Education Endowment Foundation

Evaluation summary

Project title	Independent evaluation of the efficacy of the KS2 Reading Fluency Project on reading comprehension: a two-armed cluster randomised trial
Developer *(Institution)*	HFL Education
Evaluator *(Institution)*	Verian Group
Principal investigator(s)	Prof. Natalie Gold
Protocol author(s)	Prof. Natalie Gold, Dr Michael Ratajczak, Dr James Thom, Pieter Cornel, Dr Debbie Blair, Dr Janet Vousden, Prof. Kate Cain
Trial design	Two-arm cluster randomised controlled trial with random allocation at school level
Trial type	Efficacy
Pupil age range and Key stage	10–11 , KS2
Number of schools *(at design stage)*	180
Number of pupils *(at design stage)*	1,080
Primary outcome measure and source	Reading comprehension (subtest of the York Assessment of Reading for Comprehension, or YARC)
Secondary outcome measure and source	Reading accuracy (subtest of the YARC), reading rate (subtest of the YARC), reading prosody (Multidimensional Fluency Scale), and KS2 National Curriculum Reading Test score (NPD, KS2_READSCORE variable, KS2_READMRK)

Protocol version history

Version	Date	Reason for revision
1.1 [*latest]*	24/06/2025	Clarifications and revisions made to data collection approach, analytical approach to one secondary outcome, compliance analysis, and power calculations. Minor adaptation of data collection approach for IPE
1.0	25/06/2024	N/A

Contents

Tables

Figures

Study rationale and background

Successful reading comprehension is essential for understanding texts. It is crucial in everyday life as it enables individuals to learn, academically and professionally, as well as to interact with others using social networking sites, emails, and text messages (Oakhill, Cain and Elbro, 2014; Freed, Hamilton and Long, 2017) In the Key Stage 2 (KS2) educational context, there is evidence for the influence of reading comprehension on educational attainment. Specifically, some studies found evidence that poor reading comprehension is associated with low scores on English, maths, and science national curriculum tests (Cain and Oakhill, 2006) – commonly known as Standard Assessment Tests (SATs). It is possible that the connection is causal, in which case improving comprehension could improve educational attainment.

One way to improve comprehension at the KS2 level could be through an intervention targeting reading fluency: reading fluency, vocabulary, and comprehension are thought to be interconnected (Perfetti, 2010). Reading fluency can be defined as reading with accuracy (reading words correctly), automaticity (reading words at an appropriate speed without great effort) and prosody (appropriate stress and intonation).[1] It is hypothesised to be central to comprehension as it is thought to allow the reader to devote more mental resources to extracting the meaning of a text (Perfetti, 1988) and constructing a coherent mental representation of the situation described by the text (Kintsch and Rawson, 2007), instead of focusing their resources on recognising words. For this reason, the EEF's KS2 Literacy Guidance Report identifies developing reading fluency as a high impact approach.[2] However, more evidence is needed on the efficacy of programmes that focus on improving reading fluency.

The KS2 Reading Fluency Project is an educational programme that aims to improve pupils' reading comprehension by improving their reading fluency, making their reading more automatic and improving their prosody. It is targeted at pupils in Year 6 (Y6) who are assessed as 'not on track' to meet the expected reading standards at the end of KS2. It is currently being used in 100+ schools in the UK. Although pre-post data from the over 2,000 pupils who have taken part in the programme suggests that the intervention is a promising approach for improving reading comprehension, more rigorous evidence is needed.[3]

This evaluation will investigate the efficacy of the KS2 Reading Fluency Project on reading comprehension among Y6 pupils, as well as test the proposed Logic Model (see Figure 1) behind the intervention by examining whether fluency mediates the effect of the intervention on comprehension. We will run a school-level randomised control trial – which eliminates the risk of spillovers within a school and facilitates intervention delivery. We are using the measure of reading comprehension from the York Assessment of Reading for Comprehension (YARC) as our primary outcome measure (Snowling *et al.*, 2009). We will use YARC's measures of reading accuracy and reading rate, alongside a measure of prosody (Rasinski, 2004), as secondary outcomes. We will also explore whether the outcomes differ by pupils' Free School Meals (FSM) eligibility status and their English as an Additional Language (EAL) status. This will be complemented by a holistic implementation and process evaluation (IPE), which will examine delivery fidelity and gather qualitative data on the mechanisms, mediators, and

[1] Improving Literacy in Key Stage 2 | EEF (educationendowmentfoundation.org.uk)
[2] Improving Literacy in Key Stage 2 | EEF (educationendowmentfoundation.org.uk)
[3] Key Stage 2 (KS2) Reading Fluency Project (hfleducation.org)

moderators of the intervention. Specifically, the IPE will investigate the causal assumptions of the Logic Model that underpin the impact evaluation (IE) and provide information about what the control groups do with their pupils, which will help us interpret the results of the IE. It will also provide evidence that could be used to improve the delivery of the intervention if it were scaled up, such as the appropriateness of the pupil selection criteria and whether the use of the YARC at baseline is helpful in tailoring the intervention.

Intervention

The KS2 Reading Fluency Project is designed to improve outcomes in pupils' reading comprehension through improving fluent reading of age-appropriate texts. The programme supports effective fluency instruction through six strategies:

- Modelled expert prosody – the teacher reads the text with expert prosody;
- Echo reading – the pupils read the text mimicking the teachers' expert prosody;
- Repeated reading – the teacher facilitates re-reading of the text towards increasingly fluent reading;
- Text marking – the pupils track the text and mark it to support increased prosody;
- Performance reading – the pupils work in small groups to practise and performance read sections of text; and
- Modelling comprehension strategies – the teacher models comprehension responses and supports pupils' skills in navigating a text and retrieving information.

Below, we describe the intervention in more detail following the Template for Intervention Description and Replication (TIDieR) structure (Hoffmann *et al.*, 2014).

Why?

Department for Education (DfE) national statistics reveal that 25% of pupils were working below the expected standard in reading at the end of KS2 in 2022. In 2023, this figure was slightly higher at 27% (Department for Education, 2023). The HFL Education primary advisory team have been working closely with schools in Hertfordshire and beyond on developing reading fluency capabilities in underachieving pupils, as it became apparent from working with schools that there is a correlation between underachievement in reading and dysfluent reading behaviours in pupils. Pupils who struggled to read age-appropriate texts with comprehension were often unable to read these texts with fluency. The premise of the Project is that in teaching children to orally read texts with fluency (accuracy, automaticity and prosody), their comprehension of the text improves. It is also assumed that the skill of reading fluency will generalise to previously unseen texts, thereby improving comprehension skills across a pupil's reading diet. This project will serve as an evaluation of the KS2 Reading Fluency programme to identify its impact and test these assumptions.

What?

The overall aim of the Project is to improve pupils' KS2 attainment, by training teachers to deliver structured reading fluency lessons to groups of 6–8 pupils who are deemed not on track to meet age-related expectations in reading. In the short term, the expectation is that through

these fluency sessions pupils will learn to read texts in a more fluent manner, which is thought to lead to an improvement in comprehension, as well as increase their confidence and engagement. (A key assumption at this stage is that improving fluency will improve comprehension.) We expect to be able to measure these outcomes using the YARC, Multidimensional Fluency Scale (MDFS), and KS2 National Curriculum Reading Test after the intervention period. (A key assumption here is that improving fluency and comprehension will improve KS2 attainment.)

Who provided?

The programme is delivered by HFL Education, who designed the KS2 Reading Fluency Project. It is delivered in publicly-funded schools in England who will have a Y6 group in the 2024–2025 school year and who indicate they will be able to identify at least six Y6 pupils who, based on HFL Education's guidance, would be likely to benefit from the KS2 Reading Fluency Project.

What will the intervention involve?

Y6 teachers are trained to deliver the programme by experienced HFL Education project advisers. Training is delivered remotely and consists of:

- Initial training (total of 4.5 hours). The first part is an e-learning module referred to as 'Session 1', that can be accessed one week prior to the launch day: it is a guided module, with quizzes and opportunities to reflect throughout. The second part is a one-day launch event, divided into three live, interactive webinars that take part before (Introduction and Session 2) and after lunch (Session 3). The Introduction webinar outlines the course reading and location of Session 1 so delegates can access the e-learning module if they have not yet done so. Sessions 2 and 3 are highly interactive, with teachers being regularly asked to respond to questions via the chat bar and to participate in games and activities. The chat bar is monitored by another team member who can feedback responses/questions to the presenter. The delivery team also monitors engagement with the e-learning module.

- A remote paired school coaching 'visit' to support implementation (2 hours). This session ensures that all messages at the initial training were received with clarity, and that teachers have started delivering the intervention to their pupils. Teachers are asked by their project advisor to record their delivery of the intervention, and these recordings are discussed during the session. The 'visit' takes place with two schools to encourage richer discussion.

- A remote mid-project group twilight session to revisit key concepts and refine understanding (2 hours).

- A final remote group reflection session to plan next steps for embedding practice beyond the programme (2 hours).

All training sessions are attended by up to two teachers, one of whom will be the Y6 teacher responsible for delivering the programme to selected pupils, and another team member, usually the English/Reading Subject Leader, who will be the Project Lead responsible for supporting programme delivery in their school and planning next steps following programme completion. If schools have more than one Y6 teacher due to job-sharing they may send multiple teachers to receive the training (schools can select which Y6 teacher(s) to send). The

Project uses a virtual learning environment for each cohort which allows for information sharing, resource sharing and networking amongst Y6 class teachers and the Project Leads.

Following teacher training, the selected pupils will receive a 20-minute fluency session from their Y6 teacher, twice a week for 8 weeks, with re-reads in between these fluency sessions. The first session of the week, denoted 'Session A' includes the following: teacher reading a sentence modelling expert prosody; pupils echoing modelled prosody; teacher repeating a modelled prosodic read of a section of text; pupils echoing the modelled prosody (using text marking when appropriate); pupils practising reading the section of text in pairs or small groups; pupils 'performance reading' the section of text to the group; teacher and pupils providing feedback to each other. In comparison, the second session of the week, denoted 'Session B', builds on Session A and the re-reads and follows this structure: pupils re-reading a small section of the text in unison; teacher asking a series of retrieval questions; teacher allowing pupils to share points of interest about the text; teacher asking further questions about the text and models a possible response; and pupils reading through the text and preparing responses to the questions.

A different high-quality text is used every week, with text recommendations and guidance provided as part of the programme. A small number of texts is provided to get started with further guidance provided on selection of the remaining texts. Practise reading of the same text (through re-reading between fluency sessions) is considered an important element of the intervention and should be monitored by teachers. Again, teachers receive suggestions on when this should take place – but this can be managed flexibly by the teachers depending on when it suits them best.

The programme also includes use of the *York Assessment of Reading for Comprehension* (YARC), facilitated by the teacher delivering the intervention, to provide further insight into each pupil's reading profile. In the programme as usually delivered, teachers complete the YARC at the start of the programme (pre-test) and at the end (post-test). The pre-test allows teachers to gain understanding of the challenges the children face with their reading in order to adjust their support. The post-test is designed to allow the schools to demonstrate progress of pupils in the intervention. In this efficacy trial the post-test will be delivered by independent assessors, to increase inter-rater reliability and to reduce the risk of biased assessments (as teachers deliver the intervention, their experience of the pupil's performance during the sessions may influence on their perception of their reading fluency).

Where?

Training sessions for Y6 teachers and school Project Leads will be delivered remotely, while the reading fluency sessions for pupils will be delivered in schools.

When and How Much?

Overall, including the training, the whole intervention lasts around one term or 12 weeks. For the efficacy trial, the intervention will be delivered in the Autumn term of the 2024–25 academic year. Initial training will take place on 18th September 2024, followed by administration of the YARC pre-test by Y6 class teachers between 19th and 27th September 2024. Pupil fluency sessions will take place between 30th September and 29th November 2024, with schools asked to deliver 16 reading fluency session in total (eight Session A's and eight Session B's).The remaining training sessions will also take place during this time, except for the final reflection

session which will take place at the start of the Spring term on 15th January 2025. For more information, please visit HFL Education's webpage about the programme.[4]

Tailoring?

The training sessions are fixed, although there is scope for teachers to receive targeted and tailored support from HFL Education about how best to deliver the KS2 Reading Fluency Project as intended, during the mid-project twilight visit and the remote paired visits, as well as ongoing email support from an allocated HFL adviser if needed.

The reading fluency sessions allow for some tailoring by the Y6 teacher delivering the intervention, who selects the texts. The Y6 teacher may also tailor support for individual pupils based on their performance on the YARC assessment administered prior to the delivery of the intervention. However, the amount of tailoring anticipated at a group-level is limited.

Who will benefit?

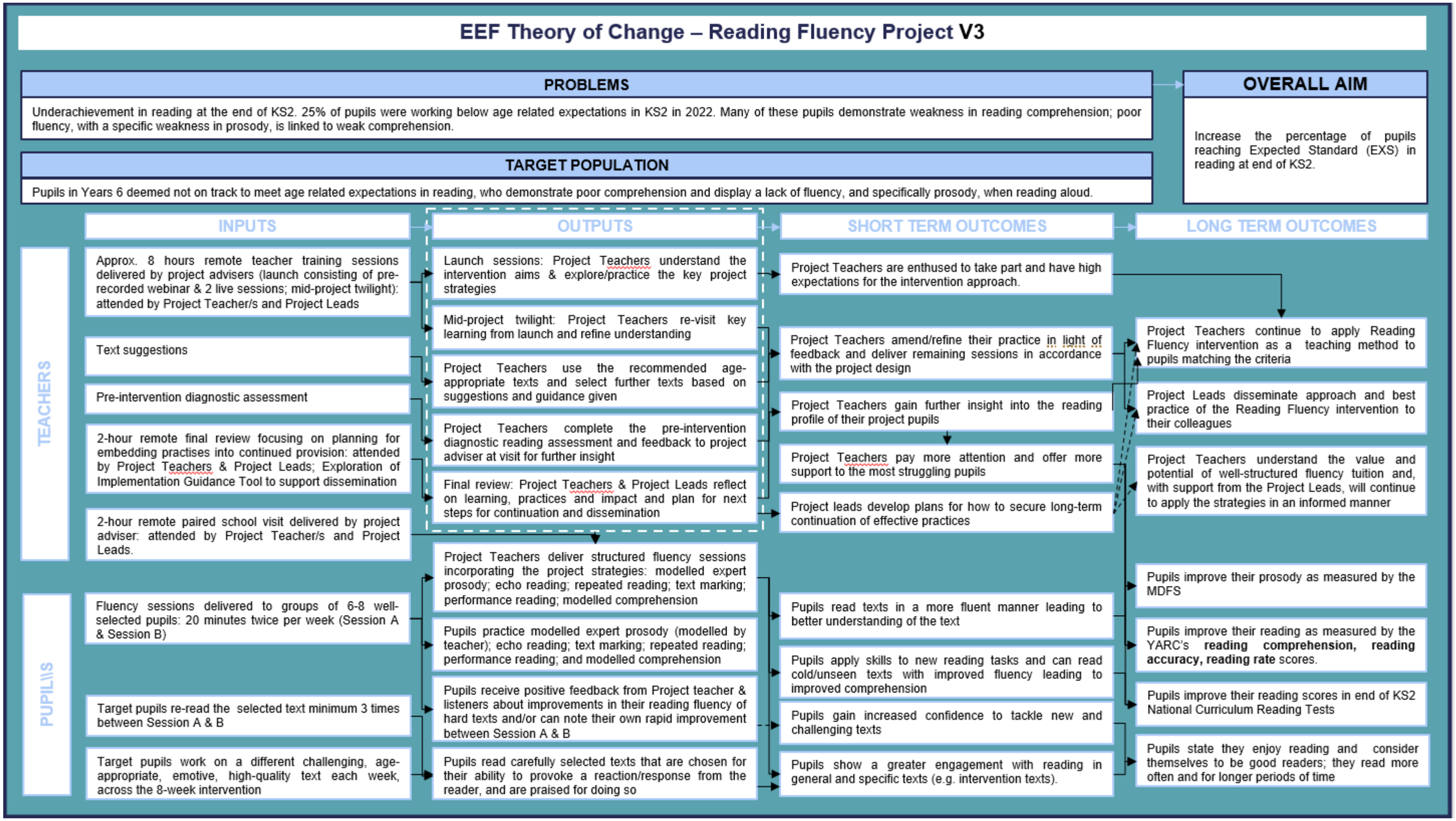
The programme is aimed at Y6 pupils who are assessed as 'not on track' to meet the expected standards in reading at the end of KS2. Teachers are provided with guidance on how to select pupils who need support with reading fluency (such as pupils who struggle to read with automaticity, or who read without intonation and expression, or without awareness of punctuation, are unable to self-correct, etc.). Based on this guidance and their judgement the teachers select between 6 and 8 pupils to participate in the programme.

In the programme as usually delivered, this selection process takes place after teacher training, and is done by the Y6 teacher who will deliver the programme to selected pupils. For the efficacy trial, however, Y5 and Project Leads (in partnership with Y6 teachers if possible) will be asked to select the then Y5 pupils (who will be in Y6 for the year of the trial) before being allocated to receive the programme or not. This will be done to accommodate programme delivery to the design of the efficacy trial, without affecting the ability for the programme to be delivered within a single term.

Figure 1 shows the logic model of the KS2 Reading Fluency Project.

[4] Key Stage 2 (KS2) Reading Fluency Project (hfleducation.org)

Figure 1: Logic model



Impact evaluation design

Research questions

In order to assess how effective the KS2 Reading Fluency Project is at improving the reading comprehension of pupils in Y6 that receive the programme, we propose the following primary research question (RQ):

- **RQ1:** What is the impact of the KS2 Reading Fluency Project intervention compared to a business-as-usual control on **reading comprehension** (as measured using YARC) in eligible pupils?

Where eligible pupils are defined as school pupils aged 10–11 (Y6) who are 'not on track' to meet the expected standards in reading at the end of KS2.

We have a number of secondary RQs designed to investigate the mechanisms by which the KS2 Reading Fluency Project intervention may operate.

In order to assess the intervention Logic Model we will ask:

- **RQ2:** What is the impact of the KS2 Reading Fluency Project intervention (compared to a business-as-usual control) on **reading accuracy** (as measured using YARC) in eligible pupils?
- **RQ3:** What is the impact of the KS2 Reading Fluency Project intervention (compared to a business-as-usual control) on **reading rate** (as measured using YARC) in eligible pupils?
- **RQ4:** What is the impact of the KS2 Reading Fluency Project intervention (compared to a business-as-usual control) on **prosody** (as measured using the MDFS) in eligible pupils?
- **RQ5:** What is the impact of the KS2 Reading Fluency Project intervention (compared to a business-as-usual control) on **performance on the KS2 National Curriculum Reading Test (as measured using the scaled score)** in eligible pupils?[5]

Subgroups

Given the focus on improving outcomes for disadvantaged pupils, we propose the following subgroup RQ:

- **RQ6:** What is the impact of the KS2 Reading Fluency Project on reading comprehension **for FSM-eligible (in the last 6 years)** pupils who were eligible to receive the intervention in the treatment group, **compared to FSM-eligible (in the last 6 years)** pupils who were eligible to receive the intervention in the control group?

[5] In the originally published version of this protocol, RQ5 was split into two research questions: RQ5(a), which is now RQ5; and RQ5(b), which replaced the scaled score with a binary measure of whether eligible pupils met the expected minimum standard on the KS2 National Curriculum Reading Test. RQ5(b) would only be addressed if the scaled score were missing in > 5% of cases. Prior to analysis, we replaced RQ5(b) with a planned sensitivity analysis using the (continuous) raw KS2 Reading Test score, which is less likely to be underpowered than analysis of a binary transformation.

In addition, there may be a differential effect of the intervention depending on whether pupils' first language is English or whether they speak English as an additional language (EAL). Thus, we also propose an additional subgroup RQ:

- **RQ7:** What is the impact of the KS2 Reading Fluency Project on reading comprehension **for EAL** pupils who were eligible to receive the intervention in the treatment group, **compared to EAL** pupils who were eligible to receive the intervention in the control group?

We note that we do not expect to be powered to detect statistically significant differences within these subgroups, which is a limitation of the Project. However, subgroup analyses are not the primary concern of this trial. Instead, the trial focuses on answering the primary research question (RQ1), for which it is sufficiently powered (see 'Sample size' section).

We will not conduct subgroup analysis which relates to the impact of the KS2 Reading Fluency Project on reading comprehension for pupils with special educational needs (SEN) who were eligible to receive the intervention in the treatment group, compared to pupils with SEN who were eligible to receive the intervention in the control group. This is due to the heterogeneity of needs which may or may not impact reading fluency and comprehension which are grouped within a binary categorisation of SEN.

We will also examine descriptively (as part of the IPE) whether the pupils being chosen for the intervention are the most appropriate as defined by the criteria provided by HFL Education. To do this we will look at the baseline YARC data collected by teachers in the intervention group and consider whether the scores align with the types of pupils who should be chosen. We will also examine descriptively the other characteristics of this group – namely the proportion of pupils taking part with EAL and FSM, as well as gender breakdown.

Design

Table 1: Trial design

Trial design, including number of arms		Two-arm cluster randomised controlled trial, with a 'business-as-usual' control
Unit of randomisation		School
Stratification variables (if applicable)		(1) School level quartiles of EAL percentage (2) School level quartiles of FSM percentage
Primary outcome	**Variable**	Reading comprehension
	Measure (instrument, scale, source)	Reading comprehension standardised score (subtest of the YARC)
Secondary outcome(s)	**Variable(s)**	(1) Reading accuracy (2) Reading rate (3) Prosody (4) KS2 Reading
	Measure(s) (instrument, scale, source)	(1) Reading accuracy standardised score (subtest of the YARC) (2) Reading rate standardised score (subtest of the YARC) (3) Reading prosody score (MDFS)

		(4) KS2 National Curriculum Reading Test score (NPD, KS2_READSCORE variable, scaled score from 80-120)
Baseline for primary outcome	**Variable**	Reading ability
	Measure (instrument, scale, source)	Early Years Foundation Stage Profile Literacy – Reading result (NPD, FSP_LIT_G09 variable, categorical from 1–3)
Baseline for secondary outcome	**Variable**	Reading ability
	Measure (instrument, scale, source)	Early Years Foundation Stage Profile Literacy – Reading result (NPD, FSP_LIT_G09 variable, categorical from 1–3)

The efficacy trial is a two-arm cluster randomised controlled trial, with randomisation at the school level. The treatment arm will consist of the KS2 Reading Fluency Project (described above) and the control arm will be a 'business-as-usual' control condition (schools will continue as normal, without the intervention). Control schools participating in evaluation activities will receive a financial incentive of £500 after completing the endline assessment. Additionally, they will be offered the intervention at a discounted rate of £650 for the next academic year. The treated schools will receive the intervention for a discounted rate of £350 instead of £850.

We will randomise schools, stratifying on quartile of EAL percentage (measured at school level) and quartile of FSM percentage (again measured at school level). This will be done to improve the precision of our estimates and to ensure balance across characteristics at a school level that may impact treatment effectiveness.

The primary outcome of interest is reading comprehension, to be measured with the reading comprehension standardised score of the YARC for each pupil. Our secondary outcomes and measures, at the pupil level, will be: YARC reading accuracy standardised score (RQ2), YARC reading rate standardised score (RQ3), MDFS reading prosody score (RQ4), and KS2 National Curriculum Reading Test score (RQ5), accessed through the National Pupil Database (NPD). Our baseline measure of reading ability (Early Years Foundation Stage Profile Literacy – Reading result) will also come from the NPD. The outcome measures are discussed in more detail in the Outcome measures section.

Participant selection

This trial is open to publicly funded primary schools in England offering Y6 in 2024/2025. A precondition of participation is that the schools are of sufficient size that they can allocate at least 6 pupils to receive the intervention (these pupils should meet the criteria set out by HFL Education in the recruitment documents). Additionally, schools already delivering the KS2 Reading Fluency Project (including those who have delivered the Project in the last 3 years), or those taking part in the 'Fixing Fluency' or 'Reading Plus' trials are ineligible.

We will include schools who are part of Multi-Academy Trusts (MAT) in our recruitment, but these will be randomised as individual schools without taking into account the MAT structure. We discussed the implications of this approach with HFL and the EEF, and ultimately decided that the short nature of the programme and the importance of participating in the programme delivery activities (vs just receiving programme materials) made spillovers less of a concern.

HFL Education will be responsible for recruiting schools. HFL Education will aim to recruit 180 schools (with at least 50% from the DfE's Education Investment Areas (EIA)), of which 90 would serve as our treatment group. In each of these schools, 6–8 pupils will be selected to be treated, meaning we expect to treat between 540–720 pupils. Please refer to 'Sample size' section for information about how the sample size was determined.

Once recruited, all schools will have to nominate a Project Lead and Project Teacher. In addition, Y5 teachers (in partnership with Y6 teachers if possible) will be asked to nominate the 6–8 pupils in their current Y5 who would be eligible for the intervention at the start of the 2024–25 academic year, when they are in Y6. Selected pupils will be considered 'not on track' to meet age-related expectations in reading at the end of KS2. They will be selected using the guidance provided by HFL Education (as outlined in the Intervention section above). Participating schools will be asked to identify target pupils (the sample) based on the guidance provided by HFL Education, and schools will have to provide this and other necessary information to Verian prior to commencement of the trial. They will also have to facilitate other evaluation activities (see Annex A – Overview of all data collection methods and sharing for more detail) and, if allocated to the control group, agree not to deliver the Project.

Outcome measures

Primary outcome

Our primary outcome measure will be the reading comprehension standardised score of the YARC, for each pupil. The YARC is a standardised assessment used to measure reading comprehension (Snowling *et al.*, 2009). It investigates the oral decoding (reading accuracy), fluency (reading rate) and text comprehension skills (reading comprehension concerning literal and inferential meaning). Given that we only have one primary outcome we will not adjust for multiple comparisons.

The YARC provides age-standardised measures of word reading accuracy, reading rate, and reading comprehension by measuring children's ability to read aloud graded passages of text and answer questions. These age-standardised scores are derived from performance across two passages of text in the YARC: the starting passage and the second passage. The YARC has two forms (A and B), with starting and second passages at each level, to facilitate repeat testing. We will use form A for the baseline assessment and form B for the endline assessment, and for the two passages will use one narrative and one expository passage with silent reading of the text first. The passages included in the YARC tap into a range of skills: word-level decoding, reading fluency, vocabulary knowledge, grammar, ability to make inferences, knowledge of the world, knowledge of story structure and text format, and comprehension monitoring and error-correction strategies.

Administration of the test begins by selecting the appropriate starting passage. GL Assessments suggests that appropriate YARC passage levels corresponds to the pupil's year group in England and Wales. Given the likely reading level of many of the participating pupils and based on discussion with HFL, we will use the Year 5 reading-level passage as the starting passage.

To obtain reliable estimates for Reading accuracy, rate and comprehension, the YARC requires pupils to read passages from two consecutive difficulty levels to completion and answer 8 comprehension questions per passage. Whilst the pupil reads a passage, the assessor will record the number of reading errors (irrespective of the type of error made) and

the time taken to read the text. After the pupil has finished reading the text, the assessor will ask the pupil 8 comprehension questions based on the passage and score the number of correct responses.

All pupils will start the YARC assessment by reading passage 5B. After a pupil reads their first passage of the YARC (Passage 5B), their performance on that passage is used to determine the next passage they read as part of the assessment. The pupil will progress to a higher-level passage for their second passage reading only if the following criteria are met:

1. The pupil made 15 or fewer reading errors during the passage reading, and
2. The pupil answered 5 or more comprehension questions correctly.

The pupil will progress to a lower-level passage for their second passage reading if either:

1. The pupil made 16–20 reading errors during the passage reading, or
2. The pupil answered 4 or fewer comprehension questions correctly.

If a pupil makes 21 or more reading errors during a passage reading, the assessor will allow the pupil to finish reading the passage (if they are able and willing to do so), but not record the time taken to complete the passage, nor ask the comprehension questions associated with the passage. The assessor will then 'restart' the assessment by asking the pupil to read the next lowest passage and treat it as the pupil's first passage reading. In this case, the pupil will progress to a lower-level passage for their second passage reading (I.e., If a pupil makes 21 or more reading errors on Level 5, they will read passage Level 4 and passage Level 3).

Some pupils may be unable to read passages from Levels 3–6. If the pupil regresses to passage Level 2 and below during the YARC assessment, there are unique discontinuation rules at each level which we will employ. Specifically:

1. When reading passage Level 2:
    a. If the pupil makes 16 or more reading errors during the passage read, the assessor will allow the pupil to finish reading the passage (if they are able and willing to do so), but not record the time taken to complete the passage, nor ask the comprehension questions associated with the passage. In this case, the pupil will read passage Level 1 as their first passage.
2. When reading passage Level 1:
    a. If the pupil makes 16 or more reading errors during the passage read, the assessor will encourage the pupil to finish the text and ask comprehension questions.
    b. If the pupil is unable to complete the passage, the test will be discontinued, and the pupil will score zero for comprehension on this passage.
3. When reading the Beginner Level passage:
    a. If the pupil makes 16 or more reading errors during the passage read, the assessor will encourage the pupil to finish the text and ask comprehension questions.
    b. If the pupil is unable to complete the passage, the pupil will score zero for comprehension on this passage and the test will be discontinued entirely.

The assessment will begin with pupils reading passage Level 5B 'Walk in the Fog '. If the pupil makes fewer than 15 reading errors on their first passage, they will read either passage Level 6B 'Shoes', or Level 4B 'Bees', depending on their comprehension score.

On completion of the second passage, an age-standardised score is obtained from the raw scores for word reading accuracy, word reading rate, and reading comprehension, with a mean of 100 and standard deviation of 15. Higher scores indicate higher ability, with scores in the range 85–115 indicating age-appropriate performance. It is important that the assessor knows how to select the passages, when to discontinue a passage, and when to prompt a child for more information. To this end, the Evaluation Team will provide detailed guidance and training for the ACER UK administrators who will administer the endline assessments.

After completing the YARC, the assessor will use the number of reading errors, the time taken to complete the passage(s) and the comprehension scores to generate standard scores using the YARC scoring tool. The assessors will then complete an excel template which includes the reading error, rate and comprehension scores for both passages, the standard scores generated by the scoring tool, and the passage levels used in the assessment.

We noted HFL Education's initial preference for teachers to administer the YARC assessment at endline, but – as well as noise from having many assessors who might not score consistently – we believed this would pose a significant risk to the outcome measures as teachers would be assessing the impact of their own teaching (of the intervention). If the outcome assessors know whether the participating pupil received the intervention and the assessment measure might be influenced by the assessors' judgments, then this would be classed as having a 'high' risk of bias, according to the Cochrane RoB2 tool for assessing quality of trials (Sterne *et al.*, 2019). We have budgeted for what we believe to be the most rigorous and cost-effective solution: independently administered post-trial assessments of the YARC and the MDFS to remove the risk of teacher bias and reduce noise.

The primary outcome, and most secondary outcomes, will be collected as part of a single endline assessment at the end of the intervention period – February/March 2025. This assessment will comprise the YARC, a version of the MDFS comprised of two passages, and some questions for pupils about their reading behaviour and experiences and will last approximately 30–40 minutes per pupil. The independent assessors will aim to conduct the assessment with all pupils identified as eligible across both conditions (treatment or control) and will be blinded to this condition. Assessment is intended to take a day in each school, and we have scheduled for up to 30% of the sample schools to receive mop-up visits to ensure we capture endline data from as many schools as possible.

For this evaluation, we will rely on independent assessors from ACER UK to deliver and score the assessment at endline. All assessors will be trained jointly to ensure consistency, and training will be developed and delivered by the Evaluation Team, with support from Professor Kate Cain and Professor Janet Vousden, to ensure the training is tailored to the project's need and of high quality. After the training period, we will ask assessors to complete a final YARC and MDFS assessment to ensure that they understand the process and reduce the risk of inconsistent scoring. Any assessor who deviates significantly from the model answers provided will be asked to review the training materials.

As part of the incentives to participate, we will offer to share the outcomes of these assessments, as well as the outcomes of the pupil questionnaire on confidence, engagement and enjoyment of reading (see 'Data collection' section), with schools after the trial period (after the KS2 SATs). Assessment scores will be provided for each pupil, whereas questionnaire items will be provided as aggregated scores across the participating pupils.

Secondary outcomes

Our secondary outcome measures, at the pupil level, will be: YARC reading accuracy (RQ2), YARC reading rate (RQ3), MDFS prosody score (RQ4), and KS2 National Curriculum Reading Test score (RQ5). Our secondary measures will allow us to capture the impact of the intervention on constructs directly targeted in the intervention, in particular fluency and prosody, which are constructs related to reading comprehension. Their inclusion is important because it is plausible that that the intervention improves reading accuracy and rate, but not comprehension. Similarly, the intervention is supposed to operate by improving prosody, so using the MDFS (with texts appropriate for KS2 pupils) will allow us to examine this pathway in the Logic Model. While we have multiple secondary outcomes, we will not be adjusting for multiple testing. This is because these analyses are exploratory in nature – we are not powering the trial for them, and results of these analyses will be used for hypothesis generation rather than for making firm conclusions about the secondary outcomes.

The MDFS is a rubric for quantifying passage-level reading fluency and prosody (Rasinski, 2004). Participants read short (~100 word) grade-level (or easier) passages, aloud. These are recorded for later scoring.

Different numbers of passages have been used, for example, one (Smith and Paige, 2019), two (Groen, Veenendaal and Verhoeven, 2019) or four (Veenendaal, Groen and Verhoeven, 2014). In some studies, the child reads the text silently first (Groen, Veenendaal and Verhoeven, 2019) in others they do not (Veenendaal, Groen and Verhoeven, 2014; Smith and Paige, 2019).

We will use two passages: one narrative and one expository with silent reading of the text first.

The collection of the MDFS required us to use appropriate passages based on reading level and age. These texts needed to be at a level that would limit the risk of ceiling and floor effects. As an added complication, we could not use many texts otherwise available in educational contexts due to licensing restrictions. As such, we developed texts ourselves.

We used nine 150-word excerpts from Rising Star's texts – a resource which contains texts designed for pupils in years 4–6 – to establish a baseline difficulty across 4 key readability metrics: Flesch-Kincaid Grade level, Flesch Reading Ease, Coh-Metrix L2 Readability and CELEX Log frequency for all words for our passages (Average Word Frequency). The mean readability scores across each different metric for the Rising Star texts for each year group are reported in Table 3.

Table 2: Mean Readability Metrics of sample texts, split by suggested year group.

Year group	Fleisch-Kincaid Grade Level	Fleisch Reading Ease	Average Word Frequency	Coh-Metrix Readability
Year 4	3.955	83.989	2.603	15.358
Year 5	5.425	76.660	2.886	22.047
Year 6	7.071	74.111	3.105	16.588

We then developed two short passages (of approximately 150 words) to texts which had a comparable readability rating to the average of the Year 5 Rising Stars texts (Passage 1), and Year 6 Rising Stars texts (Passage 2). Passage 1 is a non-fiction passage about The Great Fire of London, which was written by a researcher. Passage 2 is an excerpt from Lewis Carroll's "The Nursery 'Alice'", edited by a researcher.

Table 3: Readability metrics of MDFS passages

Passage	Fleisch-Kincaid Grade Level	Fleisch Reading Ease	Average Word Frequency	COH-Metrix Readability
Passage 1	5.235	77.568	2.994	17.400
Passage 2	7.435	81.166	3.158	19.965

Pupils' reading will be scored, by hand, on four dimensions, detailed in Table 4. Scores are summed to provide a single fluency score (range 4–16) for each text. Where multiple texts are used, the z-scores have been averaged to provide a single number (Veenendaal, Groen and Verhoeven, 2014; Groen, Veenendaal and Verhoeven, 2019). Scores below 8 indicate that fluency may be a concern.

Reliability on the MDFS can be good when scorers are appropriately trained; for example, novices trained for 5 hours (over two consecutive days) can show good inter-rater reliability (Smith and Paige, 2019), and correlations between scores produced from multiple texts are good (r = .77)) (Veenendaal, Groen and Verhoeven, 2014). Hence it is important that the assessors are appropriately trained and reliability assessed before scoring begins.

Table 4: MDFS Scoring Rubric

Dimension	1	2	3	4
A: Expression and volume	Reads with little expression or enthusiasm in voice. Reads words as if simply to get them out. Little sense of trying to make text sound like natural language. Tends to read in a quiet voice.	Some expression. Begins to use voice to make text sound like natural language in some areas of the text, but not others. Focus remains largely on saying the words. Still reads in a quiet voice.	Sounds like natural language throughout the better part of the passage. Occasionally slips into expressionless reading. Voice volume is generally appropriate throughout the text.	Reads with good expression and enthusiasm throughout the text. Sounds like natural language. The reader is able to vary expression and volume to match his/her interpretation of the passage.
B: Phrasing	Monotonic with little sense of phrase boundaries,	Frequent two- and three-word phrases giving the impression of choppy reading;	Mixture of run-ons, mid-sentence pauses for breath, and possibly some	Generally well phrased, mostly in clause and sentence units, with adequate

	frequent word-by-word reading.	improper stress and intonation that fail to mark ends of sentences and clauses	choppiness; reasonable stress/intonation.	attention to expression.
C: Smoothness	Frequent extended pauses, hesitations, false starts, sound-outs, repetitions, and/or multiple attempts.	Several "rough spots" in text where extended pauses, hesitations, etc., are more frequent and disruptive.	Occasional breaks in smoothness caused by difficulties with specific words and/or structures.	Generally smooth reading with some breaks, but word and structure difficulties are resolved quickly, usually through self-correction.
D: Pace	Slow and laborious.	Moderately slow.	Uneven mixture of fast and slow reading.	Consistently conversational.

After completing the MDFS, the assessor will record the 'Expression and volume', 'Phrasing', 'Smoothness' and 'Pace' scores (from 1–4) for each passage in the same excel template in which the YARC scores were recorded.

We are also interested in the potential impact of the intervention on pupils' KS2 National Curriculum Reading Test scaled scores – KS2_READSCORE (80–120) – collected from the NPD. These tests are conducted in May and are standardised national assessments based on the national curriculum for KS2 English. The English Reading test includes a reading booklet with 3 texts and a separate reading answer booklet. Pupils have a total of 1 hour to read the 3 texts in the reading booklet and complete the questions in the answer booklet. The tests are analysed by external markers who receive training to ensure the mark schemes are applied consistently and fairly. KS2_READMRK is the raw score, which can range from 0 to 50. The raw score is converted into a common scale (scaled) score, KS2_READSCORE, that spans from 80 to 120. This conversion allows for comparisons of pupils' reading performance over time and across different groups. The benchmark for the scaled score is 100, indicating that pupils have reached the expected reading standard at the end of KS2. However, if a pupil does not achieve the lowest scaled score on the test, they will be marked as not achieving expected standard and their data entry will be 'NS.' In the event of excessive missing data (> 5%) or an unequal distribution of missing data amongst participants in the control and intervention groups, we will carry out an additional sensitivity analysis using the raw score. We expect that it is unlikely that a high proportion (>5%) of pupils will have missing data due to low scores on the KS2 National Curriculum Reading Test, given that guidance shared by HFL regarding selection of pupils for the intervention recommends a minimum standard of reading ability for inclusion.

Analysing KS2 National Curriculum Reading Test scores will allow us to examine whether any effects we find on YARC and MDFS translate into effects on the national exams and whether pupils receiving the intervention are more likely to meet age-related expectations as measured by these scores. This would be evidence of a lasting effect and would suggest that the impact of the intervention can be detected using a more distal outcome, which is a national benchmark related to the overall aim of the programme. However, there are some caveats to interpreting

findings that are important to flag here. If we do not see an effect on KS2 exams, it does not necessarily mean that any early impacts have faded away – it simply might be that changes to YARC and MDFS do not result in changes to KS2 tests. The only way to disentangle this would be to repeat the YARC and MDFS at the same time point (something considered too burdensome and too expensive). Equally, if we don't see an effect on YARC and MDFS but do see an effect on KS2, it could be evidence of: delayed impacts of the programme, that the programme works better at increasing KS2 scores but not YARC and MDFS, or that teachers continue to change their behaviour in the treatment group beyond the programme in a way that improves KS2 scores.

We will access the KS2 National Curriculum Reading Test scores as they are uploaded around September 2025 (unamended) and use these for our analysis. The unamended dataset was chosen to strike a balance between having accurate data and not delaying the publishing of findings, as there are minimal differences between the unamended and later versions of the data. The final project report is due for delivery to the EEF in December 2025.

Baseline measures

Our baseline measure of reading ability is the Early Years Foundation Stage Profile (EYFSP) Literacy – Reading result. This will be accessed from the NPD for all pupils and linked via UPN, first name and second name. The EYFSP is completed by teachers at the end of reception, who assess pupils against 17 early learning goals (ELGs) and give them a rating of 1, 2 or 3, with 1 being 'emerging', 2 being 'expected' and 3 being 'exceeding'. We selected this measure as it is the ELG most closely related to reading and there are no other baseline data available in the NPD for the cohort of pupils in our trial.

The cohort of pupils in the trial will have been in reception in the academic year 2018/2019 when the old version of the Early Years Foundation Stage Profile (EYFSP) was in place. As such we will use the Literacy – Reading (FSP_LIT_G09) as our baseline measure. Using FSP_LIT_G09, reading is assessed by teachers at the end of reception who give a rating of 1,2,3 to each pupil (where 1 is 'emerging'; 2 is 'expected'; and 3 is 'exceeding').

Sample size

The target sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.

Table 5: Sample size calculations[6]

	Overall: No attrition	FSM: No attrition	Overall: With attrition	FSM: With attrition

[6] Sample size calculations were performed in R, using package 'PowerUpR' (Version 1.1.0). Available at: https://cran.r-project.org/web/packages/PowerUpR/

Minimum Detectable Effect Size (MDES)		0.19	0.268	0.2	0.268
Pre-test/ post-test correlations	level 1 (pupil)	0.62	0.62	0.62	0.62
	level 2 (class)	0	0	0	0
	level 3 (school)	-	-	-	-
Intracluster correlations (ICCs)	level 2 (class)	-	-	-	-
	level 3 (school)	0.15	0.15	0.15	0.15
Alpha		0.05	0.05	0.05	0.05
Power		0.8	0.8	0.8	0.8
One-sided or two-sided?		2-sided	2-sided	2-sided	2-sided
Average cluster size		6	1.5	6	1.5
Number of schools	Intervention	90	90	81	81
	Control	90	90	81	81
	Total	180	180	162	162
Number of pupils	Intervention	540	135	486	121
	Control	540	135	486	122
	Total	1,080	270	972	243

Design stage power calculations

Our initial design stage power calculations indicated we need a sample size of at least 162 schools (81 per arm) to be adequately powered, using a conventional threshold for power of 80%, for the evaluation of the efficacy of the intervention (The target sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.

Table 5, Column 3). However, to mitigate risks associated with schools dropping out of the trial, we agreed with HFL Education and the EEF to allow for 10% school attrition. Five additional schools were waitlisted to account for potential dropouts prior to the start of the trial. Consequently, we recommended recruiting 180 schools (90 per arm) to achieve an MDES of 0.19 (The target sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.

Table 5, Column 1). Under this scenario, the delivery team would have needed to deliver the intervention in 90 schools (treatment arm with no attrition) which is within the potential maximum of 100 schools to which they indicated they could deliver.

Our estimate for the ICC is based on the Abracadabra (ABRA): An online reading programme to improve early literacy trial (Bell *et al.*, 2022), whereas our estimate for the pre-/post-test correlations is based on a median estimate from 32 KS1 and KS2 literacy EEF trials (based on helpful information that the EEF has since published to inform power calculations for future trials). Our recommended sample size is also reasonably robust to sensitivity analyses, which vary key parameters (see Table 4). All power calculations were conducted using the PowerUpR package in R.

We have conservatively assumed 6 pupils per cluster. Schools are asked to select between 6–8 pupils, and thus cluster size may end up being slightly higher than 6. We will aim to test all pupils taking part in the intervention.

As seen in Column 2 and Column 4, The target sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.

Table 5, this trial is not powered to detect an effect of 0.2 on the FSM subgroup of interest (and we are similarly not expecting to be powered to detect such an effect on the EAL subgroup) – unless the highly unlikely assumption is met that all pupils taking part are also eligible for FSM (or have been eligible in the last 6 years) or are EAL. FSM or EAL status is not a criterion which teachers will be using to select pupils, although it may be correlated with low reading ability. The subgroup power limitation affects the study's ability to detect the intervention's impact on these subgroups. However, subgroup analyses are not the primary concern of this trial.

The percentage of pupils eligible for FSM in schools is estimated at 23.8%.[7] If we were to assume this percentage of our small group then we would have approximately just under 1.5 pupils per group – which our design stage power calculations suggest an MDES of 0.268, as shown in Column 4, The target sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.

Table 5. We have chosen this as a conservative estimate of FSM proportion. However, there is potentially a correlation between FSM and being chosen to take part in the intervention,

[7] This estimate comes using National Schools Pupils and Characteristics 2022/2023: GOV.UK (explore-education-statistics.service.gov.uk).

which would result in a larger cluster size. In addition, there may be higher rates of FSM-eligible pupils in education investment area schools which will make up at least 50% of our sample of schools. If the cluster size of FSM-eligible pupils were slightly higher at 2 FSM pupils per cluster, the design stage power calculations suggest an MDES of 0.247. In the scenario where we do not consider attrition, we estimated MDES at 0.254.

Table 6 shows the sensitivity of our MDES estimates to changes in the parameters relative to the as recruited number of schools. The design stage power calculations indicated we should be sufficiently powered for a MDES of 0.2, unless school level ICC is greater than, or equal to, 0.18.

Table 6: Sensitivity to changes in the parameters relative to the as recruited number of schools, n=180 (Column 1, The target *sample size was arrived at based on power calculations carried out at the design stage of the trial. These calculations included an error which led to them assuming a higher pre-test/post-test correlation than intended. That meant the design stage power calculations underestimated the sample size needed to be conventionally powered to detect the planned MDES. For details on how the error arose, please see the SAP. Below, we set out the assumptions underpinning our design stage power calculations and their results, and then we show the updated power calculations reported in the SAP.*

Table 5).

		Sensitivity 1	**Sensitivity 2**	**Sensitivity 3**	**Sensitivity 4**
		Higher pre/post correlation	**Lower pre/post correlation**	**Decrease in ICC**	**Increase in ICC**
Minimum Detectable Effect Size (MDES)		0.188	0.2	0.166	0.202
Pre-test/ post-test correlations	level 1 (pupil)	0.65	0.45	0.62	0.62
	level 2 (class)	-	-	-	-
	level 3 (school)	-	-	-	-
Intracluster correlations (ICCs)	level 2 (class)	0	0	0	0
	level 3 (school)	0.15	0.15	0.1	0.18
Alpha		0.05	0.05	0.05	0.05
Power		0.80	0.80	0.80	0.80
One-sided or two-sided?		2 sided	2 sided	2 sided	2 sided
Average cluster size		6	6	6	6
Number of schools	Intervention	90	90	90	90
	Control	90	90	90	90
	Total	180	180	180	180
Number of pupils	Intervention	540	540	540	540
	Control	540	540	540	540
	Total	1080	1080	1080	1080

Updated power calculations

Table 7 presents updated power calculations in which pre-test/post-test correlations were correctly assumed (Columns 1 and 2). By way of comparison, the table also includes the equivalent estimates from the design stage calculations.

Table 7. Updated power calculations

		Updated power calculations		Design stage power calculations	
		Overall: No attrition	**FSM: No attrition**	**Overall: No attrition**	**FSM: No attrition**
Minimum Detectable Effect Size (MDES)		0.205	0.297	0.19	0.268
Pre-test/ post-test correlations	level 1 (pupil)	0.62	0.62	0.62	0.62
	level 2 (class)	0	0	0	0
	level 3 (school)	-	-	-	-
Intracluster correlations (ICCs)	level 2 (class)	-	-	-	-
	level 3 (school)	0.15	0.15	0.15	0.15
Alpha		0.05	0.05	0.05	0.05
Power		0.8	0.8	0.8	0.8
One-sided or two-sided?		2-sided	2-sided	2-sided	2-sided
Average cluster size		6	1.5	6	1.5
Number of schools	Intervention	90	90	90	90
	Control	90	90	90	90
	Total	180	180	180	180
Number of pupils	Intervention	540	135	540	135
	Control	540	135	540	135
	Total	1,080	270	1,080	270

Randomisation

Upon finalising recruitment (by June 2024), we will ask schools for some core information on the percentage of FSM-eligible and EAL pupils in their school. Following EEF's guidance, we propose to stratify by quartiles of FSM and EAL percentage. The added benefits of stratifying will be balance across characteristics at a school level that may impact treatment effectiveness and likely an improvement in the precision of impact estimates. Randomisation into the two arms will occur at the school level during the summer term preceding the intervention delivery (i.e., when the target pupils are at the end of Y5).

Before randomisation schools will communicate their choice of the 6–8 pupils to take part in the intervention. Once this has been communicated to the Evaluation Team these pupils will be set as the sample. Schools will not be informed of their allocation until *after* this has occurred. This reduces the risk of bias in the selection process. Schools will be informed of their treatment allocation before the end of the summer term, to give the Y6 teacher some notice about whether or not they will be asked to deliver the intervention at the start of the following academic year. Parents of pupils selected into the treatment (and who would be receiving the intervention) will then be contacted by their school to inform them of the programme and the study, and provide an opportunity to opt out of the trial.

We will randomise using the R package 'randomizr' (Coppock *et al.*, 2023). One researcher will conduct the randomisation, but the code will be checked by another researcher to ensure it has been conducted correctly and can be reproduced. We will use unique school ID numbers such that both researchers will be blinded to the identity of schools to treatment and control groups for the randomisation. The randomisation code will be saved and made available in the statistical analysis plan (SAP) that will be published for this trial.

Statistical analysis

Primary analysis

The primary analysis for RQ1 will follow an intent-to-treat approach involving a linear multi-level model to reflect the clustering of pupils within schools, with pupils' YARC reading comprehension subtest score as the response variable. The group allocation indicator (allowing for a comparison of treated and control pupils) and pupils' EYFSP Literacy – Reading result (baseline) will be included as fixed effects in the model, and school as a random effect. Following EEF guidance, we will also add stratification variables as covariates in this model, specifically the quartile of FSM percentage at a school level and the quartile of EAL percentage at a school level.

Secondary analysis

The secondary analysis for RQ2, RQ3, RQ4 and RQ5 will replicate the model used for the primary analysis (RQ1) but using YARC reading accuracy, YARC reading rate, MDFS prosody score, and scaled KS2 SAT reading score, respectively, as the response variable. Across all secondary models, we will use EYFSP Literacy – Reading as the baseline measure as in the primary analysis model.

Estimation of effect sizes

We will estimate the effect size of the intervention using an adaptation of Hedges' g (Hedges, 2007), as done in previous EEF efficacy trials involving measures of reading attainment, comprehension, and fluency (Dimova and Illie, 2021). Specifically,

$$g = \frac{(\hat{Y}_T - \hat{Y}_C)_{adjusted}}{\sqrt{\sigma_s^2 + \sigma_{error}^2}}$$

where $(\hat{Y}_T - \hat{Y}_C)_{adjusted}$ is the mean difference between treatment and control groups adjusted for baseline EYFSP Literacy – Reading and $\sqrt{\sigma_s^2 + \sigma_{error}^2}$ is an estimate of the population standard deviation (school level σ_s^2 and individual level σ_{error}^2 variance).

We will calculate confidence intervals for the effect size using

$$g - c_{\alpha/2}\gamma_g \leq \hat{g} \leq g + c_{\alpha/2}\gamma_g$$

where $\hat{g}$ is the estimated effect size, γ_g is the estimated variance, and $c_{\alpha/2}$ is the 100(1 – $\alpha/2$) percentage point of the standard normal distribution.

Subgroup analyses

The main subgroups of interest are children with FSM and EAL status – as addressed in RQ6 and RQ7 respectively. First, we will examine descriptively the proportion of children who were

eligible for FSM (using EVERFSM_6_P) or were EAL speakers that are taking part in the programme (or would have taken part in the case of the control schools).

We will follow EEF guidance for subgroup analysis, running both an interaction model and a subgroup model. It should be noted that all subgroup analyses are exploratory, as we do not expect to be powered to detect differences within these subgroups. As previously mentioned, this limitation affects the study's ability to ascertain the intervention's impact on specific subgroups. However, subgroup analyses are not the primary concern of this trial. Instead, the trial focuses on answering the primary research question, for which it is sufficiently powered, using an MDES threshold of 0.2.

Analysis in the presence of non-compliance

The KS2 Reading Fluency Project has several core components, as defined by the delivery team. These can be roughly split into 3 components: 1) completing the baseline YARC, 2) teachers attending initial training and additional mid-term sessions, and 3) delivering the fluency sessions (A and B) to pupils. In an ideal world, all of these components would occur as planned, both in terms of number and engagement, and this would be the bar for being considered 'compliant' with the intervention.

As such, the most stringent compliance measure would be equal to 1, if and only if, the following conditions hold:

1. The pupil's baseline YARC is completed by the teacher
2. The teacher attends each of the following **training sessions**:[8]
    a. Launch day training – Session 1
    b. Launch day training – Session 2 Part 1
    c. Launch day training – Session 2 Part 2
    d. Remote paired school visit (occurs in week 2 or 3)
    e. Remote mid-project twilight session
3. The pupil receives all of the following **fluency sessions**:
    a. 8 Fluency Session As
    b. 8 Fluency Session Bs
4. In each of the above fluency sessions:
    a. Texts selected by the teacher following training by HFL Education about appropriateness are used
    b. Teachers employ the correct strategies:

[8] We will not include the final remote reflection session, as this takes place after delivery to the pupils and as such should not impact on the outcome measures for this trial.

i. In Session A, they model expert prosody, echo reading, text marking and performance reading

ii. In Session B the pupils re-read a small section of text in unison, teachers ask a series of retrieval questions, teachers allows pupils to share points of interest about text, teacher ask further questions of the text and models an answer, and pupils read through text and prepare responses to the questions.[9]

Not only would this likely lead to low compliance; it is probably too difficult to collect accurate data on all of the above, both for logistical reasons and because it would be unduly burdensome for schools. It would also be hard to break these activities down into a continuous measure of more/less compliant, as it is not clear that a linear weighting of all components would be suitable, and there is no theoretical guidance on the above.

As such, for our compliance criteria, **we propose to primarily use a mix of teacher attendance at teacher sessions (HFL Education will collect this data), and pupil attendance at individual fluency sessions (Verian will collect this data from teachers), and the completion of baseline YARC**. These are all considered critical to programme fidelity.

Teachers will report baseline YARC scores to Verian, allowing us to record whether the YARC was administered (Point 1). HFL Education will track attendance at all teacher sessions – Point 2 a–e. Teachers will record pupil attendance for the fluency sessions on a form shared by Verian (which teachers can complete on paper or as a digital file), and Verian will collect this information from teachers by email after the intervention period (Point 3). Point 4 will be captured through interviews in the IPE but will not be systematically quantifiable for all teachers and thus is excluded.

Our compliance analysis considers the three core components (above) that we can measure. Each component on its own could have an impact on the outcome of interest. The baseline YARC should provide teachers with more information on which children are struggling with reading and in what ways, and teachers may adjust their behaviour accordingly to provide children with extra support – even if the child did not take part in any fluency sessions or if the teacher did not attend any trainings. The training sessions in isolation are also believed to improve outcomes in and of themselves, as teachers may change how they approach teaching reading as a whole. The fluency sessions that pupils attend – again – may on their own increase outcomes, given the extra time and attention they receive.

Working with HFL Education and the EEF we have defined the minimum attendance threshold for each component such that a teacher or pupil would be considered compliant. We will estimate the Complier Average Causal Effect (CACE) using a Two Stage Least Squares

[9] We will not include the content of the fluency sessions in our compliance measure (e.g. whether re-reads take place) as collecting this data reliably would impose a significant burden for schools and we are not confident the data would be reliable (as it would require schools to report on their own compliance).

(2SLS) approach, treating each of the compliance indicators as endogenous variables in the model:[10]

- (1,0) – if the child has completed the baseline YARC, or not
- (1,0) – if the child has attended at least 12 fluency sessions (out of a possible 16 fluency sessions), or not
- (1,0) – if the child's teacher had attended at least 4 out of the 5 possible training sessions, or not.

The rationale for this approach is set out in greater detail in the SAP.

Additional analyses and robustness checks

To examine the underlying mechanism of how the intervention works, we will perform a mediation analysis to see whether and to what extent fluency and prosody contribute to the overall effect of the intervention on reading comprehension. This analysis will disaggregate the overall effect of the intervention into a direct effect of the intervention on improving reading comprehension (e.g., without the influence of intermediate outcomes, such as fluency and prosody), and an indirect, or mediating, effect that improved reading accuracy, reading rate and prosody could potentially have on improving reading comprehension.

We will also run a dosage model where we examine whether there is a difference in the impact depending on the number of fluency sessions a pupil receives. Data on pupils' attendance at fluency sessions will be collected by teachers and shared with the Evaluation Team. The dosage model will include an interaction term between treatment and the number of fluency sessions.

Both the mediation analysis and dosage model will be specified further in the SAP.

We will also carry out sensitivity analysis for RQ1 and RQ4 to consider variability between assessors in how they score the YARC and MDFS. In these sensitivity models, we will include an endline assessor-level covariate that approximates each assessor's deviation from the gold standard. To facilitate this, assessors will be asked to score a YARC passage reading and MDFS passage reading at the end of the fieldwork period, and their scores will be compared to scores provided by Professor Kate Cain and/or Professor Janet Vousden. We will also add a random effect for assessors. At this stage, we do not know whether the assessor random effect will be modelled as crossed or nested, since we are unsure if more than one assessor will visit the same school (due to possible mop-up visits). Consequently, the exact model specification will depend on the observed data.

[10] The originally published protocol envisioned aggregating the three factors above into a single variable between 0 and 3. During development of the SAP, this approach was amended to treat each separately, which is subject to fewer assumptions about the relationship between compliance factors and the study's outcomes. For a more detailed rationale for these changes, see the latest version of the SAP.

Lastly, we will carry out a sensitivity analysis for RQ5 using the raw KS2 National Curriculum Reading Test score (KS2_READMRK) if the scaled score (KS2_READSCORE) is missing for more than 5% of pupils or if levels of missingness are noticeably different between trial arms.

Missing data analysis

Attrition across the two trial arms will be explored as a basic step to assess bias across arms. Specifically, we will examine attrition on outcome measures, both at endline and baseline. For less than 5% missingness overall we propose a complete-case analysis. In cases where there is over 5% of missingness we will explore the missingness mechanisms and follow best practice regarding these findings, such as using multiple imputation models and other sensitivity analysis checks. The approach to missing data analysis will be specified further in the SAP.

Implementation and process evaluation design

Our IPE will be closely integrated with the Impact Evaluation (IE). It will provide evidence about the implementation of the intervention and help us to understand fidelity, complementing our quantitative compliance and dosage analysis. It will investigate the causal assumptions of the Logic Model that underpin the IE and provide information about what the control groups do with their pupils, which will help us interpret the results of the IE. It will also provide evidence that could be used to improve the delivery of the intervention if it were scaled up, such as the appropriateness of the pupil selection criteria and whether the use of the YARC at baseline is helpful in tailoring the intervention.

Research questions

The IPE will investigate a number of research questions relating to the implementation of the intervention and the Logic Model. The IPE research questions (IPERQs) support the overall objective of the study by examining, through a mixed-method approach, the fidelity, implementation and perceived outcomes of the intervention. Our IPERQs are outlined below in Table 8.

Table 8: IPE Research Questions

IPE Dimensions	**IPE Research Question**
Fidelity/ adaptation	**IPERQ1: To what extent is the Reading Fluency Project implemented with fidelity in schools?** Do teachers understand the intervention aims and protocol and implement the intervention accordingly? How well do teachers deliver the elements of the intervention? What are the barriers and facilitators of implementation (e.g., training, appropriate staff attending and administering the intervention, facilities and equipment,)? Are adaptations made? Through our observations within the classroom setting (mid October-November) we will aim to establish the extent to which the intervention delivery reflects the instruction on training about timing, duration, and content of the fluency sessions. Through the endline questionnaire, we will explore the barriers and facilitators of implementation, whether adaptations are made, and whether teachers understand intervention aims.
Dosage	**IPERQ2: Do teachers attend sufficient training sessions, and deliver the appropriate number of fluency sessions (6–8) within the specified time frame?** We will also seek to understand whether there are any facilitators or barriers to delivering the intended dosage to struggling readers. For example, incentives/rewards or child absences/behavioural episodes. We will examine teacher training attendance logs and attendance register of fluency sessions to check whether teachers attended a sufficient number of training sessions and whether they delivered the appropriate number of fluency sessions.
Reach	**IPERQ3: How are pupils selected for the Reading Fluency Project?** Is this in accordance with the selection guidance provided to Y5 teachers by HFL Education and if not, why not? What factors do teachers consider for selection? Which teachers/staff are involved in the selection process, and what are the implications (if any) of having selection done

	by Y5 teachers rather than Y6 teachers (per delivery as usual)? This can help to provide evidence about who should be involved in the process, any additional training and guidance they may need, and the reasons for selecting/excluding pupils to allow the intervention to be effectively scaled up, in a way that minimises inappropriate inclusions or exclusions.
Responsiveness	**IPERQ4**: **To what extent do the Project Teachers and Project Leads attend training sessions, and act on these plus feedback received from HFL Education during the intervention period?** How do they respond to the mid-project twilight visit and the remote paired school visit? How do they deliver the YARC and the fluency sessions in line with the training sessions and incorporate the 6 project strategies? We will investigate the extent to which Project Teachers and Project Leads attend training sessions by examining the teacher training attendance logs. To understand the process through which the intervention may impact reading comprehension we need to understand the moderators and attitudes of the teacher (the mediator), including attributes such as their perceptions of the quality and extensiveness of the programme, their engagement during and experience of the training sessions and mid-point twilight visit, and their perception of any feedback and their capacity/ability to process and act upon this.
Context	**IPERQ5: How does the context of the school impact on delivery of the intervention?** What is the usual practice in encouraging improved reading comprehension (and/or prosody) among struggling pupils? How is delivery organised, and what factors determine this (e.g., teacher or Teaching Assistant (TA) administered intervention; what do rest of class do)? Are there any particular factors which seem to affect implementation (e.g. the proportion of FSM, EAL and SEN pupils, in the target group receiving the intervention)? Understanding the circumstances in which teachers are delivering the intervention and any contributing factors that might influence programme delivery can help to understand who the intervention worked for and how, and in particular explore any perceived impact on IE subgroups (pupils eligible for FSM and EAL pupils: RQ6 and RQ7).
Moderators and mediators	**IPERQ6: What are the teacher-level moderators and mediators that influence the effect of the KS2 Reading Fluency Project on pupils?** How do teachers choose reading texts and are they appropriate? Does baseline YARC help tailor support? Are teachers able to model prosody effectively for pupils? Are pupils able to copy prosody effectively? Do pupils receive positive feedback and praise from teachers when appropriate? The logic model clearly sets out the role of the teacher related to their delivery of the intervention, including their attitudes and behaviours, motivation and interaction with and feedback to pupils. We will examine any perceived factors that may lead to a positive impact on pupils.
Monitoring of control/ comparison group	**IPERQ7: To what extent, and how, do control school teachers change practices during the trial?** How do they respond to finding out they are not delivering the treatment (after identifying target pupils)? How, if at all, have they changed their practices after they were told to not deliver the intervention? We will use the endline Control school

	teacher interviews to explore whether teaching practice of Control school teachers is affected by participation in the trial. Specifically, whether they think their teaching practice changed compared to business-as-usual.
Differentiation	**IPERQ8: To what extent does the Reading Fluency Project differ from schools' usual practice to improve reading comprehension (and/or prosody) among struggling pupils?** As part of this trial, we will look to establish the extent to which the intervention deviates from business as usual to support pupils identified as 'not on track' to meet age-related expectations in reading at the end of KS2. We need to understand how the intervention can be distinguished from existing initiatives that support their reading comprehension/prosody and whether such initiatives seek to offer specific support to EAL and SEN pupils.
Perceived impact (teacher/school outcomes)	**IPERQ9: What is the perceived impact on teachers (and Project Leads), and their practice(s) in relation to struggling readers?** We will also aim to examine any perceived impact, positive and negative, on the school in terms of cost, staff resources and impact on pupils (both the intervention recipients and other pupils) including those with SEN and EAL by ascertaining whether there are any unintended consequences of the programme, at the school, staff and pupil-level (e.g., what would teachers be doing otherwise during fluency sessions, how do sessions affect teaching/support to pupils not included in the intervention?)
Perceived impact (pupil outcomes)	**IPERQ10: What are the perceived outcomes of the programme for struggling readers and how do these differ from business as usual?** We will not only look to understand the perceived impacts on their reading fluency and comprehension but also explore other factors such as their enjoyment of reading, their wellbeing and confidence and to understand to what extent child-level perceived outcomes differ by socio-economic status, EAL or SEN? The baseline pupil questionnaire will provide useful context to explore in more detail during the qualitative pupil interviews.

Research methods

The IPE will utilise a combination of research methods including observational research methods, qualitative interviews and quantitative questionnaires and draw from administrative information provided by schools. Using a framework analysis that takes a mixed deductive-inductive approach, these research methods will enable a school-based within-case study analysis to understand the individual school context and factors influencing implementation of and response to the intervention. We will conduct between-case analysis across the sample to identify overall patterns between schools.

Triangulating between different data sources will increase our ability to answer our complex IPERQs and will ensure we consider data from appropriate stakeholders in the process of answering them. It also enables us to draw on the strengths and perspectives of each method and afford greater clarity of results and better understanding of the links between our logic model and empirical findings. Below we describe the data that will be used, how we will sample participants for these research activities, and how we will maintain diversity and inclusion to address the research questions among disadvantaged pupils including those on FSM and with EAL.

Table 9: IPE Data Collection Methods

IPE dimension	IPERQ	Research methods	Data collection method	Sample size and sampling criteria	Data analysis methods
Fidelity (adaptation)	IPERQ1	Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline)	Treatment school Y6 teachers delivering the intervention[11]	Descriptive statistics
Dosage	IPERQ2	Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Administrative Data	Intervention session attendance logs	All pupils in treatment schools	Descriptive statistics
Reach	IPERQ3	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (baseline)	Y5 teachers and Project Leads making pupil selections	Descriptive statistics
Responsive-ness	IPERQ4	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Administrative Data	Training attendance logs	All Y6 teachers in the Treatment group involved in delivery of the intervention	Descriptive statistics

[11] During project delivery, and when developing the questionnaires, we decided that interviews would be a more appropriate research method to engage control group teachers as it allows us to go into more depth and explore topics that arise more. The structured responses a survey provides were more appropriate for the information we needed from treatment schools, so we amended the questionnaire to only collect data from Treatment schools and we added six interviews with control school teachers instead.

		Observational	Training observation	Y6 teachers and Project Leads in the Treatment group involved in delivery of the intervention	Framework analysis using a deductive-inductive approach
		Interviews	HFL Education interviews	3x HFL Education staff involved in delivery of the intervention	Framework analysis using a deductive-inductive approach
Context	IPERQ5	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Interviews	Pupil interviews	24-36x interviews (during intervention delivery period) with pupils selected to receive the intervention	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline & follow-up)	Treatment school Y6 teachers delivering the intervention	Descriptive statistics
Moderators and mediators	IPERQ6	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Interviews	Pupil interviews	24-36x interviews (during intervention delivery period) with pupils selected to receive the intervention	Framework analysis using a deductive-inductive approach
		Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline & follow-up)	Treatment school Y6 teachers delivering the intervention	Descriptive statistics
Monitoring of control/ comparison group	IPERQ7	Interviews	Teacher interviews	6x interviews (after intervention delivery period) with teachers at Control schools	Framework analysis using a deductive-inductive approach
Differentiation	IPERQ8	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers/Tas responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Interviews	Pupil interviews	24–36x interviews (during intervention delivery period) with pupils selected to receive the intervention	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline & follow-up)	Y6 teachers in Treatment schools	Descriptive statistics
		Interviews	Teacher interviews	6x interviews (after intervention delivery period) with teachers at Control schools	Framework analysis using a deductive-inductive approach

Perceived impact (teacher/ school outcomes)	IPERQ9	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline & follow-up)	Treatment school Y6 teachers delivering the intervention	Descriptive statistics
		Interviews	Teacher interviews	12x follow-up interviews with teachers responsible for delivering the intervention[12]	Framework analysis using a deductive-inductive approach
Perceived impact (pupil outcomes)	IPERQ10	Interviews	Teacher interviews	12x interviews (during intervention delivery period) with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Interviews	Pupil interviews	24–36x interviews (during intervention delivery period) with pupils selected to receive the intervention	Framework analysis using a deductive-inductive approach
		Observational	Intervention observation	Observation of intervention delivery with 12x schools	Framework analysis using a deductive-inductive approach
		Questionnaire	Teacher questionnaires (endline & follow-up)	Treatment school Y6 teachers delivering the intervention	Descriptive statistics
		Interviews	Teacher interviews	12x follow-up interviews with teachers responsible for delivering the intervention	Framework analysis using a deductive-inductive approach
		Questionnaire	Pupil questionnaires (baseline & endline)	All pupils selected for the intervention (who have not been opted out of or withdrawn from the evaluation). Treatment school pupils in the intervention group will complete the questionnaire at baseline and endline alongside YARC data collection, while Control school pupils will only complete it during endline YARC data collection.	Descriptive statistics

[12] During project delivery we decided to add follow-up interviews with teachers who delivered the intervention, to allow us to get a more holistic understanding of the perceived impact of the intervention after the end of its delivery.

Data collection

Pre-intervention

Y5 teachers who are responsible for selecting the target pupils in Summer Term will complete an online baseline questionnaire in July 2024 following the selection of pupils, randomisation, and notification of school allocation, to provide evidence of contextual factors, business as usual approach, and pupil selection criteria, supported in completing the questionnaire by the school's Project Lead if need be.

In September 2024, evaluators will attend and observe the initial training sessions, to understand the intervention, attendance and teachers' responses during the training sessions in more detail, to assess Project Lead engagement, and to initiate recruitment for the case study visits. HFL Education will record attendance at these training sessions and share the attendance records for each session with Verian, who will also use this data for the impact evaluation to assess compliance with the intervention.

The teacher questionnaires will be sent to teachers by Verian, and the baseline pupil questionnaire will be shared by Verian with HFL Education who will include the questions in the instructions shared with teachers for administering the YARC. Verian will also set up an online data entry form allowing teachers and assessors administering the YARC to easily record and input data collected from pupils (see below).

During intervention

In September 2024, the Y6 teachers in treatment schools delivering the intervention will administer a questionnaire to all pupils selected for the intervention when they administer the baseline YARC, using an easily accessible online platform to record the pupils' responses. This questionnaire will seek to establish pupils' confidence, engagement and enjoyment of reading. It will ask no more than five questions to minimise burden.

During the intervention period we will also conduct visits in 12 treatment case study schools in which we will:

- Observe a 20-minute fluency session, ensuring that we observe a roughly even distribution of fluency sessions A and B across the sample, to witness how teachers model prosody and deliver fluency sessions, within this the extent to which this reflects the training.
- Interview relevant teachers within 45-minute sessions to understand perceptions of the intervention, how it is being delivered, text selection, responses to the paired school visit (where relevant) and views on the effect the intervention is having on their practice and pupils.
- Interview pupils individually via 20-minute sessions (after having gained parental consent), exploring perceptions and experiences of the intervention and how it has affected their confidence, and ensuring representation of variables such as gender, FSM eligibility and EAL status.

Finally, following the intervention period (likely in January 2025) the delivery team will be asked to provide feedback on how their input has been received by teachers, which we anticipate

involving online qualitative interviews with delivery team members (e.g., 2–3 sessions, lasting up to 90 minutes each), supported by analysis of other available data (e.g., training attendance records and observational data).

Endline and follow-up

In February/March 2025, the questions from the baseline questionnaire administered to pupils selected for the intervention will be repeated alongside the endline YARC and MDFS assessments administered by independent assessors in both Treatment and Control schools. This aims to identify any perceived impacts on to pupil confidence in, engagement with and enjoyment of reading.

Finally, the Y6 teachers in Treatment schools will be asked to complete short questionnaires at the end of the intervention to provide information on intervention delivery in practice, perceived improvements in pupil reading fluency and comprehension, and how future reading support may change in response to the intervention. These will be conducted in December 2024 (endline) and June 2025 (follow-up), and will also capture perceptions of the value of fluency tuition and intended changes to their practice.

To better understand differentiation between the intervention and the status quo, we will also interview Y6 teachers at six Control schools in May 2025. These interviews will also explore experiences of being in the Control group and any spillover effect.

To provide additional learnings and understand long term impact on schools and teaching practices, we will complement the follow-up questionnaire with qualitative interviews with the 12 case study treatment school Project Leads and, where possible, any relevant teachers. Taking place within the last term of the school year (April – July 2025), these 45-minute online sessions will reflect on any perceived improvements in pupil reading fluency, inference and comprehension, and whether the school has, to-date, changed any reading support within control classrooms as a result of perceived efficacy. The interviews will also understand any plans for adapting the schools' usual practices long-term to incorporate any features of the intervention and, if so, how they intend to go about this for the next academic year. Where schools are not planning to adapt business-as-usual, the interview will explore reasons and any potential challenges or barriers to this.

Sampling approach

Qualitative research

We will take a purposive approach, ensuring good coverage of key variables. The number of pupil interviews per school will be determined on discussion with the schools involved, and will depend on access to contacts. As per Table 9, we will conduct midpoint visits to 12 treatment case study schools to conduct observations of an intervention session as well as teacher and pupil interviews. Case study schools will be chosen to represent the following criteria:

- school size;
- school location;
- % eligible for FSM; and,

- % EAL.

We have suggested sampling 12 Treatment case study schools as this provides representation of 15% of the sample of Treatment schools and will enable us to collect data from schools of different sizes (half to be smaller than average, half to be larger than average), locations (where feasible across different regions) and pupil profiles. For pupil profiles, we will ensure half of schools sampled have fewer than average pupils eligible for FSM, half with more; and at least a quarter with higher average of pupils with EAL status, and three quarters with less. We will also ensure that at least half of schools sampled are from Education Investment Areas (EIAs). We anticipate that this will provide data saturation without placing undue burden on schools within the trial.

Verian will select the 12 case study schools during summer 2024 based on the criteria outlined above in agreement with the EEF. A briefing session will be held with each school Project Lead at the start of the academic year to discuss the evaluation and expectations of the school to support this. We will share the parental information sheet and consent form for parents of the pupils selected to take part in the intervention. This will detail that as part of the intervention their child will be observed during one fluency session and interviewed (if selected) for up to 20 minutes during the visit. This sheet will include a link to the applicable Privacy Notice. Schools will be asked to collect and record completed consent forms from parents, and share these with the evaluators around the start of the intervention period. Pupils who have not received parental consent will not be able to take part in the fluency session in their school that will be observed, and will not be interviewed. These instances will be excluded from the compliance analysis.

In advance of the observational visit, we will collaborate with the school to identify 2–3 pupils that meet the sampling characteristics. Talking to 2–3 pupils per school will be feasible within classrooms, provides flexibility depending on the school and does not place undue burden on schools. Pupils will be chosen with a 'purpose' to represent a type in relation to key criteria (gender, FSM eligibility and EAL status). This will have two principal aims: firstly, to ensure that the key attributes that have relevance to reading fluency are covered; and secondly to ensure that, within each of the key criteria, some diversity is included so that the impact of the characteristic of interest can be explored. Gender, eligibility of FSMs and EAL status are used as selection criteria for this research based on our hypotheses, to explore the potential impact of these on the response to and engagement with the reading intervention. Schools will exclude pupils whose parents have declined or withdrawn parental consent to participate in the trial at time of randomisation.

We will also speak to school staff before the project to understand if the pupil has any special needs and/or SEN status, to inform our approach to the interview and allow us to set up any necessary accommodations for pupils. A responsible adult employed by the school and familiar with the pupils and their needs (most likely the Y6 teacher or Project Lead) will be present during interviews with pupils. The responsible adult will seek assent from the pupil prior to the interview, and for pupils with special needs and/or SEN status we will not conduct the interview if the responsible adult familiar with the pupil has any concerns about their willingness to participate. In the final report for the project, we will discuss any signs and implications of differential non-consent or non-assent among pupils with SEN status.

We will also interview key members of the HFL Education delivery team about the implementation process.

We anticipate the following volumes of qualitative fieldwork:

- 12x observations of fluency sessions, followed by midline interviews with the Treatment school Y6 teacher delivering the fluency session (12x) and interviews with pupils who have received the session (up to 36x), all conducted within individual in-person visits to schools;
- 12x follow-up interviews with the Treatment school project leads/Y6 teachers
- 6x interviews with Y6 teachers in Control schools
- 2x interviews with HFL Education staff.

We expect a sample of this size to be the minimum necessary to achieve saturation within the main participant groups.

Quantitative research

We will conduct online questionnaires with three groups:

- Y5 teachers (treatment and control) selecting pupils in the 2024 Summer Term will complete a short questionnaire about their context and pupil selection approach.
- The 6–8 pupils receiving the intervention in each treatment school will be asked a few short questions about their experiences and perceptions of reading alongside the YARC assessments (once by their teacher in September 2024, and once by an independent assessor in February/March 2025). We expect to receive pupil baseline and endline questionnaire data for all pupils in the intervention (who are not opted out of or withdrawn from the evaluation), as these are administered during the YARC administration at baseline and endline.
- Y6 teachers (treatment) will be asked to complete a short questionnaire in December 2025 (endline) as well as in June 2025 (follow-up).

Analysis

Analysis of administrative data is likely to comprise descriptive recording of attendance and comparisons to the maximum number of sessions (both for training sessions and for fluency sessions). This data will be used for the CACE analysis, and to report descriptively on intervention attendance (as an indication of engagement with the intervention). This will help provide context to qualitative findings relating to the fidelity of the intervention.

Quantitative data from questionnaires will not be analysed for causality, but we will provide descriptive statistics. We will conduct several checks to assess what types of claims we could confidently make on the basis of that data, including checking for normal distributions (to reduce the risk of misleading point-based estimates) and assessing sensitivity to sample size based on the number of responses we receive.

For qualitative data, we will use a framework analysis method. Framework analysis is a qualitative method that is suited for applied policy research (Huberman and Miles, 2002; Srivastava and Thompson, 2009). It is flexible and permits a mixed deductive-inductive approach to analyse the results of our semi-structured interviews with teachers and pupils and the observed classroom sessions. We will take a combined approach to analysis that enables themes to be developed both deductively from our logic model and inductively from classroom observations and the accounts of teachers and pupils.

Using our suggested approach, we can undertake a case study analysis, in this context a case being a school unit. We can conduct within-case analysis, using the qualitative data to understand at a holistic level, in each given case, how the new approach compares with usual reading instruction and CPD, how the fluency sessions are implemented in the school, and how pupils respond to the fluency sessions. This will allow us to better understand what has happened in that context and what factors are affecting responses.

We can also then conduct between-case analysis to identify overall patterns, differences and commonalities between schools, to inform wider understanding of the perceived impact of the new approach, what factors may be influencing this and how this can vary.

Our researchers will meet regularly to explore participant responses, variations in these and common themes. The framework below is therefore an indicative framework that will act as a starting point for analysis, yet is flexible in its design and structure to adapt to new themes identified through the analysis. The procedure we will use for the analysis is as follows:

1. **Transcription** – verbatim transcription of the interviews
2. **Familiarisation with responses** – becoming familiar with the interview
3. **Development of initial thematic framework** (see below as a starting point)
4. **Addition of data into the framework**, developing and expanding the framework as appropriate
5. **Identification of further patterns**, such as correspondence between thematic variation and sample criteria, and the apparent strength of findings against each IPERQ
6. **Identification of good and poor practice**, which can enable case study analysis by linking findings on good delivery to those on the experience of recipients in the same school, and vice versa
7. **Interpretation of data** in relation to IPERQs

We are aware that qualitative research, particularly when using observational techniques, can be a potential source of (researcher) bias. The following steps will be taken in our data collection and analysis process to ensure rigor and quality:

- We will triangulate research methods and data sources (observational, quantitative questionnaires, qualitative interviews with teachers and pupils) to provide multiple lines of

evidence for the efficacy of the intervention, thereby mitigating the impact of potential biases inherent in using a single method or data source.

- In preparing for fieldwork, the research team will meet to discuss their own beliefs, experiences and biases and discuss how to reduce any impact on the quality of data collection and analysis.

- At analysis phase, in group sessions researchers will discuss their experiences of data collection and how this may influence their interpretations of the data.

- For observational research, the research team will use a checklist and rating scale to record the occurrence and frequency of specific categories i.e., teacher interaction with pupils, pupil response, logistical challenges. This will help to simplify and standardise the data collection process. Detailed notes of behaviours will also be taken in real-time to capture a more descriptive account of the intervention. Directly after the observational session, researchers will voice-record their thoughts and expand on their observational notes on a password-encrypted digital device.

- The first two case study site visits will be conducted by pairs of researchers. Both researchers will observe the same intervention and collect data simultaneously but independently of each other. Following the observation, the two researchers will compare and discuss their data, and explore differences and commonalities and seek to agree a standardised approach to subsequent data collection and analysis.

- 1-2-1 individual interviews will be conducted with teachers and pupils independently to encourage participants to speak freely about their experiences and minimise any sources of influence. Researchers will reiterate in each interview that there are no right or wrong answers and reassure staff and pupils that what they say will not be shared with anyone outside of the research team. We note that we cannot rule out response bias among pupils as a representative of the school will be in the room during the interview for safeguarding purposes.

- Each qualitative interview will be transcribed, charted against the analysis framework and then discussed as a team to agree themes and standardise and strengthen the analytical process, seeking to minimise the risk of potential researcher bias. This will provide a trail that will demonstrate how the data has been interpreted, and is how we will address data interpretation bias. Within the charting framework, we will also record and include reference to researcher beliefs, experiences and biases and their possible influence on the research, which will be referred to within the final reporting.

Table 10: Initial suggestions for thematic framework

AREA	DESCRIPTION
School	Size, location, % of pupils eligible for FSM
Pupil demographic	Gender, FSM, EAL
Pupil environment	Social environment
Pupil reading comprehension	Baseline YARC score
Administrative	Barriers/facilitators to delivering intervention
	Staff engagement (attitudes, motivations)
	Staff support (capacity, knowledge, skills, agency)
Intervention	Variation from business at usual
	Adaptation of KS2 Reading Fluency Project (adaptations made, reasons for this, outcomes)
	Inclusion criteria (which pupils, why, internal decision-making process)
	Success factors (perceptions of what worked, did not work)
	Awareness and perceptions of intervention
Changes in personal attitudes and beliefs	Value placed on reading skill, reading enjoyment, reading behaviours outside of school
Action/response	Interaction/engagement with texts, effect on reading behaviour

Cost evaluation design

Following EEF guidelines, the evaluation team will provide a cost-per-pupil-per-school-year of this intervention. This covers the full cost of delivering the intervention in schools. We will report the total cost per school for the intervention as implemented for three consecutive years, and the cost per-pupil-per-school-year. The total cost per school will be divided by the number of pupils per school-year expected to benefit from the intervention – i.e., those across the Treatment and Control groups who were eligible to receive the intervention – to create the pupil-per-school-year estimate of cost.

Data about the costs of implementation will be systematically identified in the IPE (through observations, teacher baseline and endline surveys, and teacher and Project lead interviews) and through direct discussion with the HFL Education team. Following the 2023 EEF cost evaluation guidance (Education Endowment Foundation, 2023), we will exclude the costs associated exclusively with participating in this trial (e.g., personnel time reporting to Verian about attendance or completing questionnaires) and will evaluate costs of the programme as implemented during the trial (i.e., KS2 Reading Fluency Project).

Table 11 provides an overview of the items Verian and HFL Education expect to be included in the cost evaluation, although this list may not be comprehensive and will be updated following the interviews with schools.

As there may be heterogeneity in costs across schools depending on their existing processes, we will explore the possibility of breaking down different cost models for schools starting from different business-as-usual conditions. This will be based on an assessment of variation in the cost data received from observations, baseline and endline surveys, Project Lead interviews, interviews with HFL, and information gathered during teacher interviews.

For pre-requisites and start-up costs we will account for the value-of-money over time by using 3.5% as the discount rate, following the EEF cost evaluation guidance. We will report costs incurred across the 2024/25 academic year, using 2024 as the base year. We will apply the GDP Price Deflator Index rate to account for inflation as we report cost-per-pupil over three years.

We will:

- Gather cost data for each year of implementation of the programme.
- Deflate nominal cost in each year to the value in Base Year (2024) using the GDP price deflator by dividing the costs by the price index.[13]

$$Cost_{Base\ Year} = \frac{GDP\ Deflator_{Year\ i}}{GDP\ Deflator_{Year\ i}/GDP\ Deflator_{Base\ Year}}$$

- Take the present value of this cost using a 3.5% discount rate by diving each cost.

[13] The price index is constructed by dividing the value of the GDP price deflator in the year the cost is incurred by the value of the GDP price deflator in the Base Year

$$Present\ Value_{Base\ Year} = \frac{Cost_{Base\ Year\ (incurred\ in\ Year\ i)}}{(1 + 0.035)^{Year\ i - Base\ Year}}$$

- Inflate this cost forward to the Analysis Year (2025) using the GDP price deflator by multiplying the costs by the price index.[14]

$$Cost_{Analysis\ Year} = Present\ Value \frac{GDP\ Deflator_{Analysis\ Year}}{GDP\ Deflator_{Base\ Year}}$$

[14] The price index is constructed by dividing the value of the GDP price deflator in the *Analysis Year* by the value of the GDP price deflator in the *Base Year*.

Table 11: Overview of cost items

Category	Item	Data Source(s)	Pre-requisite	Start-up costs	Recurring costs
Personnel for preparation and delivery	Project Lead time for project setup	Baseline teacher questionnaire		x	
	Project Lead time for supporting delivery	IPE follow-up interviews with Project Lead			x
	Y6 teacher time for pupil selection[15]	Baseline teacher questionnaire			x
	Y6 teacher time to administer baseline YARC	Teacher interviews			x
	Y6 teacher time to administer endline YARC	Deduced from baseline YARC (endline teacher questionnaire)			x
	Y6 teacher time to administer fluency sessions (including preparation)	Teacher interviews & endline teacher questionnaire			x
	YARC set inc. answer book	Publisher		x	
Personnel for training	Personnel cost (e.g. cost of cover, time cost of teacher) of attending training sessions (Y6 teacher; Project Lead), including midline visit.	HFL Education training attendance log		x	
Programme costs	Cost of KS2 Reading Fluency Project, including training (purchased from HFL Education)	HFL Education interview		x	

[15] In this evaluation, Y5 teacher time will be used as a proxy for Y6 teacher time, as Y5 teachers will select pupils for the intervention. Outside the trial, Y6 teachers complete pupil selection.

	YARC scripts (for subsequent delivery)	Publisher			x
Facilities, equipment and materials	Classroom space for YARC administration (if required)	Teacher interviews	x		
	Classroom space for fluency session delivery	Teacher interviews	x		
	Texts for use in programme: 8 texts (one per week)	Teacher interviews	x		
	Photocopy of 2 x pages from text for each member of the group (e.g. x 8 copies per week)	Teacher interviews			x

Ethics and registration

Trial registration

The trial was preregistered with the Open Science Framework (OSF) on 19/06/2024 and the Trial Protocol was uploaded on 25/06/2024. The OSF registration of the project, and the Trial Protocol as uploaded, can be found here: OSF Registries | Independent evaluation of the efficacy of the KS2 Reading Fluency Project on reading comprehension: a two-armed cluster randomised trial.

Research ethics

Verian is the independent evaluator for this research, and as such is responsible for securing ethical approval. During the project planning and design phases, we followed Verian's internal research ethics review process to ensure the proposed project approach met ethical standards and represented a balanced and responsible approach to achieve the aims of this evaluation.

Under this process three (Senior) Directors with extensive research experience with young people and schools, and at least one with a specific focus on data governance, jointly reviewed the project proposal and recruitment approach and requested amends prior to signing the project off. The members of the panel were all external to the project team and to Verian's Behavioural Practice, and their only role on this project was to ensure it meets the organisation's high ethical standards.

Ethical approval for the full Trial Protocol was sought by Verian. Ethics clearance and input was granted by Verian's internal Research Ethics Committee on 5th June 2024.

Participant consent

This project relies on schools to actively consent and opt into participating in the trial. During the recruitment process, led by HFL Education, schools receive a *School Information Sheet* which details the purpose of the study, what it would require, and any further information that may help schools decide if they wish to partake. If they do, they receive a more detailed *Memorandum of Understanding* to sign which sets out clearly what the project will involve, what the roles and responsibilities are, how data is protected and used, etc. If the school signs the *Memorandum of Understanding*, they are then asked to sign a Data Sharing Agreement with Verian to ensure schools understand the data governance implications of participating in the research.

Each school that has signed up for the project is then asked to disseminate the *Parent Information Sheet and Withdrawal Form,* which is designed to inform parents of the evaluation that will be happening in their school and offers parents the opportunity to withdraw their child(ren) from participating in the study. This document also contains links to the HFL Education and Verian *Privacy Notices* for this project, which detail how data will be used and kept secure. Parents can withdraw their child(ren) from the evaluation through completion of the *Withdrawal Form* or by contacting Verian.

The Impact Evaluation relies partially on routinely collected school data (e.g., EYFSP; demographic details for pupils, KS2 SATs) and partially on project-specific data collection. The

primary data collection method for the IE is the endline assessment, administered to pupils by independent assessors from ACER UK. As this assessment is taking place in partnership with the school, on school property and during school hours, and with school consent, no parental opt-in consent is required. However, the assessment will not be conducted with any pupils who have been withdrawn from the evaluation by their parents.

Verian will also conduct questionnaires among school staff, as well as observations of fluency session and interviews with school staff and pupils. In each of these instances, potential interviewees will be contacted by their school – with schools contacting parents on behalf of their children – to invite them to participate. At this stage, the potential participants can access information about the research activity(ies) they have been invited to partake in, as well as the *Privacy Notice* governing the activity(ies). For data provided under these activities, we will rely on participant consent as the basis for collecting and using personal data (parental consent, and pupil assent). Participants who decline to participate will not be involved in these specific research activities. If a participant does not complete the survey, or asks us to end an interview prematurely and asks us not to use their data, that participant's data will be deleted and will not be used.

A responsible adult employed by the school (most likely the Y6 teacher or Project Lead) will be present during interviews with pupils, as well as during the endline assessments. This adult will independently confirm the pupil is happy proceed with the interview/assessment (i.e. if they assent) prior to it being administered. Verian researchers will adhere to our internal responsible research policy when conducting interviews with pupils.

Data protection

Verian (trading as Kantar Public UK Ltd.) will serve as data controller for data used for the Project's evaluation. Information about the roles of other parties in relation to data for this project, and detail about how Verian will process data, please refer to the project Privacy Notices. The Privacy Notices relating to data shared by schools and to observation and interview data are included in Annex B – Privacy Notices.

Verian is registered with the Information Commissioner's Office for all our research and other activities, holding ISO27001 accreditation which certifies the legal, physical, and technical controls involved in our information risk management process. We also hold the Cyber Essentials Certificate, abide by the Data Protection Act 2018 and the UK General Data Protection Regulation (GDPR), and embed data protection by design in all our work. We have a GDPR champion and Quality and Information Security team who consult on all data privacy issues.

Each variable has a clear reason as to why we need this data, and why it is important for the evaluation, and have conducted a Data Protection Impact Assessment (DPIA) to ensure this is the case.

Data protection laws require us to meet certain conditions before we are allowed to use data in the manner described in the project privacy notices, including having a lawful basis for the processing.

For all information collected via schools (and from schools via the National Pupil Database) about pupils and school staff, Verian is relying on the lawful basis of:

LEGITIMATE INTERESTS: Our lawful basis for processing personal data is legitimate interests (as per Article 6 (1) (f) of the UK GDPR) and we have considered that participants' interests and fundamental rights do not override those legitimate interests. It is necessary in Verian's 'legitimate interests' to process the personal data identified in the privacy notice in order to deliver a meaningful randomised controlled trial (RCT) that has been commissioned by the EEF. It also supports equity of educational outcomes, in the public interest, by allowing for the recruitment of representative participants for supplementary primary research. The research project fulfils Verian's core business aims including undertaking research, evaluation and information activities in sectors that will deliver social impact.

For the processing of and any data collected via observations, surveys, and/or interviews, Verian is relying on the lawful basis of:

CONSENT: As per Article 6 (1) (a) of the UK GDPR, personal data will be processed only if an appropriate signatory consents to such processing in accordance with the terms set out in the project's Memorandum of Understanding.

We take reasonable steps to protect personal information and follow procedures designed to minimise unauthorised access, alteration, loss or disclosure of personal information. Data will be accessed by a limited number of researchers and advisors in Verian's team working on this project. Taking into account the technological developments, the costs of implementation and the nature, scope, context and purposes of processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, we implement appropriate technical and organisational measures to ensure a level of security appropriate to the risk of processing.

We ensure that those who have permanent or regular access to personal data, or that are involved in the processing of personal data, are trained and informed of their rights and responsibilities when processing personal data. We provide such access on a need-to-know basis, and have measures in place which are designed to remove that access once it is no longer required.

HFL Education (the delivery team) and Verian (the evaluation team) may deal with and share personal data in accordance with a data sharing agreement between the two organisations. The agreement sets out the purposes for which we may process and share personal data and our agreement to cooperate to protect personal data and deal with any requests participants may have.

Finally, following the completion of the project, the impact evaluation data outcome measure data shared with us as part of this project will be provided to the EEF to be stored in their data archive in an anonymised form. The EEF will then become data controller for this data.

Personnel

HFL Education:

- Penny Slater – Lead Project Adviser
- Kathy Roe – Lead Project Adviser
- Juliet McCullion – Project Adviser
- Ellen Counter – Project Adviser
- Kayleigh Valentini – Project Adviser
- Amanda Webb – Project Adviser
- Nicky Murphy – Project Adviser
- Heather Ford – Project Adviser
- Nicola Wiley – EEF Trial project Manager
- Karen Johnson – Event/admin Leads
- Alex Yates – Project Data Analyst

Verian:

- Prof. Natalie Gold (Head of Trials, Principal Investigator)
- Dr James Thom (Senior Director, Quantitative Analysis)
- Louise Skowron (Senior Director, Qualitative Analysis)
- Dr Danica Minic (Director, Qualitative Analysis)
- Pieter Cornel (Director, Delivery)
- Dr Michael Ratajczak (Director, Quantitative Analysis)
- Dr Shi Zhuo (Research Manager, IE)
- Penny Stothard (Research Manager, IPE)
- Rupert Riddle (Senior Research Executive, IE & IPE)

Verian is receiving support from:

- Prof. Kate Cain (Professor of Language and Literacy, Lancaster University)
- Dr Janet Vousden (Senior Lecturer in Developmental Psychology, Nottingham Trent University)

Risks

Risk Description and Impact	Impact	Likely	Mitigations
Not enough schools are recruited, reducing power to detect an effect	5	2	The intervention is in demand at schools currently and this is therefore a low-likelihood risk, but we will work with the EEF and HFL Education to ensure the intervention is framed positively for schools and that the evaluation imposes a limited burden on schools. We have also been conservative in the assumptions we have made regarding attrition and other parameters when calculating power.
Excessive burden on participating schools, teachers or pupils, leading to schools dropping out of the evaluation	4	2	We have designed qualitative data collection to minimise the burden on schools and pupils where possible. We propose sampling 12 schools within the treatment group (15%) to conduct observational visits, and will collaborate with the school to identify 2–3 pupils that meet the sampling characteristics. Talking to 2–3 pupils per school will be feasible within classrooms, provides flexibility depending on the school and does not place undue burden on schools. Additionally, in order to measure compliance whilst avoiding undue burden on schools, we propose a less stringent set of criteria used to define compliance at a student level. Specifically, we propose to primarily use a mix of teacher attendance at teacher sessions (HFL Education will collect this data), and pupil attendance at individual fluency sessions (Verian will collect this data from teachers), and the completion of baseline YARC (Verian will collect this data from teachers).
Parents and schools might have concerns about the data sharing required to take part in the trial (e.g., school sharing attendance data with HFL and Verian). This could lead to insufficient recruitment, or bias in the trial due to a high number of withdrawals or insufficient participation in the IPE	2	3	During the recruitment stage, HFL Education will make the data sharing arrangements clear to schools. HFL Education will communicate these arrangements clearly in materials for schools to distribute to parents in the parent letters and will work closely with Verian to resolve any parent queries. We will help schools frame the intervention as beneficial for children and offer to join school Q&A session if schools report significant parental concerns. Parents will be informed and asked to consent before any pupil interviews.
School could be closed (e.g., due to staff shortages, strike action, building issues or illness), affecting delivery of	4	1	HFL Education will monitor the education context and update the risk register with any potential causes of school closures/pivots to online learning

training sessions, fluency sessions, or evaluation activities			
Non-compliance or refusal to cooperate in data capture by control schools	5	3	We will work with the EEF and the delivery partner to clearly communicate the importance of high-quality causal research and of compliance. To encourage schools to participate despite knowing they may be in the control group, we will offer incentives of £500 per school that is allocated to the control group. Schools will be asked to sign up to this commitment in a Memorandum of Understanding. We will also work with HFL Education to offer schools priority for the intervention in subsequent years if possible and ask them to restrict intervention materials to be inaccessible to control schools.
School recruitment may not cover sufficient diversity of types of schools, pupil populations, geographic diversity, or diversity in another meaningful sense.	3	3	Verian will suggest the characteristics of schools we would ideally recruit for HFL Education and the EEF to consider in the recruitment. The EEF and HFL Education will seek to recruit a diverse sample of schools ensuring sufficient diversity in terms of region, urban vs rural, sufficient representation of minority pupils on FSM. HFL Education and the EEF can discuss whether we can offer additional support or incentives for schools with characteristics underrepresented in our sample at the recruitment midpoint.
Differential withdrawal, for example higher withdrawals among certain groups more likely to have persistent absence, could impact on the external validity of the findings.	1	4	We will not be able to monitor withdrawals as we will not be able to access data for parents and pupils who have opted out under a Legitimate Interest basis at the start of the project. We will ask schools to report the number of parents who have opted out, and if withdrawals are higher than expected in certain schools we will interview school representatives for those schools to try to understand what the reasons for this differential opt out might be. We will also explore with the EEF what they can do to understand the make-up of parents who have withdrawn their child(ren) under a public service GDPR basis.
Control schools adopt elements of the intervention (contamination)	3	2	The intervention is already used by many schools and schools learn from each other (or teachers move between schools). We will ask HFL Education to check with schools being recruited if they have any familiarity with the intervention and to instruct control schools not to use the intervention. We will assess usual practice and differentiation, as well as fidelity of the control, in the IPE.
Response bias risk for qualitative research, especially if concentrated among key groups of interest (e.g., vulnerable/marginalised).	2	3	We will explore with schools and the EEF how best to design the qualitative research invitations to avoid response bias risk. Part of this will be to set out a sampling frame to ensure that we capture the views of sufficient pupils from different key groups. We propose commencing qualitative recruitment, and seeking consent, early to reduce risk although note that the need for opt-in consent by parents places an administrative burden on schools.
Scope for bias when schools identify pupils to receive the intervention	2	3	Schools will select pupils for the intervention that they identify as ‘not on track’ to meet age-related expectations in reading at the end of KS2, but there may be bias in this process. We will seek to understand in the IPE how teachers approached the selection. We will also look at KS2 National

			Curriculum Test results, which would allow the EEF to assess relative performance of the 'not on track' pupils compared to their 'on track' peers as part of a follow-up to the evaluation if desired.
Teacher administered assessments graded inconsistently, or even biased	2	3	We will use independent assessors at endline. At baseline, randomisation should ensure that noise is evenly distributed/limits impact on our ability to detect findings.
Teachers unable to deliver the entire intervention, or low attendance among sample may result in low compliance with intervention	3	2	We propose a dosage analysis to understand the impact of receiving different amounts of fluency sessions. A compliance analysis will look at the impact of the intervention on those who received enough fluency sessions to be deemed 'treated'. In the eventuality of significant risk of prolonged or repeated school closures affecting the intervention, we will consider with HFL Education and the EEF if the intervention could be delivered in Spring instead.
Interference from other EEF-funded trials focused on reading	4	1	We will ask HFL Education not to recruit schools that are participating in other EEF trials that include reading comprehension, prosody, or fluency outcomes or interventions.
Failure to apply data minimisation	5	1	We have selected the smallest set of data that needs to be collected in order to conduct the evaluation. Each variable has a clear reason as to why we need this data, and why it is important for the evaluation, and have conducted a DPIA to ensure this is the case.

Timeline

Table 12: Timeline

Dates	Activity	Staff responsible/ leading
January–May 2024	Schools sign up to the evaluation	HFL
May–June 2024	Schools sign MOU Schools identify Project Lead Schools share the name and contact information for the Project Lead (who will likely be the English/reading Subject Leader), and the 2024/2025 Y6 teacher	HFL
May–June 2024	Schools sign Verian Data Sharing Agreement (DSA) Schools share school-level data with Verian (URN, EAL %, FSM %)	Verian
June 2024	Y5 teacher selects target sample of 6-8 pupils who will be in Y6 in the 2024/'25 academic year, following HFL Education guidance Schools send the Parent Information Sheet and Withdrawal Form to the parents of the 6-8 selected pupils Y5 teachers in all schools complete a short questionnaire about their school and the target pupil selection process	HFL HFL Verian
10th July 2024	Verian randomly allocates schools to treatment and control groups, and informs schools of their allocation	Verian
September–November 2024 **19–27 September 2024**	**[treatment schools only]** Y6 teachers and Project Leads attend intervention training sessions (with HFL Education recording attendance) **[treatment schools only]** Y6 teachers conduct a baseline assessment provided by HFL Education, consisting of the York Assessment of Reading for Comprehension (YARC) and a short questionnaire of up to five	HFL HFL

	questions (3-5 minutes), to the selected sample of pupils, and share outcomes with Verian.	
September–December 2024	**[treatment schools only]** Y6 teachers deliver the KS2 Reading Fluency Project as instructed by HFL Education, and record pupil attendance at the fluency sessions.	HFL
October–November 2024	**[Subsample of case study treatment schools]** Verian shares parental consent forms with schools, for schools to distribute to parents of the target pupils for opting their child(ren) into case study research activities. Schools will collect parental consent forms, and will ensure that pupils for whom no parental consent is granted by the day of the observation visits are not included in the intervention session on that day (and thereby not observed nor interviewed). Schools will share parental consent information with Verian to keep a record of consent. **[Subsample of case study treatment schools]** Verian conducts a half-day visit including observations of a Project session, pupil interviews (pending parental consent), and an interview with the Y6 teacher.	Verian Verian
December '24	Y6 teachers in treatment schools complete a 10-15 minute questionnaire.	Verian
February/March '25	Independent assessors from ACER UK visit all **(treatment & control)** schools to conduct one-on-one endline assessment with the 6–8 target pupils.	Verian
May '25	Application for access to KS2 outcome data in the NPD	Verian
May '25	KS2 National Curriculum Tests	School
June '25	Y6 teachers in all treatment schools complete a 10–15 minute follow-up questionnaire.	Verian
July '25	All schools receive endline assessment scores, as well as	Verian

	aggregate scores for questionnaires, regarding 6–8 target pupils, from Verian	
September ‘25	Access KS2 outcome data (Key Stage 2 September (unamended) in NPD	Verian
Summer ‘26	Results of project published	EEF
Summer ‘26	EEF Data Archive Upload	

Annex A – Overview of all data collection methods and sharing

Summary of data collection methods, timeline and data sharing

Data Collection Item	IE / IPE	When	Collected by	Shared with	Schools	Purpose	RQs / IPERQs
Pupil-level data (inc. UPN, first and last name, date of birth, school, gender, enrolment date and status, and year group)	IE	Summer '24 (MOU stage, upon pupil selection)	Schools	Verian (who will share with the EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors)	All (selected pupils only for pupil data)	To confirm participants in study	N/A
Head teacher, Project Lead, and participating teachers' name and email	IPE	Summer '24 (MOU stage)	Schools	HFL Advisers (who will then share with Verian)	All	To confirm participation in the study To recruit participants for IPE research	IPE 1-10
School-level data (URN, EAL %, FSM %)	IE	Summer '24 (MOU stage, pre-randomisation)	Schools	Verian	All	To support randomisation and stratification in relation to the percentage of FSM and EAL pupils	IE RQ 6,7
Teacher training observations (notes)	IPE	Sept/Oct '24	Verian		Treatment	To establish intervention fidelity and compliance markers To assess likely quality of teacher-administered YARC scores	IPERQ 1,2,3,9, 11
Teacher training attendance logs	IPE	Sept/Oct '24	HFL	Verian (who will share with the EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors)	Treatment	To establish intervention fidelity and compliance markers	IPERQ 4
Teacher survey (baseline)	IPE	June 2024	Verian		All	To understand contextual factors, approach to identifying selected pupils, and business-as-usual	IPERQ 1,3,4,7,8,9, 11
Baseline YARC	IPE	Sept/Oct '24	Teachers	Verian (this data will also be shown on screen by teachers to HFL staff, but HFL will not receive or store this data)	Treatment (selected pupils only)	To understand approach to identifying selected pupils To understand if the baseline YARC helps tailor support	IPERQ 3, 6

Baseline pupil questionnaire	IPE	Sept/Oct '24	Teachers	Schools (anonymised and aggregated)	Treatment (selected pupils only)	To assess reading confidence, engagement, and enjoyment at baseline To inform the IPE work with pupils	IPERQ 10
Delivery Team data (feedback)	IPE	Oct/Nov '24	HFL	Verian	Treatment	To understand teacher understanding and potential pain points	IPERQ 1,4,6
Attendance register of fluency sessions	IE / IPE	Sept–Dec '24 (collected weekly during intervention)	Teachers	Verian (who will share with the EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors)) Anonymised aggregate attendance will be shared with HFL by Verian.	Treatment	To assess fidelity and compliance To assess treatment dosage and pupil treatment levels	IPERQ 1,2,4
Observations (school visit)	IPE	Oct–Dec '24	Verian		12x Treatment	To assess fidelity and compliance To understand mechanisms (e.g., feedback, praise)	IPERQ 1,5,6,9,10
Teacher interviews (school visit)	IPE	Oct–Dec '24	Verian		12x Treatment	To assess fidelity and compliance To assess teacher outcomes	IPERQ 1,2,3,4,9, 11
Pupil interviews (school visit)	IPE	Oct–Dec '24	Verian		24–36x Treatment	To assess pupil outcomes	IPERQ 10
Teacher survey (endline)	IPE	Dec '24	Verian		Treatment	To assess teacher outcomes To assess teacher perceptions of pupil outcomes To understand control school practice/BAU	IPERQ 9,10
Endline YARC	IE	Feb–March '25	Verian (via independent assessors)	EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors) Schools	All (selected pupils only)	To assess endline reading comprehension	IE RQs 1–3, 6, 7
Endline MDFS	IE	Feb–March '25	Verian (via independent assessors)	EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors) Schools	All (selected pupils only)	To assess endline prosody	IE RQ4

Endline pupil questionnaire	IE / IPE	Feb–March ‘25	Verian (via independent assessors)	Schools (anonymised and aggregated)	All (selected pupils only)	To assess reading confidence, engagement, and enjoyment at endline	IPERQ 10
Endline interviews Control school teachers	IPE	May ‘25	Verian		Control	To understand differentiation between intervention and status quo	IPERQ 7,8
Delivery team interviews	IPE	May ‘25	Verian			To understand teacher responses Delivery Team guidance and feedback	IPERQ 4
Teacher survey (follow up)	IPE	June ‘25	Verian (via schools)		Treatment	To assess teacher outcomes (medium-term) and teacher perceptions of medium-term pupil outcomes	IPERQ 9,10
NPD Pupil Characteristics (EAL status, FSM status)	IE	Sept ’25	Schools	EEF Data Archive, including DfE (matching), ONS SRS (analysis) and FFT Education (archive data processors)	All (selected pupils only)	To identify FSM and EAL pupils in sample	IE RQ 6,7
NPD Assessment Data (EYFSP)	IE	Sept ’25	Schools (several years prior)		All (selected pupils only)	To assess baseline reading comprehension	IE RQs 1-7
NPD Assessment Data (KS2)	IE	Sept ’25	Schools		All (selected pupils only)	All (selected pupils only)	IE RQ 5

Annex B – Privacy Notices

Verian Research Project Privacy Notice - Evaluating the KS2 Reading Fluency Project: Pupil and Staff Data shared by Schools

Introduction

Your (child's) school is participating in a research project testing the impact of a programme to improve reading comprehension among Year 6 pupils (the "Project"). This privacy notice is for parents of pupils as well as staff at schools participating in this Project. This privacy notice sets out how we collect and use your (in the case of school staff)/your child's (in the case of parents of pupils) personal data ("your/your child's data"). We will not collect any personal data relating to pupils' parents.

HFL Education's KS2 Reading Fluency Project is a targeted intervention designed to improve reading comprehension for pupils who have been identified by the school as likely to benefit from the approach. Verian is conducting an evaluation of the Project to assess whether the KS2 Reading Fluency Project improves pupils' reading comprehension. Note that **Verian will only collect data relating to pupils selected by their teachers into the Project's target group**. This group consists of 6–8 pupils per school that the teachers believe could benefit from additional reading support.

The Education Endowment Foundation (EEF) has commissioned a study to understand the impact of the KS2 Reading Fluency Project on pupils. The funding for this Project and evaluation is from the Department for Education (DfE)'s Accelerator Fund, which aims to expand the use of evidence-based programmes.

This Privacy Notice sets out how Verian will use your/your child's data to evaluate the impact of this project. Verian will collect data separately from HFL Education who will deliver the project, and each organisation will need different data for a different purpose. For more information about the data HFL Education would receive and how they will keep it secure, please see HFL Education's Privacy Notice for this project here.

Contact details

Verian Group UK Ltd (Verian) are data controllers in relation to your/your child's personal data as set out in this notice and are responsible for your/your child's personal data as set out herein. This notice applies to the personal data which is provided to Verian about you and you/your child by schools participating in the Project. Please make sure that any personal details held by your child's (or children's) school(s) are accurate and up to date, and let the school(s) know about any changes as soon as possible.

Note that another company, Herts for Learning Ltd (trading as HFL Education), are data controllers for the purpose of delivering this project. Their use of data is separate from that of Verian. HFL Education will not receive any personal data about pupils, but will receive names and contact information for school staff supporting delivery of the Project. Please see the link to the HFL Education Privacy Notice above for more information about data sharing

with them. The HFL Education delivery team can be contacted at **readingfluency.eef@hfleducation.org**.

Verian have appointed a Data Protection Officer (DPO) who is responsible for overseeing questions in relation to this privacy notice. If you have any questions about this privacy notice, including any requests to exercise your legal rights in relation to your/your child's personal data, please contact the Data Protection Department:

Post: Data Protection Officer, Verian, 4 Millbank, London SW1P 3JA

Email: compliance@veriangroup.com

You also have the right to make a complaint at any time to the Information Commissioner's Office (ICO), the UK supervisory authority for data protection issues (www.ico.org.uk). We would, however, appreciate the chance to deal with your concerns before you approach the ICO so please contact us in the first instance.

What personal data will we collect?

If your child is selected into the Project's target group, your school will share the following information about your child with Verian:

- Unique pupil number (UPN)
- Full Name
- Enrolment status
- School name and identifier (URN)
- Admission date
- English as an additional language (EAL) status (via the National Pupil Database)
- Free school meal (FSM) eligibility (via the National Pupil Database)
- Gender
- Date of birth
- Year group
- Reading assessment scores (for assessments related to Project delivery).
    - The assessment before the Project, in September 2024, will be conducted by your child's Year 6 teacher. The assessment after the Project, in February 2025, will be conducted by an independent assessor from ACER UK.
    - The assessment will include some questions regarding your child's perceptions of their reading ability, ease, habits, and enjoyment.
- Project session attendance records

- Early Years Foundation Stage Profile scores (via the National Pupil Database)
- KS2 SATS reading scores (via the National Pupil Database)

If you are a teacher or member of staff at a participating school helping deliver this Project, we will process the following data (collected by HFL Education and shared with us):

- Your full name
- Your (workplace) email address
- Project training attendance records

If you are a parent who has consented to their child participating in observations and an interview, we will process the following information to demonstrate your consent (collected by schools and shared with us):

- Full name of parent/carer providing consent
- Relation to pupil
- Date of consent for observation and interview

What do we do with the information we collect?

The purpose for which Verian is processing your/your child's personal data is:

- To conduct the randomisation (i.e., random allocation) of participating schools to the treatment (receives the Project) or control (does not receive the Project) group. This research method, called a Randomised Controlled Trial (RCT), robustly demonstrates the impact of a programme.
    - Pupils in treatment schools will receive reading support by way of the KS2 Reading Fluency Project during school time.
    - Pupils in control schools will receive reading support in the same way their school does now, but will be asked to conduct the assessments associated with the project (during school time).
- To evaluate the impact and effectiveness of the Project and prepare a report about the project.
- We will share the assessment data collected at the end of the project with your child's school in July 2025. This will consist of scores achieved on the Multi-Dimensional Fluency Scale (MDFS) and the Yorkshire Assessment of Reading Comprehension (YARC) assessments, as well as aggregated scores (from the 6–8 pupils in the target group) on questions about reading confidence and enjoyment.
- Your/your child's persona data will remain confidential and will only be used for the implementation and evaluation of the Project. **No personal data will be made public or**

included in reporting, and no individuals will be identified in the reporting related to the Project.

What is our lawful basis for processing your/your child's personal data?

Data protection laws require us to meet certain conditions before we are allowed to use your/your child's data in the manner described in this notice, including having a lawful basis for the processing.

For all information collected via schools (and from schools via the National Pupil Database) about pupils and school staff:

Verian is relying on the lawful basis of:

LEGITIMATE INTERESTS: Our lawful basis for processing your child's personal data is legitimate interests (as per Article 6 (1) (f) of the UK GDPR) and we have considered that their interests and fundamental rights do not override those legitimate interests). It is necessary in Verian's 'legitimate interests' to process the personal data identified above in order to deliver a meaningful randomised controlled trial (RCT) that has been commissioned by the EEF. It also supports equity of educational outcomes, in the public interest, by allowing for the recruitment of representative participants for supplementary primary research. The research project fulfils Verian's core business aims including undertaking research, evaluation and information activities in sectors that will deliver social impact.

Parents can withdraw their child(ren) from the evaluation by emailing readingfluency@veriangroup.com at any time.

Who has access to your/your child's information?

Your/your child's information will be accessed by a limited number of researchers and advisors in Verian's project team working on this project. Verian may disclose your/your child's information to third parties in connection with the purposes of processing your/your child's personal data set out in this notice. These third parties may include:

- regulators, law enforcement bodies and the courts, in order to comply with applicable laws and regulations, assist with regulatory enquiries, and cooperate with court mandated processes, including the conduct of litigation;
- suppliers, research assistants and sub-contractors who may process information on behalf of Verian. In particular:
    - Kiteworks will be used to securely transfer data, and Verian will securely store all data.
    - ACER UK will process information to administer the Project assessments to students within their school in February 2025.
    - BMR will develop a survey platform used to collect project data.

- We may also use a recruitment agency to invite you to participate in qualitative research, such as interviews, in relation to this project.

These third parties are known as data processors and when we use them we have contractual terms and policies and procedures in place to ensure that your/your child's personal data is protected. This does not always mean that they will have access to information that will directly identify you as we will share anonymised or pseudonymised data only wherever possible. We remain responsible for your/your child's personal information as the controller.

We may also disclose your/your child's personal information if required by law, or to protect or defend ourselves or others (including your child) against illegal or harmful activities, or as part of a reorganisation or restructuring of our organisations.

HFL Education (the delivery team) and Verian (the evaluation team) may deal with and share school staff contact information and teacher training attendance records in accordance with a data sharing agreement between the two organisations. The agreement sets out the purposes for which we may process and share your/your child's personal data and our agreement to cooperate to protect your/your child's personal data and deal with any requests you may have.

Finally, following the completion of the project, the project data will be provided to the EEF to be stored in their data archive in an anonymised form. The EEF will then become data controller for this data. You can find more information on the EEF data archive below.

Is personal data being transferred internationally?

Your/your child's personal information will not be transferred outside of the European Economic Area ("EEA") by Verian. References in this notice to the EEA include the UK, even where the UK is no longer a member of the European Union / European Economic Area.

How will we keep your/your child's data secure?

We take reasonable steps to protect your/your child's personal information and follow procedures designed to minimise unauthorised access, alteration, loss or disclosure of your/your child's information.

Taking into account the technological developments, the costs of implementation and the nature, scope, context and purposes of processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, we implement appropriate technical and organisational measures to ensure a level of security appropriate to the risk of processing.

We ensure that those who have permanent or regular access to personal data, or that are involved in the processing of personal data, are trained and informed of their rights and responsibilities when processing personal data. We provide such access on a need-to-know basis, and have measures in place which are designed to remove that access once it is no longer required.

Physical personal devices used by Verian are encrypted to protect your/your child's data, and confidential hard copy data (including special category data) is kept in locked rooms or cabinets.

We have put in place procedures to deal with any suspected personal data breach and will notify you and any applicable regulator of a breach where we are legally required to do so.

How long will your and your child's data be kept?

We will only retain your/your child's personal data for as long as necessary to fulfil the purposes we collected it for, including for the purposes of satisfying any legal, accounting, or reporting requirements. When it is no longer necessary to retain your/your child's personal data, it will be securely deleted.

To determine the appropriate retention period for personal data, we consider the amount, nature, and sensitivity of the personal data, the potential risk of harm from unauthorised use or disclosure of your/your child's personal data, the purposes for which we process your/your child's personal data and whether we can achieve those purposes through other means, and the applicable legal requirements.

Taking the above factors into consideration, our anticipated date of deletion for your/your child's personal data is February 2027. Note that the EEF will store your/your child's data in its secure data archive even after Verian has deleted your/your child's data (see below). You can find more information on the EEF data archive below.

What will the EEF do with your/your child's data?

Once we have finished our study, we will share the information we have received from or via your child's school about pupils who have taken part in the Project with the DfE, the EEF, the EEF's archive manager FFT Education (FFT), and the Office for National Statistics. The DfE will replace all identifying information about the pupils who have taken part in the study (their name, gender, date of birth, Unique Pupil Number) with the young person's unique Pupil Matching Reference number in the DfE's National Pupil Database. All other personal data that can identify an individual will be deleted prior to archiving. Once this has been done, it is no longer possible to directly identify any individual young person from the study data. This process is called pseudonymisation.

Once information is pseudonymised, it is added to the EEF data archive, which is stored in the Office for National Statistics' Secure Research Service and managed by the EEF's archive manager (currently, FFT), and we hand over control to the EEF for protecting your/your child's personal information. The EEF is the 'data controller' of the information in the EEF archive.

Using the unique Pupil Matching Reference numbers added to the data by the DfE, it will be possible to link the records held in the EEF archive to other public datasets for future research. This will, for example, help approved researchers to find out the long-term impact of the projects funded by the EEF.

The EEF will keep information in the EEF archive for as long as it is needed for research purposes. You can find the privacy notice for the EEF data archive here.

You may also contact the EEF with any questions about their Archive at info@eefoundation.org.uk, or telephone 0204 536 3999, or in writing to: Education Endowment Foundation, 5th Floor, Millbank Tower, 21–14 Millbank, London, SW1P 4QP.

What are your legal rights?

Under certain circumstances, you have rights under data protection laws in relation to your/your child's personal data, including rights to:

- Request access to your/your child's personal data: this enables you to receive a copy of the personal data we hold about you and to check we are lawfully processing it.
- Request correction of your/your child's personal data: this enables you to have any incomplete or inaccurate data we hold about you corrected.
- Request erasure of your/your child's personal data: this enables you to ask us to delete or remove personal data where there is no good reason for us continuing to process it.
- Object to processing of your/your child's personal data: for example, you can object where we are relying on a legitimate interest (or those of a third party) and there is something about your particular situation which makes you want to object to processing on this ground as you feel it impacts on your fundamental rights and freedoms.
- Request restriction of processing your/your child's personal data: This enables you to ask us to suspend the processing of your/your child's personal data.
- Right to withdraw consent to the processing of your/your child's personal data: This applies where we have relied on consent to process personal data. Please note that withdrawal of consent will not affect the lawfulness of any processing carried out before withdrawing your consent.
- Right not to be subject to decisions based purely on automated processing where it produces a legal or similarly significant effect on you. Please note that Verian does not engage in automated decision making without manual intervention in its research projects.

If you wish to exercise any of the rights set out above, please contact the Data Protection Department with your specific request by email to: compliance@veriangroup.com.

It is important to understand that the extent to which these rights apply to research will vary and that in some circumstances your rights may be restricted.

Ordinarily, you will not have to pay a fee to access your/your child's personal data (or to exercise any of the other rights). However, we may charge a reasonable fee if your request is clearly unfounded, repetitive or excessive. Alternatively, we may refuse to comply with your request in these circumstances.

We may need to request specific information from you to help us confirm your identity and ensure your right to access your/your child's personal data (or to exercise any of your other rights). This is a security measure to ensure that personal data is not disclosed to any person who has no right to receive it. We may also contact you to ask you for further information in relation to your request to speed up our response.

We try to respond to all legitimate requests within one month. Occasionally it may take us longer than a month if your request is particularly complex or you have made a number of requests. In this case, we will notify you and keep you updated.

Please also note that we can only comply with a request to exercise your rights during the period for which we hold personal information that directly identifies you. If we have only collected pseudonymised information (e.g. where we have not collected any names or contact details) or personal data has been irreversibly anonymised and has become part of the research data set, it will not be possible for us to comply.

What happens if Verian makes changes to this Notice?

We may change this Privacy Notice from time to time. If we make any significant changes in the way we treat your/your child's personal information we will make this clear by contacting schools and ensuring they provide you with an updated version of this Privacy Notice or by contacting you directly.

Verian Research Project Privacy Notice – Evaluating the KS2 Reading Fluency Project: Observation, Interview and Survey Data

Introduction

Your/your child's school is participating in a research project testing the impact of a programme to improve reading comprehension among Year 6 pupils (the "Project"). This privacy notice is for parents of pupils as well as staff at schools participating in this Project. This privacy notice sets out how we collect and use your (in the case of school staff)/your child's (in the case of parents of pupils) personal data ("your/your child's data"). We will not collect any personal data relating to pupils' parents.

HFL Education's KS2 Reading Fluency Project is a targeted intervention designed to improve reading comprehension for pupils who have been identified by the school as likely to benefit from the approach. Verian is conducting an evaluation of the Project to assess whether the KS2 Reading Fluency Project improves pupils' reading comprehension. Note that Verian will only collect data relating to pupils selected by their teachers into the Project's target group. This group consists of 6–8 pupils per school that the teachers believe could benefit from the intervention.

The Education Endowment Foundation (EEF) has commissioned a study to understand the impact of the KS2 Reading Fluency Project on pupils. The funding for this Project and evaluation is from the Department for Education(DfE)'s Accelerator Fund, which aims to expand the use of evidence-based programmes.

This Privacy Notice sets out how Verian will use your/your child's data to evaluate the impact, implementation and process of this project. Verian will collect data separately from HFL Education who will deliver the project, and each organisation will need different data for a different purpose. For more information about the data HFL Education would receive and how they will keep it secure, please see HFL Education's Privacy Notice for this project here.

Contact details

Verian Group UK Ltd. (Verian) are data controllers in relation to your/your child's personal data as set out in this notice and are responsible for your/your child's personal data as set out herein. This notice applies to the personal data which is collected by Verian about you/your child through observations, surveys or interviews related to the KS2 Reading Fluency Project.

Verian have appointed a Data Protection Officer (DPO) who is responsible for overseeing questions in relation to this privacy notice. If you have any questions about this privacy notice, including any requests to exercise your legal rights in relation to your/your child's personal data, please contact the Data Protection Department:

Post: Data Protection Officer Verian, 4 Millbank, London SW1P 3JA

Email: compliance@veriangroup.com

You also have the right to make a complaint at any time to the Information Commissioner's Office (ICO), the UK supervisory authority for data protection issues (www.ico.org.uk). We would, however, appreciate the chance to deal with your concerns before you approach the ICO so please contact us in the first instance.

What personal data will we collect?

If you are the parent of a pupil participating in this study, we will collect data through your child's participation in interviews and in lessons being observed by researchers. This may include the following types of (personal) data:

- Full Name
- Perceptions of pupil reading ability, ease, habits, and enjoyment
- Experiences of the KS2 Reading Fluency Project
- The perceived effect of the intervention on pupils

If you are a teacher or member of staff at a participating school, we will collect data through interviews and short surveys with yourself, and in lessons being observed by researchers. This may include the following types of (personal) data:

- Full name
- Perceptions of pupil reading ability, ease, habits, and enjoyment
- Experiences of the KS2 Reading Fluency Project, including the implementation and process
- Usual practice related to reading education (outside of the Project)
- The perceived effect of the intervention on pupils

What do we do with the information we collect

The purpose for which Verian is processing your/your child's personal data collected via observations, surveys and interviews is to evaluate the impact and effectiveness of the Project and the quality of its implementation, and prepare a report about the findings. Names will only be used to confirm the student's and teacher's participation in the project, and to validate that the data we analysis relates to the correct pupil (including data from the National Pupil Database). **No names or other identifiable information will be made public or included in project reporting.**

What is our lawful basis for processing your/your child's personal data?

Data protection laws require us to meet certain conditions before we are allowed to use your/your child's data in the manner described in this notice, including having a lawful basis for the processing.

For all information collected via observations, surveys, and/or interviews:

Verian is relying on the lawful basis of:

CONSENT: As per Article 6 (1) (a) of the UK GDPR, your/your child's data will be processed only if an appropriate signatory consents to such processing. In the case of children, the appropriate signatory required for consent under this project must be a parent or guardian/carer.

Who has access to your/your child's information?

Your/your child's information will be accessed by a limited number of researchers and advisors in Verian's project team working on this project. Verian may disclose your/your child's information to third parties in connection with the purposes of processing your/your child's personal data set out in this notice. These third parties may include:

- regulators, law enforcement bodies and the courts, in order to comply with applicable laws and regulations, assist with regulatory enquiries, and cooperate with court mandated processes, including the conduct of litigation;
- suppliers, research assistants and sub-contractors who may process information on behalf of Verian. In particular:
    - Kiteworks will be used to securely transfer data, and Verian will securely store all data.
    - We may also use a recruitment agency to invite you to participate in qualitative research, such as interviews, in relation to this project.

These third parties are known as data processors and when we use them we have contractual terms and policies and procedures in place to ensure that your/your child's personal data is protected. This does not always mean that they will have access to information that will directly identify you as we will share anonymised or pseudonymised data only wherever possible. We remain responsible for your/your child's personal information as the controller; and

We may also disclose your/your child's personal information if required by law, or to protect or defend ourselves or others (including your child) against illegal or harmful activities, or as part of a reorganisation or restructuring of our organisations.

Is personal data being transferred internationally?

Your/your child's personal information will not be transferred outside of the European Economic Area ("EEA") by Verian. References in this notice to the EEA include the UK, even where the UK is no longer a member of the European Union / European Economic Area.

How will we keep your/your child's data secure?

We take reasonable steps to protect your/your child's personal information and follow procedures designed to minimise unauthorised access, alteration, loss or disclosure of your/your child's information.

Taking into account the technological developments, the costs of implementation and the nature, scope, context and purposes of processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, we implement appropriate technical and organisational measures to ensure a level of security appropriate to the risk of processing.

We ensure that those who have permanent or regular access to personal data, or that are involved in the processing of personal data, are trained and informed of their rights and responsibilities when processing personal data. We provide such access on a need-to-know basis, and have measures in place which are designed to remove that access once it is no longer required.

Physical personal devices used by Verian are encrypted to protect your/your child's data, and confidential hard copy data (including special category data) is kept in locked rooms or cabinets.

We have put in place procedures to deal with any suspected personal data breach and will notify you and any applicable regulator of a breach where we are legally required to do so.

How long will your and your child's data be kept?

We will only retain your/your child's personal data for as long as necessary to fulfil the purposes we collected it for, including for the purposes of satisfying any legal, accounting, or reporting requirements. When it is no longer necessary to retain your/your child's personal data, it will be securely deleted.

To determine the appropriate retention period for personal data, we consider the amount, nature, and sensitivity of the personal data, the potential risk of harm from unauthorised use or disclosure of your/your child's personal data, the purposes for which we process your/your child's personal data and whether we can achieve those purposes through other means, and the applicable legal requirements.

Taking the above factors into consideration, our anticipated date of deletion for your/your child's personal data is February 2026.

What are your legal rights?

Under certain circumstances, you have rights under data protection laws in relation to your/your child's personal data, including rights to:

- Request access to your/your child's personal data: this enables you to receive a copy of the personal data we hold about you and to check we are lawfully processing it.
- Request correction of your/your child's personal data: this enables you to have any incomplete or inaccurate data we hold about you corrected.
- Request erasure of your/your child's personal data: this enables you to ask us to delete or remove personal data where there is no good reason for us continuing to process it.
- Request restriction of processing your/your child's personal data: This enables you to ask us to suspend the processing of your/your child's personal data.
- Right to withdraw consent to the processing of your/your child's personal data. Please note that withdrawal of consent will not affect the lawfulness of any processing carried out before withdrawing your consent.
- Right not to be subject to decisions based purely on automated processing where it produces a legal or similarly significant effect on you. Please note that Verian does not engage in automated decision making without manual intervention in its research projects.

If you wish to exercise any of the rights set out above, please contact the Data Protection Department with your specific request by email to: compliance@veriangroup.com.

It is important to understand that the extent to which these rights apply to research will vary and that in some circumstances your rights may be restricted.

Ordinarily, you will not have to pay a fee to access your/your child's personal data (or to exercise any of the other rights). However, we may charge a reasonable fee if your request is clearly unfounded, repetitive or excessive. Alternatively, we may refuse to comply with your request in these circumstances.

We may need to request specific information from you to help us confirm your identity and ensure your right to access your/your child's personal data (or to exercise any of your other rights). This is a security measure to ensure that personal data is not disclosed to any person who has no right to receive it. We may also contact you to ask you for further information in relation to your request to speed up our response.

We try to respond to all legitimate requests within one month. Occasionally it may take us longer than a month if your request is particularly complex or you have made a number of requests. In this case, we will notify you and keep you updated.

Please also note that we can only comply with a request to exercise your rights during the period for which we hold personal information that directly identifies you. If we have only collected pseudonymised information (e.g., where we have not collected any names or contact

details) or personal data has been irreversibly anonymised and has become part of the research data set, it will not be possible for us to comply.

What happens if Verian makes changes to this Notice?

We may change this Privacy Notice from time to time. If we make any significant changes in the way we treat your/your child's personal information we will make this clear by contacting schools and ensuring they provide you with an updated version of this Privacy Notice or by contacting you directly.

Bibliography

Bell, K. *et al.* (2022) 'ABRACADABRA (ABRA) and Reading and Understanding in Key Stage 1 (RUKS).' EEF. Available at: ABRA-Report-Final.pdf (d2tic4wvo1iusb.cloudfront.net) (Accessed: 19 December 2023).

Cain, K. and Oakhill, J. (2006) 'Profiles of children with specific reading comprehension difficulties', 76(4). Available at: https://doi.org/10.1348/000709905X67610.

Coppock, A. *et al.* (2023) *Package 'randomizr'*, *CRAN*. Available at: Available at: https://cran.r-project.org/web/packages/randomizr/randomizr.pdf (Accessed: 15 December 2023).

Department for Education (2023) *Key stage 2 attainment: National headlines, Academic year 2022/23*. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/key-stage-2-attainment-national-headlines (Accessed: 22 March 2024).

Dimova, S. and Illie, S. (2021) 'Peer Assisted Learning Strategies UK: Statistical Analysis Plan.' Available at: PALS_SAP_update_2021.pdf (d2tic4wvo1iusb.cloudfront.net) (Accessed: 15 December 2023).

Freed, E.M., Hamilton, S.T. and Long, D.L. (2017) 'Comprehension in proficient readers: The nature of individual variation', *Journal of Memory and Language*, 97, pp. 135–153.

Groen, M.A., Veenendaal, N.J. and Verhoeven, L. (2019) 'The role of prosody in reading comprehension: Evidence from poor comprehender', *Journal of Research in Reading*, 42(1), pp. 37–57. Available at: https://doi.org/10.1111/1467-9817.12133.

Hedges, L. (2007) 'Effect sizes in cluster-randomized designs', *Journal of Educational and Behavourial Sciences*, 34(4), pp. 341–370. Available at: https://doi.org/10.3102/1076998606298043.

Hoffmann, T.C. *et al.* (2014) 'Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide', *BMJ*, 348. Available at: https://doi.org/10.1136/bmj.g1687.

Huberman, A. and Miles, M. (2002) *The Qualitative Researcher's Companion*. 2455 Teller Road, Thousand Oaks California 91320 United States of America: SAGE Publications, Inc. Available at: https://doi.org/10.4135/9781412986274.

Kintsch, W. and Rawson, K.A. (2007) 'Comprehension', in *The Science of Reading: A Handbook*. Oxford: Blackwell Publishing, pp. 209–226.

Oakhill, J., Cain, K. and Elbro, C. (2014) *Understanding and Teaching Reading Comprehension*. 1st edn. London.

Perfetti, C.A. (1988) 'Verbal efficiency in reading ability', in *Reading research: Advances in theory and practice*. Academic Press, pp. 109–143.

Perfetti, C.A. (2010) *Decoding, Vocabulary, and Comprehension. The Golden Triangle of Reading Skill*.

Rasinski, T. (2004) 'Assessing reading fluency', in *Pacific Resources for Education and Learning (PREL)*.

Smith, G.S. and Paige, D.D. (2019) 'A Study of Reliability Across Multiple Raters When Using the NAEP and MDFS Rubrics to Measure Oral Reading Fluency', *Reading Psychology*, 40, pp. 34–69.

Snowling, M.J. *et al.* (2009) *York Assessment of Reading for Comprehension Passage Reading (YARC): Test Manual. GL Assessment*. GL Publishers.

Srivastava, A. and Thompson (2009) 'Framework Analysis: A Qualitative Methodology for Applied Policy Research', *Journal of Administration & Governance*, 4(2), pp. 72–79.

Sterne, J.A. *et al.* (2019) 'RoB 2: a revised tool for assessing risk of bias in randomised trials', 336. Available at: https://doi.org/10.1136/bmj.l4898.

Veenendaal, N.J., Groen, M.A. and Verhoeven, L. (2014) 'The role of speech prosody and text reading prosody in children's reading comprehension', *The British Journal of Educational Psychology*, 84(Pt 4), pp. 521–536. Available at: https://doi.org/10.1111/bjep.12036.