Improving reading fluency

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About IEE Innovation Evaluation Grants

The first four IEE Innovation Evaluation Grants were awarded in February 2017. Funded by the Institute for Effective Education (IEE), these grants supported pilot evaluations of innovations of teaching and learning approaches based on the Research Schools Network's goal of improving the attainment of pupils by increasing the use of evidence-based practices.

Since then a further 26 projects have been successful in their application for an IEE Innovation Evaluation Grant, bringing the total number to 30. The applications we received included a wide range of interesting, school-led innovations – from after-school film clubs to improve the creative writing of Year 5 pupils, to the use of audio feedback with Year 12 pupils – and we were really impressed with the thought that applicants had put into how these innovations could be evaluated.

The evaluations are small-scale, and test the kinds of innovations that schools are interested in. This is very much a "bottom-up" exercise, allowing schools to get some indicative evidence behind real-world initiatives. Many evaluations are now coming to an end, and we are starting to publish reports on the findings. It is important remember that these are small-scale projects, often carried out in one school, so it is not possible to generalise their findings. In fact, the main benefit of the Innovation Evaluation projects may be in the process, rather than the findings.

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Executive summary

Description of the innovation

Our innovation investigated the impact of an eight week small-group reading fluency intervention (the Herts for Learning Key Stage 2 (HFL KS2) Reading Fluency Project) on reading comprehension and reading accuracy for children in Years 4, 5 and 6 who were working below age-related expectation. Progress was compared to similar pupils who received the school's usual guided reading support.

The HFL KS2 Reading Fluency Project entails two small-group reading sessions per week, with each session lasting 20 minutes. Session one focuses on teacher-led modelled fluent reading, alongside interspersed echo reading, ending with a performance read. Session two is a traditional guided reading session with time for high-level discussion generated from question stems that reflected the structure and wording used in the Year 6 SATs (statutory assessments that pupils take at the end of Year 6).

Summary of the evaluation

Pupils in Years 4, 5 and 6 at a large community school in St Albans participated in the evaluation. Eight Year 4, six Year 5 and six Year 6 pupils took part in the intervention – meaning a total of 20 participants in the intervention group and 20 in the control group. They were pupils who were:

- working below age-related expectation (ARE) at the end of Year 3, Year 4 or Year 5 (the year prior to their September 2018 year group)
- not on track to meet end-of-year expectations in reading
- struggled to read a text judged to be at ARE.

One class in each year group took part in the innovation while the other class formed the control group. Pupils were matched from both classes based on the criteria described above. The control classes were taught using the guided reading strategies normally used in the school (a guided reading carousel) while intervention group pupils took part in guided reading sessions using the HFL KS2 Reading Fluency Project. The intervention lasted eight weeks.

The York Assessment of Reading for Comprehension (YARC) was administered as a pre- and post-test to all participating pupils. Reading accuracy and reading comprehension ages were analysed.

Summary of findings

Our research found that the HFL KS2 Reading Fluency Project had a positive impact on developing pupils' reading accuracy and comprehension, as measured by the YARC. Over the course of the eight week evaluation, the average progress in reading comprehension age for pupils who took part in the intervention was eight months while those in the control group made an average of two months progress (so a +6 months positive difference, effect size +0.38). Average reading accuracy age progress for intervention group pupils was one year, one month while the control group made five months progress (a +8 months difference; effect size +0.64).

Because there were only 20 pupils in the intervention group, our results show a positive finding from a small-scale study, which suggests that a larger-scale evaluation is merited. Our results do mirror the results other schools have had with the HFL KS2 Reading Fluency Project.

Introduction

Description of the problem

The National Curriculum changes in 2014 brought about a raised expectation in reading breadth and vocabulary needed to be able to achieve age related outcomes at the end of Key Stage 2 (KS2). Our school, like other schools nationally, is finding that an increasing number of children are going into Year 6 'at risk' or 'on the cusp' of not achieving age-related expectation.

Herts for Learning (HFL) have created a KS2 Reading Fluency Project, which utilises fluency strategies to improve reading comprehension and broaden children's vocabulary development. Our innovation evaluation looked to apply this intervention with the aim of raising reading accuracy and reading comprehension for pupils working below age-related expectation in Years 4, 5 and 6.
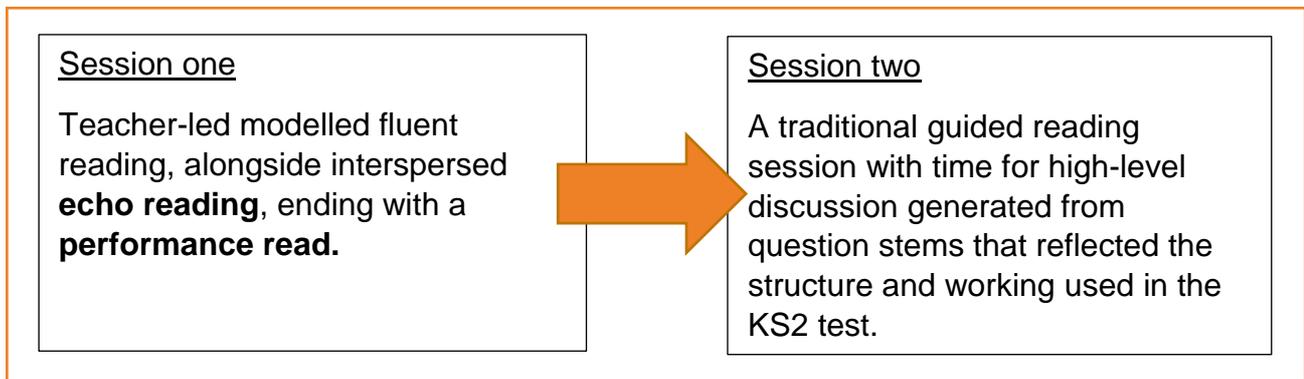
Review of existing research

The Education Endowment Foundation (EEF)'s Improving Literacy in Key Stage 2 guidance report identifies that literacy skills are critical to future success but that disadvantaged pupils are "more than twice as likely as their classmates from more advantaged homes to leave primary school without reaching the expected levels in reading and writing". The report states the important role teacher professional development can have upon literacy, which was a key feature of our proposed intervention. In addition, EEF evidence demonstrates that targeted small group interventions "have the potential for the largest immediate impact on attainment." (EEF, 2018). Our project evaluated a reading fluency programme from HFL, which incorporates teacher professional development and targeted small group intervention.

The innovation uses the key recommendations from EEF's Improving Literacy in Key Stage 2 guidance report to ensure pupils "develop fluent reading capabilities". In the HFL KS2 Reading Fluency Project, pupils are exposed to a range of challenging texts through teacher modelling to improve reading fluency and comprehension.

The HFL English team had reported initial impact findings of the project that suggested "pupils in receipt of pupil premium grant funding made on average 29 months progress in reading comprehension (measured using the York Assessment of Reading for Comprehension over an eight-week period)." Until our innovation project, an evaluation using a comparison or control group had not been carried out – which is what our research project aimed to complete.

Description of the innovation

The intervention comprises two small-group reading sessions delivered by teachers to six or eight pupils in Year 4, 5 and 6 each week. Each session lasted 20 minutes, while the rest of the class took part in a guided reading carousel:

Session one	Session two
Teacher-led modelled fluent reading, alongside interspersed **echo reading**, ending with a **performance read.**	A traditional guided reading session with time for high-level discussion generated from question stems that reflected the structure and working used in the KS2 test.

Echo reading

EEF recommendations of "reading comprehension strategies through modelling and supported practice" (Improving Literacy in Key Stage 2) are key to the echo read. There is no discussion of the text. Pupils echo the teachers' reading of the text. "The echo read becomes an access strategy that allows the meaning of the text to open up to the readers." (HFL, 2018).

Performance read

At the end of each echo reading session (session one), pupils are invited to performance read a section of the text, mimicking the exact same delivery offered by the expert reader (the teacher).

Session two follows the format of a traditional guided reading session. In this session, children have an opportunity to discuss the text that they have echo read in the previous session. The session focuses on three planned questions. The questions mirror the semantic structure of those used in the KS2 reading SATs papers. Question 1 aligns with testing domain 1a (give/explain the meaning of words in context); question 2 aligns with testing domain 2b (retrieve and record information / identify key details from fiction and non-fiction) and question 3 aligns with testing domain 2d (make inferences from the text / explain and justify inferences with evidence from the text).

Teachers model a response to question 2d before inviting the pupils to respond with their thoughts.

Another key feature is that the texts used for the HFL KS2 Reading Fluency Project are pitched at the end-of-year age-related expectation (for example end of Year 6 expectation), which is a much greater challenge than the participating pupils are reading independently.

Research questions

Research question

What impact does a small-group reading fluency intervention alongside a comprehension session have on reading accuracy and comprehension of children in Years 4, 5 and 6 who are working below age-related expectation compared to similar pupils who receive the school's usual guided reading support?

Hypothesis

A small-group teacher-led intervention focused on reading fluency will provide quantitative impact on reading comprehension; raising pupils' reading attainment and helping to 'close the gap' for pupils who are working below the age related expectation in reading.

Method

Sample

Garden Fields is a large, community school in St Albans, which since September 2015 has had three forms of entry. When this project began the school had three forms of entry up to and including Year 3 and two forms of entry in Years 4, 5 and 6 (they will become three forms of entry over the next three years), with currently 514 children on role. 20% of pupils have English as an additional language (EAL), with 39 languages spoken and 17.5% have special educational needs and disability (SEND). In summer 2018, 87% of Year 6 pupils achieved the expected standard for reading.

The participating pupils were in Year 4, Year 5 and Year 6. They were pupils who were working below age-related expectations (ARE) at the end of Year 3, Year 4 or Year 5 (the year before their September 2018 year group).

The HFL KS2 Reading Fluency Project advisors define the following selection criteria which was used:
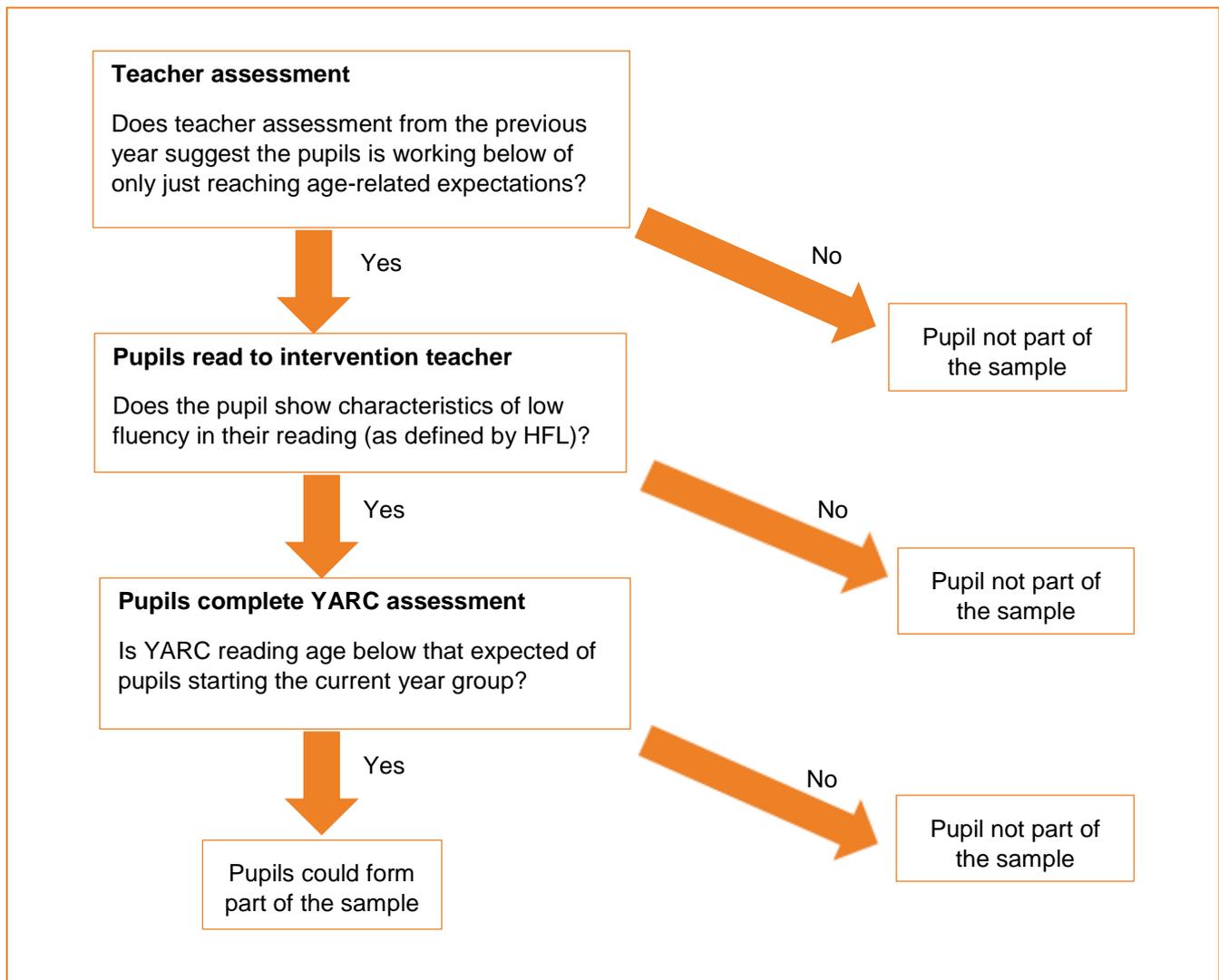
- not on track to meet end-of-year expectations in reading
- struggles to read a text judged to be at ARE (see below for detailed criteria).

The following characteristics of reading style/behaviour (displayed when reading a text judged to be ARE) were also used as inclusion criteria for participants:

- Struggles to decode some/many words.
- Does not self-correct (eg, misreads/substitutes words that leads to a significant change to the meaning of the text, but does not seem to acknowledge the misunderstanding that has arisen).
- Misses out words/whole lines and shows no acknowledgement.
- Shows little regard for overt punctuation eg, doesn't pause at full stops, doesn't use commas to group words together.
- Fluency appears to worsen as the independent read continues eg, more errors, greater disregard for punctuation.
- Reads words in a staccato/stilted manner eg, with little overt grouping of words together to form audible phrases (could be described as 'robotic reading').
- Shows little/no variation in pace/tone/volume when reading (other than perhaps words within speech marks).
- Shows little/no reaction to the text being read eg, shock/ amusement/disgust/fear at pivotal points in the text.

Pupils who fitted the above criteria were identified by the research lead and class teachers, and their reading accuracy and comprehension were assessed using the York Assessment of Reading for Comprehension (YARC). Pupils were selected to participate whose reading fitted the above criteria and whose YARC reading age demonstrated that they were working below the expectation for their year group.

The process we used for identifying pupils for the sample is outlined in the following flow chart:

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┌─────────────────────────────────────────────────────────────────────┐
│  Teacher assessment                                                    │
│                                                      No                 │
│  Does teacher assessment from the previous      ────────►  ┌─────────┐ │
│  year suggest the pupils is working below of               │ Pupil not│ │
│  only just reaching age-related expectations?              │ part of  │ │
│                                                            │ the sample│ │
│              │ Yes                                          └─────────┘ │
│              ▼                                                          │
│  Pupils read to intervention teacher                                   │
│                                                      No                 │
│  Does the pupil show characteristics of low     ────────►  ┌─────────┐ │
│  fluency in their reading (as defined by HFL)?             │ Pupil not│ │
│                                                            │ part of  │ │
│              │ Yes                                         │the sample│ │
│              ▼                                              └─────────┘ │
│  Pupils complete YARC assessment                                       │
│                                                      No                 │
│  Is YARC reading age below that expected of     ────────►  ┌─────────┐ │
│  pupils starting the current year group?                   │ Pupil not│ │
│                                                            │ part of  │ │
│              │ Yes                                         │the sample│ │
│              ▼                                              └─────────┘ │
│   ┌──────────────┐                                                     │
│   │ Pupils could │                                                     │
│   │ form part    │                                                     │
│   │ of the sample│                                                     │
│   └──────────────┘                                                     │
└─────────────────────────────────────────────────────────────────────┘
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In Year 4, eight pupils were in the control and intervention groups and in Years 5 and 6 there were six pupils in each group. There were 20 pupils in total chosen to take part in the innovation and 20 pupils were part of the control group – so a total of 40 pupils were involved in the evaluation.

To help improve the sample selection, ten pupils from each class (intervention classes and control classes) completed the YARC; giving a total number of possible participants of sixty. From this sample, eight pairs of pupils were 'matched' from the intervention and control class from Year 4, and six pairs of pupils from Year 5 and Year 6. They were matched (as closely as possible) on their YARC reading accuracy and comprehension score. All pupils who took part in the innovation were pupils whose YARC reading age was below their chronological age.

Consent for participation and for pupil data to be analysed as part of the evaluation was gathered using a parent letter. It was an 'opt out' consent format and included consent for pupils' data to be used in the analysis. This was given to all parents of pupils in Years 4, 5 and 6. In it we explained that we were trialling a new form of reading assessment and approach.

There was also opt-out consent for HFL analysis and use of the data should we decide to scale up the project and use the findings in future material about the HFL KS2 Reading Fluency Project. All data has been anonymised.

The control group was a waiting list group – if the outcomes of the project proved positive, it was decided that the control groups would be taught using these strategies from January.

Assignment to condition

All pupils who were chosen for the intervention groups fitted the HFL KS2 Reading Fluency Project inclusion criteria described above (ie, not on track to meet end of year expectations in reading, struggles to read a text judged to be at ARE, YARC reading age below chronological age). This criteria was used to match pupils in the parallel classes – matching reading and comprehension ages for intervention and control participants as closely as possible.

One class in each year group was selected as the intervention class and the other was the control class. The intervention and control classes were not allocated randomly for pragmatic reasons. This is included in our project analysis of possible limitations (see below).

Innovation

The innovation was the HFL KS2 Reading Fluency Project. This is a small-group approach to teaching reading. It involves two sessions a week – the first part is an 'echo read session', followed by a high quality guided reading session which focuses on comprehension questions and uses the HFL English team's 'question stems'. This are similar in format to the types of questions used in Year 6 SATs.

Timeline

September	Reading Fluency Project training was delivered by HFL advisors. This trained the teachers on how to structure the two sessions – in particular the echo read. Examples of high quality texts to use for the sessions were given because a key element of the approach is that pupils are echo reading a text which is pitched at the end of year age related expectation for their year group.
	Staff involved with the control group did not receive this training. YARC and pupil voice surveys were completed by a member of staff not involved in the innovation to establish a pre-innovation baseline.
October	Teachers began the fluency sessions with the pupils on 1st October. These involved two sessions a week involving an echo read and a performance read. Challenging texts were used for these sessions as the echo read helps children to access reading material at a higher level than they are reading at independently. These sessions continued for the duration of the innovation (the project ran for eight weeks). Each week the teachers led an echo read session on a Monday and a follow up session later in the week.
	On 8th October 2018 there was in-school support from the HFL advisor. The research lead and HFL advisor observed the fluency sessions and fed back to the class teachers with some strategies to help align the sessions completely to the HFL criteria. For example, very little teacher

	questioning in session one and the focus being on the children's fluency and 'musicality' of their reading.

To further support the quality of the intervention sessions, the teachers taking part in the innovation also visited another school who has been using the HFL KS2 Reading Fluency approach for a while. This helped to support their implementation of the echo and performance read.

The intervention teachers also observed one another while teaching session one to further develop the consistency of its delivery in line with the HFL guidelines. |
| November | In November there was a mid-point share with other schools doing the HFL KS2 Reading Fluency Project. This was a chance for the teachers to continue developing their confidence with the strategies of the intervention, to share ideas with other schools about texts to use and to receive high-quality support from the English team at HFL.

At the end of November, the final YARC and pupil voice took place to analyse the progress made and pupils' perceptions of the innovation. These was carried out by the same member of staff who administered the pre-tests. |
| December | In December we started the final analysis of the data collected. Teacher surveys and interviews were used to analyse their perceptions of the impact on the innovation on pupils' reading.

There was a final session at HFL where the YARC data was given and results from all of the schools who had taken part in the project this time were shared. |

Control group

While this timeline was taking place, the control groups were taught using our school's usual guided reading approach. This involved a five-day guided reading carousel where the teacher has a guided group each day (rotated daily). In these guided sessions teachers facilitated discussion about the text, developing key reading skills such as inference. The teacher-led session for the control group was quite similar to session two in the intervention – with the teacher discussing the text and focusing on comprehension questions with the pupils. The control group did not receive the session one echo read or performance read. Groups took part in a rotation of follow-up activities planned such as written comprehension questions based on the text they have read. The teachers of these classes did not receive any of the training described above.

All other teaching remained consistent in both classes (for example with shared literacy planning). The pedagogy of the HFL KS2 Reading Fluency Project was only used in the intervention classes.

Outcome measures

York Assessment of Reading for Comprehension (YARC)

The York Assessment of Reading for Comprehension (YARC) is a one-to-one, diagnostic reading assessment that assesses reading accuracy, reading rate and comprehension skills. It has two equivalent papers which were used as a pre-test (test A) and post-test (test B) to assess reading progress for intervention and control participants.

The YARC provides three reading ages: comprehension, accuracy and rate, of which reading ages for comprehension and accuracy were analysed for this evaluation. This enabled measurement of our prediction that the innovation would have a positive impact on reading comprehension and reading accuracy of the participants. It enabled direct quantitative comparisons to be drawn between the intervention and control group.

A member of staff who was not involved in the innovation administered the YARC pre- and post-tests. The same member of staff administered all pupils' tests at the start and the end of the project. This was the only part of the innovation which they took part in to reduce potential bias. They did not attend the HFL training on the HFL KS2 Reading Fluency Project. However they are a teacher at the school and knew which class pupils were in, so were aware of whether pupils were in the intervention or control group.

HFL advisors marked the YARC tests to align the mark scheme. Test papers were anonymised and the HFL advisor did not know which papers belonged to pupils in the intervention group and which papers were completed by pupils in the control group. They calculated reading ages for all papers and reported these back to the school.

Process evaluation

A process evaluation was carried out to help us evaluate whether the innovation had been delivered as intended. Teacher questionnaires for both the intervention and control groups enabled analysis of teacher perceptions of the innovation impact; including strengths and limitations. The research lead asked what the teachers thought of the project – including whether they felt it had an impact on pupil outcomes and how easy and workable it was to implement. The member of staff who administered the tests also gave feedback on their observations from the tests.

Pupil voice was also invaluable to analyse both the pupils' perception of the innovation and also of their reading progress. It helped to determine if pupils enjoyed the approach utilised in the innovation and whether they felt it had a positive impact on their reading confidence and attainment. The research lead administered pupil voice surveys and asked participating pupils follow-on questions. Example questions for pupils included asking them to rate their confidence reading before and then after the innovation, and "How likely are you to choose reading as a hobby?". The pupil reading questionnaire can be seen in Appendix 1. This helped to determine any changes to pupil perceptions, confidence in and engagement with reading as a result of the innovation.

In October (after one week of the innovation being carried out) there was a visit from a HFL advisor who observed the Reading Fluency sessions in Years 4, 5 and 6 with the research lead. A checklist was used to tick off key features of the innovation seen in each class – for example use of the echo read and performance read. There was feedback to teachers using the

innovation to ensure it was being taught as intended. The same checklist was used for the control groups to assess whether any aspects of the innovation were being used in those sessions.

In addition, the research lead also conducted unannounced, random observations of the innovation and control group using the HFL advisor's checklist. This helped to further ensure that the control group was not receiving elements of the fluency approaches.

The research lead also used observations and analysis of recorded sessions to explore the impact of the intervention.

Outcomes analyses, including process analyses

YARC analysis provided quantitative outcome data – reported as reading age at pre- and post-test and number of months' progress for participants. Both the accuracy and comprehension reading ages were analysed.

Mean scores of the control and intervention groups for pre- and post-tests and effect sizes were calculated for each year group and for the whole sample. The process for this was:

1. All participating pupils' reading ages were converted into decimals (ie, seven years, six months would become 7.5).
2. Mean pre- and post-test scores and progress were calculated for the intervention and control groups in each year group and for the whole sample. These were reported as decimals.
3. Effect sizes were calculated using progress scores for each year group and for the whole sample.
4. Additional progress made by the intervention group compared to the control group was calculated by subtracting mean progress of the intervention group from mean progress of the control group (reported as decimal of a year).
5. Mean progress and mean additional progress were converted to months' progress/ additional months' progress. This was done by multiplying the years in decimals by 12 (ie, 0.83 of a year's progress is equivalent to 10 months progress because 0.83 x 12 = 10). These are recorded to the nearest month. Please note, mean additional progress in months is not always equal to the difference between months progress of the intervention and control groups because decimals of years were rounded to the nearest month in both cases.

Analysis was also undertaken of qualitative data obtained – for example from pupil voice and observations of children working in each group conducted by the research lead. Thematic analysis was used for this.

Cost

Herts for Learning charge £880 per school for the HFL KS2 Reading Fluency Project. For our school, we had two additional year groups taking place so it cost £990, which meant a cost of £330 per year group. This cost includes the YARC analysis. For most schools taking part in the project, the class teacher tests the pupils on the pre- and post-test YARCs. There may be some supply/cover costs for this depending on the school. To keep the testing unbiased for our

evaluation we had a member of staff who was not the class teacher test the pupils, which resulted in higher costs for our school.

As the cost from HFL is focused on the CPD and support for each class teacher taking part, rather than per pupil, the cost is not repeated annually. Lots of schools who have taken part in the HFL KS2 Reading Fluency Project have disseminated the training to other members of staff – meaning that the cost is even less per year group over time.

Results

Outcome findings

The York Assessment of Reading for Comprehension (YARC) produced data for the reading accuracy and the comprehension. The effect size was calculated for both of these. The mean test scores and progress for each group are reported as years, rounded to two decimal places. The mean progress in years has been converted to mean months' progress, rounded to the nearest month.

Comprehension

The results of the reading comprehension ages are summarised in the Table 1 below. The mean scores in Table 1 show the averages of the YARC scores for each year group and for the whole sample:

TABLE 1: READING COMPREHENSION RESULTS

	Intervention group *(8 pupils in Year 4, 6 pupils in Years 5 and 6)*			Control group *(8 pupils in Year 4, 6 pupils in Years 5 and 6)*			Additional progress of intervention group compared to control group (years)	**Effect size**
	Pre-test reading age mean (years)	Post-test reading age mean (years)	Mean progress (years)	Pre-test reading age mean (years)	Post-test reading age mean (years)	Mean progress (years)		
Whole sample data	7.78	8.40	0.63 (+8 months)	8.65	8.80	0.15 (+2 months)	0.47 (+6 months)	**+0.38**
Year 4	7.28	7.40	0.11 (+1 month)	7.78	7.63	-0.16 (-2 months)	0.27 (+3 months)	**+0.28**
Year 5	7.47	8.44	0.97 (+12 months)	9.39	9.56	0.17 (+2 months)	0.81 (+10 months)	**+0.59**
Year 6	8.74	9.69	0.96 (+12 months)	9.07	9.63	0.56 (+7 months)	0.40 (+5 months)	**+0.29**

Using Cohen's effect size analysis, the effect size for the whole sample (and for Year 4 and Year 6 as year groups) would be considered a small effect size. The data from Year 5 suggests a medium effect size. There were eight pupils in the intervention group and control group in year 4 and six pupils in the intervention and control group in both Year 5 and Year 6 – so a total of 20 pupils in the intervention and 20 pupils in the control group. These small numbers mean it is not possible to generalise these findings unequivocally. The pupils in the Year 4 control group had a negative progress score overall. Our hypothesis with this is that they did not perform to the best

of their ability on the day of testing: Year 4 post-tests were carried out on a non-uniform day which may have affected this, although it could be a data anomaly.

However, the data does show the positive impact of the HFL KS2 Reading Fluency Project on intervention group progress in reading comprehension – with an average progress in reading comprehension age of eight months for the intervention group compared to two months for the control group. The qualitative data also demonstrated a positive impact of the project on the pupils taking part in the intervention. In fact, the teachers and research lead saw evidence which suggested that the progress made by these pupils was even greater than the data obtained by the YARC.

Accuracy

Interestingly, the data for reading accuracy demonstrates a larger effect size as demonstrated in Table 2 below:

TABLE 2: READING ACCURACY RESULTS

	Intervention group *(8 pupils in Year 4, 6 pupils in Years 5 and 6)*			Control group *(8 pupils in Year 4, 6 pupils in Years 5 and 6)*			Additional progress of intervention group compared to control group (years)	**Effect size**
	Pre-test reading age mean (years)	Post-test reading age mean (years)	Progress (years)	Pre-test reading age mean (years)	Post-test reading age mean (years)	Progress (years)		
Whole sample data	8.37	9.47	1.10 (+13 months)	8.90	9.34	0.43 (+5 months)	0.67 (+8 months)	**+0.64**
Year 4	7.82	8.02	0.20 (+2 months)	8.22	8.27	0.05 (+1 month)	0.15 (+2 months)	**+0.22**
Year 5	8.69	10.13	1.43 (+17 months)	9.34	9.83	0.46 (+6 months)	0.97 (+12 months)	**+0.78**
Year 6	8.77	10.75	1.97 (+24 months)	9.35	10.26	0.92 (+11 months)	1.05 (+13 months)	**+1.42**

Using Cohen's effect size analysis, the effect size for the whole sample would be considered a medium effect size (+0.64). The data for reading accuracy from Year 5 suggests a medium effect size (+0.78) and Year 6 suggests a very large effect size (+1.42). This correlates with one of the key aims of the HFL KS2 Reading Fluency Project – that is to develop pupils' fluency and accuracy.

It is interesting that the Year 4 data again has the smallest effect size of the three year groups (+0.22). It is possible that the Year 4s would have benefitted from a longer period between the pre- and post-test. The HFL KS2 Reading Fluency Project has been designed for Year 6s and

to use it with younger children HFL suggest some adaptations may need to be made, for example the intervention taking place for longer than eight weeks.

Case studies

Due to small numbers of pupils in various sub-groups (such as pupil premium) it is not possible to create an effect size analysis for these groups. All of the pupil premium pupils in the intervention group made at least +3 months progress over the evaluation period. This compared with variable progress from pupil premium pupils in the control samples. However, this has not been robustly analysed or compared in our study because of the relatively low numbers of pupil premium pupils in our school who fitted the HFL criteria for inclusion in the project.

In addition, a pupil in Year 5 who had been really struggling with reading confidence made excellent progress during the intervention. Anecdotally, the test administrator commented on his improved fluency, confidence and engagement when Test B was administered. This pupil made a staggering three years, three months progress in reading comprehension.

Process evaluation findings

In addition to the positive outcome findings, the qualitative data obtained from observations of the pupils, pupil and teacher interviews and feedback from the test administrator support the conclusion that the HFL KS2 Reading Fluency approach had a positive impact on pupils' reading.

Observations

Observations showed that the intervention group teachers delivered the intervention as planned during the project. At no time during the evaluation was there any evidence of the control group teachers using any elements of the intervention.

Video analysis of filmed sessions at the start and the end of the eight weeks showed a marked improved in the pupils' fluency and 'prosody'[1.] These are two components which are a key part of session one – pupils are encouraged (and shown how to) read with prosody and a 'musicality' to their reading out loud.

Class teachers' perceptions of the impact

The Year 6 intervention group teacher described the "fantastic impact (of the project) on one pupil…really brought into the prosody and the text marking". Two pupil premium pupils also showed a "marked improvement" in their "comprehension and confidence to answer questions in the second session". Neither of these pupils read very much at home so having reading modelled by the class teacher seems to have had a very positive effect on them.

The Year 4 teacher described a "light bulb moment" of the pupils while reading a passage where it suddenly became clear that the narrator was in fact a ghost. She described how their body language and "eyes lit up with recognition and understanding of what they were reading".

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[1] Prosody is "the patterns of stress and intonation in a language" (Google dictionary), or the "musicality and flow" when reading out loud (HFL KS2 Reading Fluency Project definition).

She also described that the pupils are now "wanting to read and even ask to borrow the texts used in the sessions". She explained that one pupil in particular who was a very reluctant reader has really improved his confidence and is now often seen with his new favourite book in his hand!

The Year 5 teacher and test administrator both commented on the improved confidence and engagement of one pupil in particular. He demonstrated "a completely different demeanour" when tested at the end of the project and "radiated confidence and engagement with the reading". This was mirrored in his reading comprehension score which increased by three years, three months.

All three class teachers have used parts of the echo read at other times with the classes as they have seen such a positive impact created by modelling from the teacher and then the pupils echoing it. In fact, they also now use it when reading more challenging sections of their class reader with their whole class. All three are going to continue to use it as an approach with their classes due to the positive impact they have seen it have with their pupils.

The research lead noted the impact of the high quality CPD and support from the mid-project visits and training sessions. This was also reflected in informal discussions with the class teachers who commented that the training was "incredibly helpful" and the visit from the HFL advisor "helped me to really understand how to use the echo read and performance read effectively".

Perceptions from the test administrator on the impact

The test administrator commented on the "marked improvement in the children's confidence and self-esteem as readers", for pupils who had taken part in the HFL KS2 Reading Fluency Project. She said that their "body language during the testing process improved between the first and final test". This correlates with initial findings from HFL. Pupils were also able to self-correct more during their reading, for example saying "that doesn't make sense", and then re-reading the sentence out loud to self-correct; showing that they had improved their ability to read for meaning.

Perhaps there is less of a marked improvement between the pre- and post-test for our pupils than for other schools which have used this approach as the test administrator fed back that even "in Test A they had a number of effective reading strategies, for example looking back at the passage to answer comprehension questions and finding key words". This had been a key approach in our whole-school guided reading sessions. It is a key part of the HFL KS2 Reading Fluency Project but perhaps some schools where this behaviour is less developed for Test A may find a more marked improvement in their results when they come to do Test B.

Interestingly, the test administrator fed back that EAL pupils who had taken part in the intervention struggled more with context in the pre-test (Test A) than in the post-test (Test B). They "put themselves in the role of the character in the passage" in Test B which seemed to help them understand the context more and answer the higher level comprehension questions more accurately.

Pupil voice

Pupil voice was gathered using a pupil questionnaire (average ratings given to each statement can be seen in Appendix 2) and information interviews. Pupil voice reflected the positive feedback from the intervention teachers. The pupils described how they enjoyed having two sessions a week with their class teacher with a number of pupils describing how echo reading

had helped them to read with more confidence. The pupil interviews suggested that lots of the pupils were also now more engaged with reading at home. All pupils in the intervention group rated either 4 or 5 for "How likely are you to read at home?" compared to pupils in the control group whose answers ranged from 2 to 5. This suggests that the project had improved their desire to read outside of school. A number of pupils commented on enjoying the texts in the sessions. It is possible that high quality and engaging texts were key to the success of the intervention.

Discussion/conclusions

Interpretation of findings

As presented in Tables 1 and 2 and the Results section, intervention group pupils made more progress in reading comprehension and reading accuracy across the eight week evaluation period than similar pupils in the control group. For comprehension (Table 1), there was an average progress in reading comprehension age of eight months for pupils who took part in the HFL KS2 Reading Fluency Project, compared to a progress of two months for control group pupils (effect size +0.38). As Table 2 demonstrates, for reading accuracy the average progress in reading accuracy age was one year, one month for pupils in the intervention compared to five months average progress for the control group, with an effect size of +0.64.

While intervention group pupils in all years made greater average progress that the control group, Year 4 intervention group pupils made less progress in comparison to the control group than was seen in other year groups. This may reflect the intervention being designed for Year 6 pupils and so having less impact on younger pupils, although results may also have been influenced by Year 4 post-tests being carried out on a non-uniform day.

Our finding is consistent with previous research by the Education Endowment Foundation (EEF). For example, the EEF's Improving Literacy in Key Stage 2 guidance report states the important role teacher professional development can have upon literacy, which was a key feature of the HFL KS2 Reading Fluency Project. In addition, EEF research has demonstrated that "targeted small group interventions have the potential for the largest immediate impact on attainment". Our project evaluated a reading fluency programme from Herts for Learning (HFL), which incorporates teacher professional development and targeted small group intervention- and showed the positive impact this can have.

In addition, the HFL English team had previously reported initial impact findings of the HFL KS2 Reading Fluency Project that suggested "Year 6 pupils in receipt of pupil premium grant funding made on average 29 months progress in reading comprehension (measured using York Assessment of Reading for Comprehension (YARC) over an eight week period)". At the final HFL KS2 Reading Fluency Project session, HFL advisors presented the collective data from all of the schools who had taken part this term: on average, pupils who had been taught the HFL KS2 Reading Fluency Project made two years five months progress with reading comprehension. Until our innovation evaluation, there had not been a control group analysis performed – which is what our research project enabled us to complete.

Limitations

There could have been a number of additional factors which could mean that improvements (or lack of improvements) occurred. This internal validity could have been affected by the control group receiving elements of the innovation. The teachers who attend this training were asked to not share the methods they are using with their colleagues but it was challenging to ensure that this wasn't the case. There may have been some elements of the approach used in the control class which may have meant that the difference in progress impact was less pronounced.

The positive progress recorded may have been due to the pupils having had external influences on them which could have affected the findings. For example, home support (although this could have applied to both the intervention and control groups).

The intervention classes were chosen due to pragmatic reasons and not chosen randomly. This may have had an impact on the project outcomes.

The mean pre-test scores for the intervention and control groups in the same year were not equivalent. This may have influenced individual pupils' progress or meant that different support was offered to students during the intervention.

Due to the small-scale nature of this project, with outcome measures carried out by a teacher who works in the school, it was not possible to ensure the test administrator was unaware of whether the pupils they were testing were in the intervention or control group. This may have led to unconscious bias of the tester influencing test performance.

When it comes to our data and findings being generalised the external validity is questionable because of the small-scale nature of the evaluation. However, the positive impact does correlate with the HFL findings from YARCs analysed from 483 pupils since the project was first set up and trialled. Comparing our data and findings to the HFL previous data on the fluency approach has helped us to evaluate these findings and decide whether they do or do not support the existing evidence base.

Implications for practice

This small-scale evaluation showed a positive impact from the HFL KS2 Reading Fluency Project on reading accuracy and comprehension, although a larger trial would be an important next step in order to validate the security of these findings. The HFL KS2 Reading Fluency Project is now being developed at our school across KS2, although findings from the Year 4 pupils suggest that some adaptation is needed. Herts for Learning are currently in the process of trialling adaptations to it for Key Stage 1.

The findings suggest that targeted guided reading sessions focused on fluency and comprehension can help to accelerate pupils' progress in reading. They also suggest that the active ingredients of this approach (using an echo read, high quality questioning and texts pitched at end of year age-related expectation) may help to improve pupils' reading accuracy and their comprehension.

We are going to share the principles of the project and session one and session two with the waiting control group so that all classes can benefit from the approach. The sentence stems will also be used to help support effective questioning in other guided reading sessions. These additional classes would benefit from further HFL KS2 Reading Fluency training and CPD as the targeted CPD was a key element of the intervention; the cost of training additional class teachers is currently being finalised by HFL.

Implications for further evaluation

There are questions raised by our findings which it would be interesting to investigate further. For example:

- Is there a positive impact using the approach for younger year groups?

- What is the impact of the approach for specific sub-groups such as EAL pupils?
- Does the approach need to be teacher-led, or could it be led by teaching assistants?
- What would the effect of the intervention be if the evaluation continued for longer? (This would be of particular interest for Year 4 pupils.)

It would also be interesting to carry out a larger-scale project – for example carrying out an evaluation comparing intervention and control class data across a number of schools.

Conclusions

In conclusion, our findings demonstrate that the eight-week HFL KS2 Reading Fluency Project had a positive impact on pupils' progress in reading accuracy and comprehension. There are a number of key pedagogical approaches within it, such as the echo read, performance read and high-quality question stems which we would recommend to other schools. Implementation was supported by the high quality support and CPD provided to schools taking part in the project by HFL advisors. The combination of initial training day, in school visit and observations, mid-point sharing session and final review meeting meant that the teachers received high quality CPD with reflection time built in. This, alongside the key elements of the intervention such as high-quality texts, echo reading, performance reading and question stems combined together into two high quality reading sessions a week meant that pupils made average reading comprehension progress of eight months compared to two months for those who had not taken part in the intervention.

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Appendix 1

Reading questionnaire given to pupils

Name:

Class:

Date:

<u>Reading Questionnaire</u>

1)   I enjoy reading

1   2   3   4   5

Strongly disagree   Strongly agree: I love reading

2)   How often do you read a book of your own choice at home?

1   2   3   4   5

     Never   Always – at least once a day

3)   I am confident with reading out loud

1   2   3   4   5

Strongly disagree   Strongly agree: I love reading out loud

4)   I find it easy to understand what I read at school

1   2   3   4   5

Strongly disagree   Strongly agree

Appendix 1

Reading questionnaire given to pupils

Appendix 2

Pupil questionnaire responses

Question	Year 4 intervention mode score pre- and post-test	Year 4 control mode score pre- and post-test	Year 5 intervention mode score pre- and post-test	Year 5 control mode score pre- and post-test	Year 6 intervention mode score pre- and post-test	Year 6 control mode score pre- and post-test
1. I enjoy reading	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 3	Pre-test: 4 Post-test: 4	Pre-test: 3 Post-test: 3	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4
2. How often do you read a book of your own choice at home?	Pre-test: 3 Post-test: 5	Pre-test: 3 Post-test: 3	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4	Pre-test: 4 Post-test: 4
3. I am confident with reading out loud	Pre-test: 3 Post-test: 4	Pre-test: 4 Post-test: 4	Pre-test: 3 Post-test: 5	Pre-test: 3 Post-test: 3	Pre-test: 3 Post-test: 5	Pre-test: 3 Post-test: 3
4. I find it easy to understand what I read at school	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4	Pre-test: 4 Post-test: 4	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4	Pre-test: 3 Post-test: 4
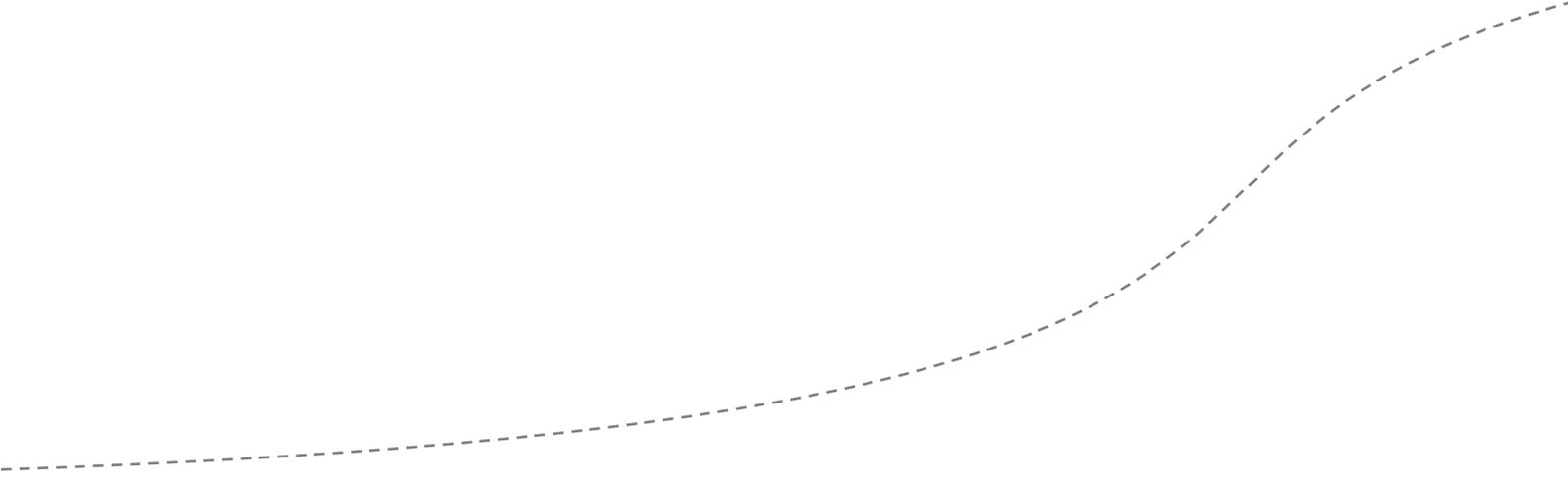
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