. Missing data at baseline (from not completing the baseline test) is low, and in line with normal absences expected on any given day: 355 of the 373 randomised pupils sat the baseline test.
2. One pupil was withdrawn from the trial due to behavioural difficulties in intervention sessions. This pupil did not sit the follow-up test. A further seven pupils left their school (moved away) during the course of the year and therefore did not sit the follow-up test.
3. The loss to follow-up testing is 19%, that is, 302 of the 373 randomised pupils completed the follow-up. In addition to the reasons for not completing the follow-up test in Note 2 above (and a few usual absences on the day), one of the schools did not administer the tests fully. In this school, one class did not complete the test, and in another class half the pupils did not complete the test. (Note that this school had four classes of Year 7 pupils in total and all four classes had pupils involved in the trial.) This was discovered when completed test papers from this school were couriered at the beginning of the autumn term rather than in July, as had been planned. The main batch of test papers from the other three schools was couriered as planned in July 2014 to GL Assessment, marked in August, and initial matching analysis undertaken by NFER in late August. In all cases, school staff administered the test and scripts were couriered directly to GL Assessment for marking. NFER was able to verify that all schools had completed the tests; three schools returned their test papers in July 2014, and as outlined above, the final school returned test papers at the beginning of the autumn term in September 2014. (Sections 3.3 and 5.1 outline how we assessed potential bias due to missing data.)
4. Of the 373 eligible pupils, 291 were included in the final analysis (that is, the analysis of those pupils who completed both the pre- and follow-up test, with no other exclusions applying) which equates to 22% attrition. Data-matching of the 302 pupils who completed follow-up tests to the baseline revealed 11 pupils who had completed the follow-up but not sat the baseline test.
5. We have coach log data for 185 pupils (Table 15 shows the number of pupils allocated to coaches within each school, according to log data).

3.3 Pupil characteristics of analysed groups

Whilst we expect no systematic bias to have arisen from randomisation, bias may have occurred due to attrition. Chi-squared tests on all background factors presented in this section revealed no significant differences between groups for the data after attrition.

Table 6: National Curriculum level in reading at baseline ($\chi^2 = 3.8, df = 2, p = 0.15$)

National Curriculum level (source: NPD)	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
3	17	11	23	16
4	91	61	92	65
5	26	17	15	11
Missing	15	10	12	9
Total	149	100	142	100

Table 7: FSM eligibility ($\chi^2 = 0.69$, $df = 1$, $p = 0.41$)

Pupil eligible for FSM (source: NPD)	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
Yes	82	55	85	60
No	67	45	57	40
Missing	0	0	0	0
Total	149	100	142	100

Table 8: Gender ($\chi^2 = 0.89$, $df = 1$, $p = 0.34$)

Pupil gender (source: schools via GL Assessment)	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
Male	90	60	78	55
Female	59	40	64	45
Missing	0	0	0	0
Total	149	100	142	100

Table 9: EAL first language ($\chi^2 = 2.12$, $df = 2$, $p = 0.35$)

EAL pupil (source: NPD)	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
English	110	74	115	81
Other	34	23	23	16
Unclassified	1	1	1	1
Missing	4	2	3	2
Total	149	100	142	100

Table 10: Ethnic group ($\chi^2 = 2.12$, $df = 5$, $p = 0.83$)

Ethnic group of pupil (source: NPD)	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
White	77	52	82	58
Asian	26	17	18	13
Black	26	17	22	15
Other	14	10	14	10
Unclassified	2	1	3	2
Missing	4	3	3	2
Total	149	100	142	100

Table 11: Pre-test raw scores

	Intervention	Control
Mean	17.0	16.6
Standard deviation	7.7	6.8
n	149	142

Further to pupil background measures, it was also important to test whether significant imbalance at pre-test had ensued as a result of attrition. The baseline effect size was 0.05 (-0.18, 0.29) and was not significant ($p = 0.64$).

3.4 Outcomes and analysis

Table 12: Effect size

Outcome description	Outcome measure	Effect size (Hedges' g)	95% confidence interval (lower)	95% confidence interval (upper)	P	Number of intervention pupils in model	Number of control pupils in model
Primary	Reading, spelling and grammar (Short form of PiE)	0.36	0.19	0.52	<0.001	149	142
Primary (FSM)	Reading, spelling and grammar (Short form of PiE)	0.40	0.15	0.66	<0.01	67	57

Table 13 contains descriptive outcome statistics for all pupils who sat the follow-up test.

Table 13: Raw outcome means

Outcome description	Outcome measure	Intervention			Control		
		Mean	SD*	n	Mean	SD*	n
Primary	Reading, spelling and grammar (Short form of PiE)	21.2	8.3	155	18.2	8.3	147
Primary (FSM)	Reading, spelling and grammar (Short form of PiE)	20.5	8.8	71	16.6	8.5	60

*SD Standard Deviation

The outcome analysed was pre-specified in the protocol, as were all sub-group analyses aside from the use of FSM Ever-6 (a separate FSM analysis is a requirement of all EEF evaluations). Background data on pupils was obtained from schools through the standard GL Assessment data form as well as from the National Pupil Database (NPD). Where data on the same variable was obtained, the latter source was used in preference unless it contained fewer cases. The primary outcome analysis consisted of a regression model with backward selection. The following variables were entered into the model (according to standard EEF analysis policy): pre-test score, intervention group, school, gender, FSM status and age in months. Age and FSM status were not significant and were removed from the model. Model results are presented in Appendix A.

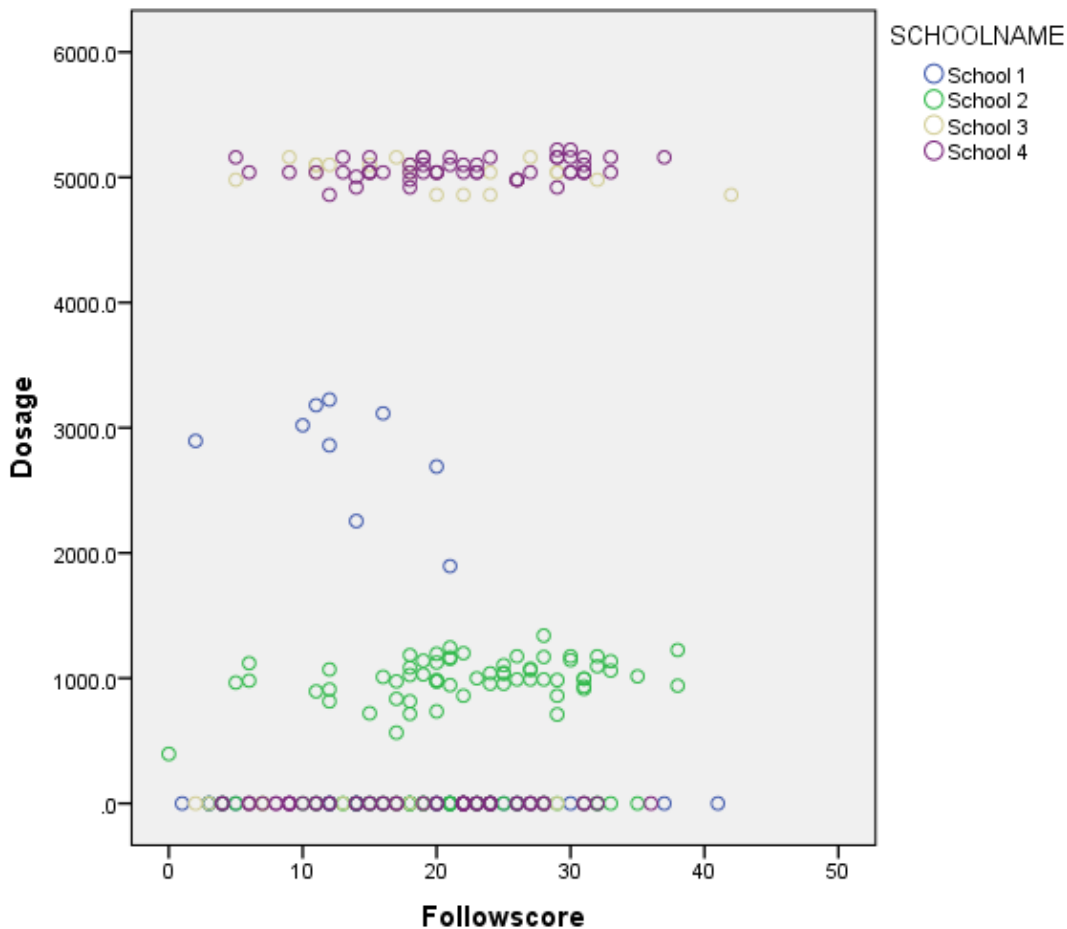
The secondary research question specified in the protocol was whether improvements in attainment are moderated by having English as an additional language (EAL) or ethnicity. We carried out sub-

group analysis on the primary outcome by including interactions in a model equivalent to that used in the primary analysis. The interaction between the intervention and EAL was not significant ($p = 0.23$). Ethnicity was considered as three dummy variables representing Other, Black and Asian, with White as the base category. None of the interactions with the intervention was significant ($p = 0.62$, $p = 0.76$ and $p = 0.74$ for Other, Black and Asian, respectively). We also explored an interaction with FSM-Ever 6 and this too was not significant ($p = 0.59$).

An analysis by pre-test score was carried out to ascertain whether the significant effect of the intervention varied for different reading abilities. The interaction between intervention and pre-test score was tested in a model equivalent to that used in the primary analysis but including the interaction term. The interaction was not significant ($p = 0.62$).

All the above analysis was 'intention-to-treat'. The 'on-treatment' analysis used a measure of intervention experienced by each pupil in terms of total delivery time as declared by the coaches in their logs. The dosage was highly variable and the data was not compiled in the same way for every school (see Section 4.6 on Fidelity and Section 5.1 on Limitations). For those intervention pupils who had a test score at baseline and at follow-up (and so were included in the analysis) total dosage scores ranged from 395 minutes (with some having 0 due to having a maths tutor instead of an English tutor) to 5,220 minutes, or 7 to 87 hours. The median dosage was 3,225 minutes (see Figure 3 for a scatterplot of dosage by follow-up score by school). The 'on-treatment' analysis—taking into account the extent of delivery and those that switched groups—revealed a significant effect of dosage ($p < 0.001$). Note the model also controlled for school which is heavily confounded with dosage—in other words, there were large dosage differences between schools. Although there is a strong relationship between dosage and follow-up score, as indicated by the model, there is no clear pattern to this relationship from the plot that might lead us to make conclusions about the optimum dosage needed. For example, it is not possible to determine whether there is a 'ceiling' beyond which additional tuition is less beneficial.

Figure 3: Scatterplot showing pupil dosage by follow-up score for each school



3.5 Cost

There were core and variable costs for the intervention, as described below. The minimum core cost for a school to train and equip five coaches to deliver the intervention to 60 pupils for a year would be around £76,300 (around £15,260 per coach, or £1,272 per pupil). The maximum cost (core plus variable costs) would be around £87,100 (around £17,420 per coach, or £1,452 per pupil).

Core costs—salaries

The schools in the trial each had core staffing costs for the annual salaries for each coach employed (16 coaches in total in this trial, spread across the four schools). Coaches were employed full time for 35 hours a week over an academic year; their salaries were £16,200 per coach in the trial year (£13,500 plus on-costs at 20%). For the following year of coaching, the lead school has reported being able to recruit coaches at a lower salary of £14,000 (£12,000 plus on-costs at 20%).

There were additional staffing costs associated with administration (in the lead school this amounted to one day per fortnight of administrative personnel support time). Assuming some administration is required (irrespective of whether the project is a trial, or a single-school project), staffing costs at one day per fortnight to support five coaches for a year would be approximately £1,900 (around £380 per coach).

Core costs—training and resources

There were also costs for training materials and training time, including the literacy conference which took place in February 2014. Training costs were of the order of £3,000 for five coaches in the lead school where they spent around 90 minutes weekly training each coach, and staff attended the literacy coaching conference at a cost of around £600 per coach. The lead school has reported that training costs can be reduced by a third in the second year (to around £2,000 for five coaches in one school—around £400 per coach); we have used this lower figure to estimate core costs rather than the start-up figure for the trial year.

Core costs for resources (books, printing, stationery, rewards, and applications) are estimated at around £400 for a year for a school with five coaches (around £80 per coach).

Variable costs

In practice, both training and resourcing costs were variable costs. The lead school, for example, spent £1,200 on resources in the trial year (around £240 per coach), as a laptop was purchased for the coaches. Similarly, training costs in the first year of a programme in a school would entail greater material costs than in subsequent years.

There are clearly economies of scale in training and equipping coaches: if joint training was provided for coaches from a number of schools, savings would be made.

Trial school costs

Run as a trial, there were also costs for a member of staff to oversee the intervention (£3,104, or £16.78 per pupil), and for senior leadership time of around one day each fortnight to coordinate the project (£5400, or £29.19 per pupil). These costs facilitated the whole trial, involving 4 schools, 12 coaches and 185 intervention pupils. These costs are not included in the intervention costs per school and per pupil shown at the top of Section 3.5.

In trial schools, coaches were provided with worksheets, stationery and reading books and, in some schools, computer equipment (a laptop in one school, and tablets in another). Some coaches had small personal expenses: some, for example, did their colour printing at home because they found it difficult to access the facilities at school; some bought small rewards; some downloaded educational applications; and some bought one or two books to use with their pupils.

Process evaluation

The project was initiated by Perry Beeches Academy. The trial design and plans for delivery of the tuition were agreed by June 2013. Four schools took part in the trial, and agreed to recruit their own coaches. This section is informed by observations of the tuition sessions, group interviews with 12 of the 16 coaches, written feedback from a small number of coaches, and coaches' logs of session activity.

4.1 Training and preparation

There was no consistent set training programme that all coaches received at the start of, or over the course of, the programme. The original training planned for the start of the programme (August/September 2013) did not take place. A literacy conference was convened half way through the year for coaches and school staff. Other in-house training was undertaken in some of the schools. The training, support, and resources coaches said that they had received to implement the intervention varied between schools, as outlined in Table 14.

Table 14. Training, support, and resources coaches received

Training/support	School 1*	School 2	School 3	School 4
Before starting coaching (or early on)				
Outline of literacy concepts to be covered	x	✓ guidance on pupils' areas of weakness	✓	✓
Basic resources (e.g. worksheets) and ideas for activities/planning sessions	x	✓	✓	✓
School-based training (delivered by English/SEN teaching staff)	x	✓ literacy activities	✓ e.g. phonics	✓
Observing/acting as teaching assistants (TAs) in English lessons	✓	✓	✓ coaches had previous experience as TA/coach	✓
During intervention period				
School-based training (delivered by English/SEN teaching staff)	x	✓ e.g. vocabulary, speech and language difficulties, attachment theory	x	✓ e.g. creating resources, marking, special needs
Ad hoc support from English/SEN staff (e.g. behaviour management)	✓	✓	✓	✓
Regularly attending staff meetings (e.g. English teachers, TAs, SEN staff)	x	x	✓	✓

**Attending coaches conference
(February 2014)**

✓

✓

x

x

**In this school, one coach delivered maths tuition.*

At one school, all coaches reported that they had had no initial formal training or support to plan, resource or deliver sessions. At a second school, all coaches had some training and support but did not feel this was adequate: as one commented some months into the intervention, 'I still feel like I've been thrown in at the deep end'. Coaches who were interviewed at the other two schools reported feeling prepared and quite confident to deliver the tuition. At three schools, coaches were given a simple framework for the literacy concepts they should cover in the sessions (a list of topics), and were advised that this was a guideline only as they should tailor the tuition to the pupils' areas of weakness.

A literacy coaches' conference in February 2014 brought some of the coaches together for a day (plus an initial half day of orientation and social activities). Coaches from two schools did not attend the conference, with the intention that SEN department staff and senior leadership staff attending would cascade any learning points to the coaches. Senior staff from the lead and host schools spoke to the coaches about the value of, and their ambitions for, the project. Coaches, experienced SEN teaching assistants, and other staff explained and/or facilitated short activities using particular approaches, such as encouraging reluctant learners; word games that they had found to be effective; 'bringing abstract concepts [in grammar] to life'; therapeutic story writing; and whole-school approaches to literacy such as 'Drop Everything and Read' (all pupils and staff reading for 15 minutes in tutorial time) and Accelerated Reader. After the conference, all coaches were given access to a GoogleDrive 'drop box' where one of the school project staff had uploaded some guidance (for example on using data to track pupils' progress, and on differentiation) and suggestions for activities.

4.2 Intervention delivery

Nature of sessions

As noted in sections 1.1 and 2.3, the programme was designed to deliver one to one coaching to pupils. In practice, pupils received a mixture of one to one and small group coaching (two to three pupils with one or two coaches), although the nature and extent of this 'mix' varied across schools. Observations and coach log data highlighted that across all schools pupils had a varying number of paired or small group sessions each fortnight with other intervention pupils. In two of the schools, most sessions were one to one; in a further school, there was a mix of pair or small group work and individual sessions; and in a further school, pupils were provided with a longer pair or small group session one week followed by a shorter one to one session in the subsequent week.

Coaches explained that the rationale for the pair or small group sessions was that some pupils were deemed to work better or feel more comfortable in a small group than on their own. Where groupings occurred, these were generally consistent through the year and based on achieved level; occasionally a pairing would need to be changed because the pupils did not work well together or if they made different levels of progress.

The coach logs were not sufficiently detailed to allow a full analysis of the amount of one to one contact time with coaches as opposed to pair or group time.

Length and frequency of sessions

The programme was intended to deliver five one-hour sessions per fortnight for each pupil involved, amounting to approximately 4,800 minutes in total over the delivery period.⁵ In practice, the amount of coach contact time received by pupils varied greatly, ranging from 395 to 5,220 minutes for pupils who stayed the course of the literacy coaching programme, and who sat the baseline and follow-up tests. In addition, 14 intervention pupils received maths tuition but no tuition in English (see also About the Coaches below, and Section 4.6 on fidelity). Sessions typically ran from 20 to 60 minutes. Whilst coach contact time varied according to pupil absences (a few pupils were absent quite substantially during this programme), a key variation in coaching time was by school. In two schools, pupils were timetabled to receive five 60-minute sessions each fortnight (sometimes this was timetabled as four sessions depending on where half-term fell, and so on). In a third school, sessions were recorded at around four per fortnight, but for a slightly shorter amount of time, 50–60 minutes. In the fourth school, sessions were less frequent, usually once a week (sometimes twice); sessions here typically ran from 20 to 50 minutes, depending on the school timetable and the nature of the sessions. In this school, pupils received an alternating pattern of a longer 30–40-minute group session followed by a shorter 15–20-minute one to one session the following week throughout the year.

Session content

There was no pre-defined programme of literacy activities to be used across the whole programme, however it was delivered to a semi-structured plan with sessions detailed in advance for the full academic year in two of the schools, and to a loose plan in the other two schools. Coaches were intended to tailor each individual session to individual pupils. At two of the schools, coaches were given a list of literacy elements to teach, and in a third school coaches received guidance on pupils' areas of weakness. Coaches tended to use the texts that children were reading as part of the Accelerated Reader scheme for reading, vocabulary and comprehension tasks (in the schools that used the scheme). The suggested list of literacy elements at two schools included: phonics; word recognition; responding to vocabulary; spelling and punctuation; tenses; sentence structure and paragraphs; paired reading or reading aloud; letter writing; and rhyme and poetry.

The coaches' logs indicated that they had covered all (or nearly all) of the literacy topics listed above, sometimes using extension activities with more able pupils, such as figurative language, discussing points of view, and research skills.

A few coaches had been trained in particular approaches during previous employment and they incorporated these in the sessions. One example of this was 'therapeutic storytelling', where the coach modelled a story for pupils who were asked to write for 15 minutes in silence before the coach gave feedback and asked questions to encourage pupils to expand on the story in a structured way. The therapeutic element is that the story scaffold allows pupils to write about personal experiences and feelings through the 'safe' medium of their fictional characters. Coaches who used this approach thought this increased pupils' confidence and willingness to attempt longer pieces of writing, which led to improvements in other areas such as vocabulary use.

To help connect what pupils were learning in the classroom with their individual sessions, coaches used texts that children were reading as part of their usual reading schemes. For example, in three of the schools coaches used their pupil's chosen book from the Accelerated Reader scheme for one to one reading and for comprehension exercises.

Other resources used during observed sessions included: worksheets; story scaffolds; laminated reference sheets for key information such as punctuation; pictures or photographs as stimuli; and mini-

⁵ Over a shortened academic year of October to June. Calculated at 39 weeks, minus two weeks for Christmas, two weeks for Easter, and three half-term weeks, a total of 32 weeks.

whiteboards. In one school, all pupils had tablet computers so coaches often used applications for spelling or word retrieval practice.

In one school, the coaching intervention also included pupils attending a small number of workshops (such as creative writing, or hearing a football author speak at a local football club venue).

Coaching activity also included regular progress tests and assessments throughout the year. Coaches assessed and tracked pupils' progress in different ways, including: using Year 7 English class test results; Accelerated Reader test results; marking; pupils' individual educational targets; the Language and Literacy audit continuum from the national literacy strategy framework; and conversations with the pupils about areas requiring further consolidation. Some observed sessions began with a brief formative assessment (for example, finding out what the pupil knew about using speech marks) or with a recap of what they had learned in the previous session. In some schools there were regular mock tests for intervention pupils throughout the year.

Withdrawal from other lessons

The programme was intended to be supplementary to pupils' usual English subject lessons. In practice, pupils were indeed withdrawn from a range of subject lessons to attend tuition sessions (these included languages and humanities but not normally core subjects such as English, maths and science). In two schools, the lesson was often French.

Control group activity

Pupils in the control group were not intended to receive coaching. They were to receive a similar programme of tuition in the following academic year, when they would be in Year 8. As intervention sessions were not necessarily withdrawals from normal English classes, intervention pupils may have spoken with their peers in normal lessons about what was being delivered in their coaching sessions. On occasions, coaching staff sat in on normal English lessons with their assigned pupil(s), consequently, there may have been some relaying of intervention content to control group pupils. However, this would not have been delivered as targeted support and is therefore unlikely to have caused contamination amongst the control group.

About the coaches

Individual schools recruited their own coaches to deliver the tuition. It was intended that coaches would be recent graduates with some experience of working with children. Coaches were mostly graduates (a mixture of recent graduates and those who had substantial work experience); others had Level 3 qualifications plus experience working with school children. Nearly all of the interviewed coaches had relevant work experience and skills to bring to the role, for instance experience as a teaching assistant (in a primary or secondary school), unqualified teaching, mentoring secondary school children, or training in therapeutic story writing (for pupils with emotional difficulties). Some coaches had worked at the school in which they were employed during the trial in the previous year(s).

One school recruited one maths and one English coach, as originally the developer intended that the project would evaluate numeracy tuition as well as literacy tuition. The number of coaches per school, the number of pupils intended to be coached at each school (12 pupils per coach), and the number actually coached (according to coach logs), are shown in Table 15 below.

Table 15: Proposed number of coaches and pupils

School	Number of coaches	Intended number of intervention pupils	Number of coached pupils (according to logs)
School 1	2*	24	27
School 2	6	72	69
School 3	3	36	32
School 4	5	60	57

* One of these was a maths coach.

4.3 Observed sessions

Observed sessions lasted between 20 and 60 minutes. In one school, all tuition took place in a dedicated room which was quiet, spacious and stimulating, with lots of literacy-related posters (vocabulary, reminders of key concepts, and so on). In the other schools, pressure on space meant that some sessions took place in libraries or other spaces which were quite noisy (due to external noise or the room being used by other children or staff not involved in the tuition) and this was occasionally disruptive.

Coaches tailored the activities and learning objectives for observed sessions according to the needs and abilities of individual pupils. Coaches reported that reading or handwriting was often used as the first activity to 'warm the pupil up' to the session. Coaches expressed a preference for 'hands-on' activities as they thought this encouraged pupils to focus and made sessions more enjoyable for pupils. Activities observed in the lessons included:

- ordering the alphabet, handwriting practice, spelling tests/practice, and dictionary use;
- word searches (finding words from homophone sets);
- identifying, explaining and using homophones, parts of speech, figurative language, and punctuation;
- point, evidence, analysis/explain technique for responding to a text;
- reading out loud with corrections;
- writing for different purposes (for example, a short story, leaflet, letter, comic strip, or play script); and
- preparing collections of pupils' written work to show at parents' evening.

Coaches who were observed were generally calmly enthusiastic and patient, and gave pupils lots of praise and encouragement to persevere with tasks. They gave timely and constructive feedback to pupils. In some observations, coaches corrected the pupils' reading but did not provide an effective explanation of how the word should be pronounced or fully draw on the phonics teaching that pupils had had. The coaches reported that pupils often struggled to retain new vocabulary, and one coach reflected that this was due to not knowing effective methods for teaching this. Observations and self reports from coaches indicated that they did not all have strategies to manage pupils who were resistant to learning.

Observed pupils tended to be focused and worked well for the majority of the session, although in two sessions the pupils were reluctant to attempt activities that would challenge them, and in another two observations pupils lost focus part-way through the session. One coach observed that the benefit some pupils could gain from these sessions was limited because they came to school too tired to

learn. More able pupils were particularly enthused by activities undertaken in a small group, such as 'dictionary dash' where they competed with another pupil to be the first to find a given word, or in being 'story detectives' to discover the sub-text of a narrative. Coaches had mixed views about the benefits of one to one versus small group coaching: one to one sessions had the advantage of it being possible to individually tailor each session and give instant feedback to the pupil, and therefore to build more of a nurturing working relationship; small group sessions enabled interactive activities, and opportunities for pupils to support and peer-assess one another. This peer support was thought to be especially helpful for pupils whose first language was not English.

Note that in two of the schools, what was observed in sessions did not correspond with the brief records of content recorded on activity logs for those dates. Different topics and much more detail was observed than had been recorded. Limitations in the coach log completion are outlined further in Section 4.6.

4.4 Facilitators to delivering the intervention

Suitable learning environment

Coaches thought it was important that pupils had a reasonably quiet, stimulating, and comfortable environment in which to learn.

Coaches' familiarisation with the schools' literacy curriculum and teaching methods

It was important that coaches, particularly those without prior experience as a teaching assistant or coach, observed some English lessons before they started tutoring. This helped them to understand the curriculum, to observe strategies that teaching assistants used, and to note the difficulties that some pupils had with literacy.

Support from other staff

Coaches were better prepared and more confident to tutor if they worked closely with the English Department to review schemes of work and assessment frameworks, and if the English and SEN Departments provided them with resources and guidance. Successful integration of coaches into the school, and in particular to the regular learning that pupils were making in literacy, was reported in two schools. In the other two schools, coaches felt somewhat isolated (reporting, for example, being employed solely to deliver tuition sessions), or did not work closely in a systematic way with the English or SEN review processes.

Feedback from pupils

Coaches thought it was important to understand why a pupil did or did not engage with a particular activity, to potentially reach a solution or compromise. For example, if a pupil was reluctant or anxious about doing a task, it often helped to involve the pupil in the decision about how long they would spend on a task, and to use timers so the pupil could keep track of how much time was left.

4.5 Barriers to delivering the intervention

Some pupils' reluctance to engage in the intervention

Pupils' poor behaviour and lack of focus was a common problem in two schools. Coaches felt this was mainly due to pupils' underlying behavioural and attention problems, their lack of confidence, or pupils feeling they did not need support with literacy. Coaches were not all given guidance on how to deal with reluctant learners as part of any initial training. Coaches reported that a small minority of pupils felt 'stigmatised' and were embarrassed about attending the sessions, despite schools' efforts to

promote the support positively. One coach found it helpful to use behaviour charts with small rewards (points).

As sessions were withdrawals, pupils were sometimes unwilling to leave their normal lesson and coaches needed to collect them, which wasted tuition time and made for a negative start to the session. Sometimes pupils forgot to attend because their sessions were not always at the same time each week; coaches displayed timetables and gave pupils passes to remind them about their sessions which helped somewhat.

Inadequate training and support for some coaches

Coaches who were interviewed or completed logs at two of the schools did not feel well-prepared to deliver the tuition. Their particular areas of concern included effective teaching methods, how to 'pitch' the sessions, and how to work with children with special needs or behavioural difficulties. These coaches said that this was because they had not had adequate training and did not understand what was expected of pupils at different literacy attainment levels—or what progress they could reasonably be expected to make—which made it difficult to set aims and objectives with pupils. Coaches appreciated that there would be some 'trial and error' in terms of how pupils would respond to a task, but some were concerned that their approach to planning and delivery had been initially 'haphazard' until they had spent some time getting to know the pupil. Some coaches' lack of familiarity with technology hindered their efforts to record and use tracking data, or to use tablet computers effectively with pupils.

Delay in commencing intervention

Due to administrative delays, pupils did not start tuition in mid to late September as anticipated; instead, they started at the end of October or the beginning of November. Coaches felt this increased pupils' reluctance to be taken out of lessons as they had settled in their classes and did not realise they were 'low attaining' in literacy.

Unsuitability of some learning spaces

Some coaches thought their allocated room or space was not fit for purpose ('sterile', not private, or noisy). School libraries or atria were thought to be a less formal environment, but some pupils felt self-conscious about doing the session in a 'public' place.

Initial lack of cooperation from some teaching staff

Coaches reported that a small number of teachers were reluctant to release pupils from their class to attend the sessions, particularly if they were doing a substantial task or test. This was not a problem in all schools. The situation seemed to improve over the course of the trial; coaches thought this was because teachers could see that pupils were benefitting from the tuition.

4.6 Fidelity

Fidelity to nature of delivery, frequency and length of sessions

According to coach log data, in two schools, no pupils received the five one-hour sessions per fortnight that were intended by the programme, whereas in a further two schools (according to the data) most pupils received the intended dose, or close to it. The amount of tuition time each pupil received (at any school) was affected by illness (of the pupil or coach), sessions cancelled due to other school events, timetabling issues, the normal length of lessons, and the overall number and nature of the sessions delivered. In one school, there were several instances of unauthorised pupil absence, and pupils leaving the school mid-term. In one school in particular, the amount of tuition time

was affected by the nature of the sessions—longer 30–40-minute group sessions being followed by a short 15–20-minute one to one session.

Limitations in the detail provided in coach logs mean it is difficult to calculate with certainty the amount of one to one coaching time pupils received—it is not always clear where sessions were conducted in a group, and whether they were one to one. Instead, we have calculated total coach contact time per pupil. The overall total of coaching time that pupils received ranged from 395 to 5,220 minutes for pupils that stayed the course of the year, sat baseline and follow-up tests, and received literacy coaching (pupils who left the school during the year are not included in this range). The total number of sessions per pupil ranged from 13 to 87 (around four–five sessions per fortnight—again calculated for those pupils who stayed the course of the programme). In addition, when considering what was actually implemented against what was planned, we note that (a) 14 intervention pupils received zero literacy coaching (they were coached by a maths tutor), and (b) 17% of all analysed intervention pupils (Table 7) were above Level 4c (indeed, at Level 5) according to end of Key Stage 2 National Curriculum assessments in English (the intervention was intended for those below Level 4c).

Variations in the detail provided in the coach logs also mean there are limitations in what we can report about how sessions were tailored to individuals, and what was actually delivered compared to what was planned. In two of the schools, logs were compiled by an administrator and appeared fairly uniform across coached pupils; the tailored nature of the sessions was not recorded in these logs. Despite attempts by the evaluator to access the original logs, these were not supplied. For some of the coaching sessions, what was observed differed from what was recorded in the coach logs.

Fidelity to training

There were limitations in consistency of training across the whole programme, particularly with regard to that planned for the start of the programme: some coaches received no formal training, while others received ongoing in-house training. Furthermore, a literacy conference convened part-way through the year was not attended by all coaches (although there was a plan to cascade the training to those who did not attend).

Adaptations

An important aspect of the intervention design was that sessions could be adapted for an individual pupil. Coaches deviated from their planned lesson if, for instance, the pupil did not have the assumed prior knowledge, requested help with a particular piece of class work or specific area of literacy, or refused to do a task. Coaches tended to prepare more than one way of delivering material and had extension and simpler activities on standby.

The reason for delivering some sessions in pairs or small groups was that coaches felt that some pupils worked better or felt more comfortable in a small group rather than on their own. On the whole, pupils did indeed respond well to the small group situations, and, as discussed previously, in one school most pupils received over half of their tuition time (around half of their sessions) in groups of two or three.

4.7 Outcomes

Coaches reported that pupils' literacy had improved (to some extent) in these areas:

- expanded vocabulary, more accurate spelling, use of more complex punctuation, and improved sentence structure;
- ability to produce a greater volume of meaningful, legible writing;
- improved narrative structure;

- improvement in reading age (assessed by Accelerated Reader testing) and comprehension; and
- greater fluency in reading aloud.

Coaches also felt that the focus on individual tuition had had other benefits, such as:

- inspiring some pupils to read for pleasure;
- building pupils' confidence through giving praise for small achievements; and
- giving coaches the opportunity to notice particular issues requiring specialist support (for instance, speech and language intervention).

For a small minority of pupils, coaches reported negative effects:

- pupils being required to miss lessons that they enjoyed; and
- stigma attached to receiving extra support.

4.8 Formative findings

Coaches thought the intervention was very much needed to address literacy weaknesses across the whole age range, and that their school would benefit from more coaches being available. They recommended some developments to the programme to facilitate its wider implementation.

Training to integrate more with school and literacy work

The coaches had a range of qualifications (levels and subjects) and experience of supporting children academically. In order that coaches can make most effective use of the limited tuition time, they should attend a training programme before they begin tutoring and should have scheduled review meetings with their line manager or head of department to identify further training needs. Based on the coaches' feedback, the initial training should include guidance on effective teaching techniques; the literacy framework/scheme of work used by the school; the use of assessment data in measuring progress; marking and giving feedback on pupils' work; guidance on behaviour management; and signposting to literacy resources.

Supervision from senior leaders

Senior leaders should ensure that all staff are aware of how the scheme is being implemented and the potential benefits to pupils, and that they receive information on the pupils' progress in the tuition sessions.

Timetabling the sessions for the year

Schools should also plan out a timetable of sessions for the year, including withdrawal from a range of classes (to avoid time for another subject area being substantially reduced), or consider withdrawal from some normal literacy classes.

4.9 Control group activity

Coaches thought that pupils would not have shared what they had learned with other pupils who were not in the intervention. However, as intervention sessions were not necessarily withdrawals from normal English classes, intervention pupils may have spoken with their peers in normal lessons about what was being delivered in their one to one sessions.

Control group pupils did not receive one to one tuition from the coaches, but some were involved in other literacy support from school SEN or EAL departments, some of which was on a one to one basis. At each school, intervention and control pupils had access to other schemes as part of the

school's literacy strategy, such as Accelerated Reader, 'reading mentoring' of Year 7 pupils by older children during form time, a creative writing group, or supported reading after school.

As explained in Section 4.1, on occasions, coaching staff sat in on normal English lessons with their assigned pupil(s), and hence there may have been some relaying of intervention content to control group pupils. However, this would not have been delivered as one to one support and is therefore unlikely to have caused contamination amongst the control group.

Conclusion

Key Conclusions

1. The programme had a positive impact on pupils' attainment in reading, spelling and grammar, equivalent to approximately five additional months' progress. The evaluation did not seek to prove that the approach would work in all schools, but did identify strong evidence of promise.
2. The programme had a similar effect for pupils eligible for free school meals as for their peers.
3. There was considerable variation in the way that the initiative was delivered across the four schools. Pupils received a mixture of one to one and small group support, but the frequency and duration of sessions ranged widely between schools and students. There was also variation in the training and supervision coaches received.
4. Coaches felt that pupils engaged well with the variety of sessions and that both one to one and small group work was beneficial. However, it was not possible to identify the precise contribution that the one to one sessions made, and greater definition of the approach may be required were the approach to be trialled in a larger number of schools.
5. The cost of the programme was high compared to other literacy catch-up approaches—including those delivered one to one—due to the salary costs of coaches and the intensity of support provided.

5.1 Limitations

Limitations in the evaluation

The main limitation with the evaluation was the level of measurement attrition. At 22% (20% in the intervention group and 24% in the control group), this is reasonably high compared with usual absence rates expected on the day(s) of testing. Reasons for this included, in one school, trial pupils from one class not sitting the test (this school had four classes of Year 7 pupils in total and all four classes had pupils involved in the trial). In addition, seven pupils left their school during the course of the year, and one pupil was withdrawn from the study due to behaviour. However, there was no evidence that this led to bias on observable characteristics that might affect the security of the findings.

A limitation of the dosage data was that it was not always clear from coach logs which sessions were one to one and which were group sessions (the logs had not been designed to capture group sessions as this had not been an expected part of the programme). As a result, total coach contact time was calculated per pupil, rather than as one to one contact time. Furthermore, the dosage data from two of the schools appeared almost perfectly uniform whereas that from the other two schools was more variable and considerably lower (see Figure 3 above). The coach logs from the uniform dosage schools were compiled by a school administrator who collated the original coach logs. Despite attempts by the evaluator to access the original logs, these were not supplied.

Generalisability

This trial was run as an efficacy trial in four schools. The schools were known to the developer and not randomly selected for participation in the trial. Hence, whilst internally valid, this trial has limited external validity. The sample cannot be said to be representative of any population of schools beyond those involved. The analysis reflects this and does not attempt to generalise beyond the sample of pupils within the trial.

That said, coaches delivered the intervention with limited supervision in some schools, rather than being developer-led, and so the result may be applicable to a real-world scenario. However, given the

range of implementation, any school or group of schools wishing to adopt this initiative will face substantial challenge in knowing which of the varied delivery strategies to adopt. Taking into account the overall limitations regarding implementation, it could be that in a real-world scenario, a tightly managed one to one intervention (with full training, and delivering five one-hour sessions per fortnight) could have even greater impact. Conversely, it is possible that schools in different circumstances, for example with less motivation to deliver one to one tuition or less buy-in from leaders for the approach, would find it hard to implement the programme effectively.

5.2 Interpretation

The main result of the trial was that the Perry Beeches Coaching Programme had a moderate effect on reading and writing attainment (specifically reading, spelling and grammar), as compared to normal English provision only in Year 7 in the four schools involved. (Note: coaching was provided as an addition to normal English provision.)

Although this trial should be regarded as an efficacy trial, it was the first time in England that the intervention was implemented outside of the lead school. However, there was no consistent developer-led condition applied to all schools. Overall, supervision and training for the coaches varied by school. There was considerable variation in the way that the initiative was delivered across the four schools. Pupils experienced a mixture of one to one coaching, and coaching in small groups. The frequency and length of tuition sessions also varied considerably. The lack of an obvious pattern of dosage versus attainment in Figure 3 is intriguing. The dosage model controls for school, gender and prior attainment and returns a highly significant effect of dosage. However, given the huge variance in recorded dosage and the observational (rather than causal) nature of this model, we believe it is inappropriate to report learning gains from hours of tuition received.

The Education Endowment Foundation's toolkit summary on one to one tuition states that there is strong evidence for the benefits of one to one tuition in reading for primary school children who have below average attainment (Higgins et al., 2013).⁶ Meta-analyses indicate that pupils can make about four or five months of progress during an intensive programme, however most studies have involved primary schools. The current trial set out to address this gap, and whilst this evaluation does indeed show that pupils at secondary level can also benefit from one to one tuition, the variations in delivery, and to some extent the tailored nature of one to one sessions, may make this a difficult initiative to replicate without further published instruction or materials.

The EEF toolkit also provides evidence that small group tuition is beneficial.⁷ However, the evidence is not conclusive and is complicated by issues such as teacher/tutor quality, levels of intensity of tuition, and the effect of other approaches employed such as peer tutoring and collaborative learning. On this programme, many pupils experienced some pair or small group coaching—as well as one to one—as coaches felt this was necessary to aid the comfort and confidence of pupils. The mixed approach makes it difficult to claim that the effect is down to 'one to one' tuition per se.

This evaluation has demonstrated that a combination of one to one and small group tuition by graduates can return expected gains in literacy without consistent guidance on what should happen in the tuition sessions. The impact in terms of number of month's progress is consistent with existing evidence on the effects of one to one tuition. However, it is worth noting that the nature of this initiative, using graduate tutors for reasonably intensive tuition over a whole academic year, does not appear to have enhanced the effectiveness of this kind of intervention beyond levels quoted in the EEF toolkit. Variations in delivery may have diluted its potential. Indeed, given the substantial variation

⁶ <http://educationendowmentfoundation.org.uk/toolkit/one-to-one-tuition/>

⁷ <http://educationendowmentfoundation.org.uk/toolkit/small-group-tuition/>

in delivery strategy used, this method has potential for further research that might optimise delivery and considerably increase effect size.

5.3 Future research and publications

Given the strong evidence for positive impacts of one to one tuition, future trials might explore the specifics of how such coaching works and, in particular, what kinds of coaching work best. A number of future experiments are envisaged. In each case, a more tightly-managed intervention is assumed, adopting the formative findings concerning the need for consistent training, supervision and planned timetabling from this evaluation as a minimum. Future trials should therefore explore:

- incrementally increasing the dosage of one to one tuition;
- incrementally increasing the dosage of small-group tuition;
- one to one versus small group tuition;
- new graduate-led versus teaching assistant-led one to one tuition; and
- new graduate-led versus teaching assistant-led small-group tuition.

The per-pupil cost of the intervention reported here is significantly above the annual Pupil Premium available to eligible state secondary pupils in England. It is therefore critical that the dosage and exact nature of the intervention is refined in order to ascertain whether a more cost-effective intervention is possible.

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Appendix 1: Model results

Results of main effect model:

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	14.645	14.910		.982	.327
	Basescore	.751	.047	.667	15.940	.000
	intervention	2.909	.679	.177	4.288	.000
	school1	-4.275	1.165	-.167	-3.669	.000
	school2	-2.647	.778	-.155	-3.400	.001
	school3	-1.905	1.158	-.075	-1.645	.101
	female	3.251	.694	.196	4.685	.000
	fsm	-.698	.730	-.042	-.957	.339
	followage	-.055	.101	-.023	-.544	.587
2	(Constant)	6.558	1.042		6.295	.000
	Basescore	.750	.047	.666	15.951	.000
	intervention	2.924	.677	.178	4.319	.000
	school1	-4.279	1.164	-.167	-3.678	.000
	school2	-2.609	.774	-.153	-3.369	.001
	school3	-1.953	1.153	-.076	-1.694	.091
	female	3.282	.691	.198	4.752	.000
	fsm	-.673	.727	-.041	-.925	.356
	3	(Constant)	6.346	1.016		6.246
Basescore		.752	.047	.668	16.021	.000
intervention		2.889	.676	.176	4.275	.000
school1		-4.553	1.125	-.178	-4.047	.000
school2		-2.603	.774	-.153	-3.362	.001
school3		-2.187	1.125	-.086	-1.944	.053
female		3.198	.684	.192	4.672	.000

a. Dependent Variable: Followscore

Results of FSM model:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.091	1.710		2.393	.018
	Basesscore	.846	.076	.707	11.135	.000
	intervention	3.376	1.067	.198	3.164	.002
	school1	-4.282	1.520	-.202	-2.817	.006
	school2	-1.894	1.347	-.100	-1.406	.162
	school3	-.725	1.521	-.034	-.476	.635
	female	2.376	1.053	.140	2.258	.026

a. Dependent Variable: Followscore

Appendix 2: Contract for Schools

CONTRACT FOR SCHOOLS

Please sign both copies, retaining one and returning the second copy by 6th September 2013 to Pippa Lord, Lead Researcher, National Foundation for Educational Research, The Mere, Upton Park, Slough SL1 2DQ, United Kingdom. E-mail: p.lord@nfer.ac.uk

Agreement to participate in the Perry Beeches one-to-one Coaching Project

School name: _____

Aims of the Evaluation

The aim of this project is to evaluate the impact of The Perry Beeches one-to-one coaching initiative in literacy. This initiative aims to improve reading and spelling outcomes for Year 7 children who have failed to reach Level 4 in English prior to secondary school. The programme uses recent graduates (who have attended training sessions for the initiative) employed by the school. Participating children receive five sessions each fortnight on a one-to-one basis, for a full academic year. The initiative was piloted in Perry Beeches Academy (PB1) and found to be successful. It is based on work observed in charter schools in Boston, US.

The results of the research will contribute to our understanding of what works in raising the pupils' attainment (in particular in literacy) and will be widely disseminated to schools in England. Ultimately we hope that the evaluation will equip school staff with additional knowledge and skills with which to better support children with literacy.

The Project and its Evaluation

Participants

The Perry Beeches one-to-one coaching project will be structured as a randomised controlled trial in four participating schools. In each of these schools, it will consist of an intervention group and a control group. Participating pupils will be in Year 7 this academic year. Participating pupils will have been working below National Curriculum level 4c in English and/or below level 4c in reading or writing at the end of Key Stage 2. The four participating secondary schools will have been informed of all eligible pupils due to transfer to their school in September 2013. Pupils who are eligible and whose parents agree⁸ for them to take part will be placed into a 'participation population' within their school.

Random allocation

Details of the participation population will be sent to NFER who will randomly allocate eligible pupils within each school⁹ into two experimental groups. The first group will receive the one-to-one coaching intervention for a full academic year 2013–2014 (i.e. starting in September 2013 when the pupils are in Year 7). The second group will act as a waitlist control, receiving the one-to-one coaching in 2014–15 (when the pupils are in Year 8).

⁸Via a passive consent letter, with opt-out by 9th September.

⁹ Where appropriate taking into account schools' double timetables/timetable halves

Random allocation is essential to the evaluation as it is the only way that we can say for sure what the effect of the intervention is on children's attainment. It is important that schools understand and consent to this process. Random allocation will be carried out by NFER so named pupil data will be collected by the project team and shared with NFER via a secure portal. The evaluation is being conducted by Ben Styles, Pippa Lord and Eleanor Stevens from NFER.

Assessing impact

The impact of the intervention will be measured by NFER who will assess the pupils using the paper Short Form version of the Progress in English Test (PiE; GL Assessment) at baseline (i.e. a pre-test) and again at follow-up to measure reading and writing ability. Pre-testing will occur before pupils are randomised to avoid knowledge of the intervention affecting the pre-test results. Schools will need to ensure the pre-test is administered in the week beginning 9th September, and by 13th September at the latest.

Evaluating process

The process evaluation will help provide a deeper understanding of the effectiveness of the coaching intervention, its impact, any barriers that may exist, and any improvements that could be made to facilitate potential wider rollout. NFER researchers will carry out the process evaluation, which will be designed in consultation with PB1 (the lead school), and will involve:

- an observation visit to each school, where possible during the training (September 2013)
- session observations and interviews with up to two graduate tutors per school (Spring Term 2014)
- desk analysis of training and guidance documents
- desk analysis of 'tutor logs' to be kept by participating graduate coaches

The 'tutor log' is proposed as a fidelity check for the interventions. Tutors will be expected to provide a record of coaching activity (what, when, etc), as well as reflections on their confidence and engagement in delivering the intervention, and the practicability and manageability of the programme. NFER's process analyses will provide an indication of how accessible and usable the new methods are for schools.

The Progress in English Test (PiE)

The GL Assessment Progress in English (PiE) Test assesses a pupil's reading and writing ability, and is an established standardised English assessment in many schools. The Short Form contains two themed reading comprehension passages (fiction and non-fiction) and spelling and grammar exercises. Further information about the test is available on GL Assessment's website.

In order that test results are matched accurately to the participating pupils and to assist with analysis, NFER will need to obtain the details of the participating pupils (names, date of birth, UPN, FSM status, EAL, ethnicity) at your school, and pass these details to GL Assessment.

Test responses will be collected by GL Assessment. The test will be marked and linked to pupil information by GL Assessment at no cost to your school. Detailed reports can be downloaded from GL Assessment and be exported to your school management system. This can be carried out at your own convenience. NFER will also have access to these results for the purposes of the evaluation. Pupils' test responses and any other pupil data will be treated with the strictest confidence. Named data will be matched with the National Pupil Database. No information about individual children will be made available to anyone outside of GL Assessment or the research teams within the NFER, Education Endowment Foundation (who fund the work) and the UK Data Archive. No individual school or pupil will be identified in any report arising from the research.

Responsibilities

The Perry Beeches project team will:

- recruit schools to the initiative, and gain their consent to participate in the evaluation
- recruit graduate tutors to the scheme, and deliver training sessions
- encourage graduate tutors' participation in the process evaluation interviews
- ensure graduate tutors complete the 'tutor log'

The NFER Evaluating Team will:

- conduct the random allocation
- organise the GL Assessment test to be delivered to schools as required (NFER will not be involved in administering the tests)
- collect and analyse data from the project collected from the PiE test, the tutor log and the process evaluation
- ensure all staff carrying out observations and working with pupil data are trained and have received CRB clearance
- disseminate research findings (the school and pupils' identities will not be published)

The School will:

- supply a list of eligible pupils (taking account of any parent/pupil opt-out) to NFER for randomisation
- ensure that the Year 7 timetable is arranged so that those pupils randomly assigned to the experimental group can be coached through discrete withdrawal sessions on a one-to-one basis (five sessions each fortnight); whilst their peers continue with normal curriculum activities
- agree to the Year 7 English curriculum for the pupils in the experimental group being suspended as necessary to enable the coaching sessions to be delivered
- allow NFER /the project board access to data as necessary for the evaluation of the project. Data protection and protocols will be agreed as part of the EEF contract
- allow all necessary testing to be carried out with pupils (i.e. the GL Assessment PiE tests as described above), which will require access to desks for one lesson during the week beginning 9th September 2013; and again for one lesson during July 2014. The graduates who deliver the coaching must **not** be involved with administering the tests
- agree to data managers having time to collate details of all eligible pupils and send to NFER during the first two weeks of September so that pupils' data can be linked with the test results
- communicate with parents regarding the project including seeking passive consent for their child to be involved in the project, including assessments (passive consent to be obtained by 9th September)
- agree to an evaluator from NFER observing one training session, and one intervention lesson at the school
- Provide time for tutors to complete the brief 'tutor logs' required by NFER.
- be a point of contact for parents / carers seeking more information on the project

We commit to the Perry Beeches one-to-one coaching Project as detailed above

Signatures

ON BEHALF PERRY BEECHES ACADEMY

PROJECT MANAGER _____

DATE: _____

ON BEHALF OF NFER:

PROJECT DIRECTOR: BEN STYLES:  _____

DATE: 29/8/13

ON BEHALF OF THE SCHOOL:

HEAD TEACHER [NAME]: _____

OTHER RELEVANT SCHOOLS STAFF [NAMES]: _____

DATE: _____

Appendix 3: Letter to parents

2nd September, 2013

Dear Parent/Guardian,

My name is Russell Bond and I am the deputy headteacher of Perry Beeches I – The Academy. We recently secured funding from the *Education Endowment Foundation* for a project which will evaluate the educational impact of the Perry Beeches one-to-one coaching initiative for Year 7 pupils who could benefit from some additional encouragement around reading. This project is running across several schools and your child's school is participating in this project. I am writing to you to make you aware of what is involved in the project and to offer you the chance to raise any questions about it with me directly, or with your school. Please feel free to contact me by email or phone if you have any concerns. I can be contacted via email on *** or by telephone on ***.

I have attached an information sheet which explains in simple terms what is involved. We hope that as many pupils as possible will be able to participate but we also want to offer you the chance to opt out of the project, if you so wish.

Please return the reply slip at the bottom of this letter to your school teacher as soon as possible and no later than the 9th September 2013, to notify me of your wishes. If we do not hear from you by this date we will assume that you have no objections and your child will be asked to take part.

Yours faithfully,

Russell Bond

One-to-one coaching project in reading and spelling: for Year 7s

If you DO NOT wish your child to participate in this project, return this form to your child's class teacher.

- I confirm that I have read the participant information sheet
- I do not want my child to be asked to participate in this project.

Child's name:Date of birth:

Child's class Teacher:

School:.....

Parent name (BLOCK CAPITALS)

Parent signature:

Date

Participant Information Sheet

Study title:

Evaluating the Impact of The Perry Beeches One-to-One Coaching Initiative in Year 7 pupils.

What is the purpose of the study?

We wish to evaluate the impact on children's reading and writing attainment. The project is being conducted in four schools across the country.

Why have we been approached?

We are looking to recruit Year 7 pupils who have the potential to achieve more in relation to English attainment and reading performance in particular. In particular we are interested in children whose reading achievement could be strengthened to enable them to engage more successfully with the secondary school curriculum.

Do we have to take part?

No, participation is entirely voluntary and there are no consequences if you or your child decides not to take part.

What will happen to my child if s/he takes part?

If your child takes part, they will be randomly selected to experience the programme of one-to-one coaching for a full academic year **either** during 2013-2014 **or** 2014-2015. During the year they are not experiencing the programme they will have normal classroom activities. Under the Perry Beeches initiative the children will receive five one-to-one coaching sessions in literacy each fortnight, conducted with recent graduates who are being employed by the school as coaches for this initiative. The one-to-one coaching will take place during normal school hours.

Your child will be assessed on his/her reading and spelling. This will happen for all children at the beginning of the Autumn term in September 2013, and again at the end of the Summer term 2014.

What are the possible disadvantages and risks of taking part?

There are few disadvantages and risks. The reading and spelling assessments do take a little time to complete but we will ensure that they are completed at a time when it will cause minimal disruption to your child's school work. The assessments may feel challenging and some children may feel a little self-conscious about completing them (for example, if their reading is not as good as they would like it to be). However, all results will remain confidential to the research team and we will do our best to put your child at ease throughout.

What are the possible benefits of taking part?

We know from a recent pilot study at Perry Beeches Academy and work observed in charter schools in Boston, US, that the one-to-one coaching has been found to be successful. If we find that it works in this project, then we anticipate that more schools will offer one-to-one coaching as a reading support method.

What if something goes wrong?

You or your child can indicate to the teacher if either of you no longer wishes to take part, and you can leave the study without question. If you are unhappy with the conduct of the study, you can contact me directly in the first instance using the number at the end of this sheet. You are free to withdraw at any point during the study, and for up to one month following the completion of the study. You can do this by contacting me and giving me your child's name and the name of his/her school.

Will my taking part in this study be kept confidential?

Yes. Pupils' test responses and any other pupil data will be treated with the strictest confidence. The reading test responses will be collected by GL Assessment and accessed by the National Foundation for Educational Research. Named data will be matched with the National Pupil Database and shared with the Education Endowment Foundation and UK Data Archive. We will not use your child's name or the name of the school in any report arising from the research.

What will happen to the results of the research study?

The reading test data will be used as the basis of a report to be compiled by colleagues from the National Foundation for Educational Research, which will be submitted to the Education Endowment Foundation. All participating schools and families will be informed as to the outcomes of the project overall.

Who is funding the research?

It is funded by the Education Endowment Fund.

Who has reviewed the study?

The Education Endowment Fund and the National Foundation for Educational Research have reviewed and approved this study.

Contact for Further Information

Tel: ***

Email: ***

Appendix 4: Randomisation syntax

Example SPSS randomisation syntax from one school

*Randomise pupils.

*Simple randomisation as no timetable half supplied.

```
set rng=mt, mtindex=790.
```

```
compute random=rv.uniform(0,1).
```

```
sort cases by random.
```

```
compute lineno=$casenum.
```

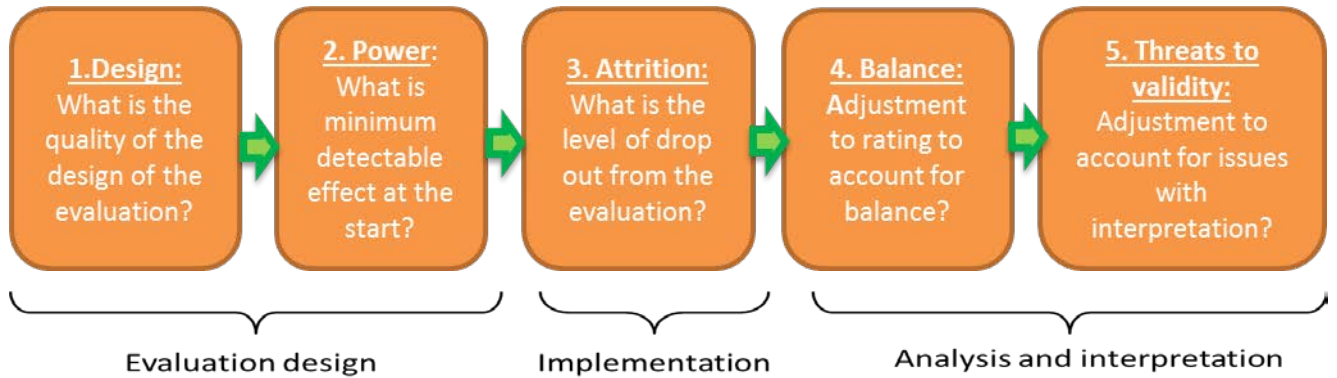
```
if lineno le 32 Group=1.
```

```
if lineno gt 32 Group=2.
```

```
ADD VALUE LABELS Group 1 'Intervention' 2 'Control'.
```

```
freq group.
```

Appendix 5: Security classification of trial 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 3 . This means that the conclusions have moderate security.

This evaluation was designed as a randomised controlled trial. The sample size was designed to detect a MDES of less than 0.3, reducing the security rating to 4 . There was moderate attrition at the pupil level, reducing the padlock rating to 3 . There was evidence of small imbalances, but not sufficient to reduce the padlock rating. The post-tests were administered by the schools by teachers, but not by the tutors, who were largely unaware of which pupils had received tutoring. It is not likely that this has affected the security of the trial. Therefore, the final security rating was 3 .

Appendix 6: Cost rating

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

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