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## Structured after-school support and its impact on reading age

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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 evaluation investigated a structured after-school reading club and its impact on reading age. The intervention was delivered to disadvantaged pupils in Year 7, in four schools in Suffolk.

The innovation comprised of two reading sessions per week for 25 weeks. One session focused on reading and comprehension of text. The second session focused on developing study skills – in particular pupils' ability to research and carry out enquiries in a range of curriculum areas.

## Summary of the evaluation

Disadvantaged pupils in Year 7 in four schools in Suffolk participated in the evaluation. Three of the participating schools would be classed as rural, whereas the fourth school would be classed as more urban. All pupil premium pupils in Year 7 in all four participating schools were tested using Access Reading Test interactive (ARTi) (McCarty & Swift, 2007) to give a baseline score for reading age in September 2018. The ARTi reading test provided a reading age together with a score for literal comprehension, vocabulary, inference and analysis.

Pupils who achieved a reading age at or below their chronological reading age, along with pupils who showed weaknesses in the ARTi skills for literal comprehension, vocabulary, analysis or inference were invited to take part in the intervention.

After obtaining consent, 27 pupils were allocated to an intervention group and 27 were allocated to a control group. Pupils allocated to the intervention group were given two sessions a week focusing on the reading and comprehension of text alongside developing study skills in a range of subject areas (history, geography and science). Pupils in the control group did not get any after-school reading support.

Following the intervention the ARTi test was administered again to see how the evaluation had affected reading age in the two groups.

For analysis purposes, comparisons between the intervention and control group were made as follows:

- Reading age of the whole sample, boys and girls at pre-test and post-test.
- Scores in subtests from ARTi test (literal comprehension, vocabulary, inference, and analysis skills) at the pre- and post-test.

Reading age for intervention group pupils with different levels of attendance (100%, 99%–90%, 89%–80%, 80% and below) was also analysed to see whether a particular attendance subgroup made greater progress.

## Summary of findings

Our research found that the After-School Structured Reading Project had a positive impact on reading age, as measured by ARTi. Over the course of the evaluation, the additional mean progress in reading in months was +8.67 when comparing the intervention group with the control group. This produced a small but positive effect size (+0.34).

The data produced through ARTi to measure reading age did show substantial increases and decreases in reading age for individual pupils thus producing a healthy scepticism of the validity

of data produced. The data did, however, show that the intervention group made more progress than the control group in overall reading age and all subtests of the ARTi and when coupled with the suggested increase in confidence and self-esteem through pupil interviews, it could be argued that the intervention shows promise, although a larger scale evaluation of the approach would be beneficial.

# Introduction

## Description of the problem

Disadvantaged children do not perform as well as their non-disadvantaged peers in Key Stage 4 (our in-school gap was -0.4 in 2018, which is in line with the national picture). Support for pupils in general is better integrated and supported at Key Stage 4, with Key Stage 3 taking a back seat (Ofsted, 2015). It has also been identified that the gap between disadvantaged pupils and all others is evident even when children begin school at age 5 and grows bigger at every stage of education afterwards (Education Endowment Foundation, 2017). To close the attainment gap between what pupils come into the school with and what they finish with, a support package for identified pupils would be beneficial as they move through Key Stage 3, which prepares them and supports them in developing effective learning habits and the ability to read and comprehend written text. In our school at Northgate and the other participating schools, support packages are available for pupils who have identified as having special education needs (SEN); however, disadvantaged pupils who have no learning needs get overlooked.

## Review of existing research

There are a variety of different approaches available to support low-attaining Year 7 pupils to catch up in literacy, with robust evidence to show impact (DfE, 2012). Overall, reading interventions generally have a positive effect on pupils' attitudes towards reading, and they appear to have a moderate, positive effect upon general learning (Education Endowment Foundation, 2017). Numerous strategies have been researched which Brooks (2013) has summarised within his paper "What works for children and young people with literacy difficulties? The effectiveness of intervention schemes (fourth edition)." This has been supported by Higgins, Katsipataki and Coleman (2014) through their interim evidence brief – 'Reading at the transition'. They point out that ongoing evaluations are essential as not every intervention will work with every pupil. There have been numerous evaluations which have looked at developing literacy. These have been outlined in *Reading at the transition* (Higgins et al, 2014). Many of the evaluations have focused on developing areas of literacy without linking the literacy intervention to specific areas of the curriculum. There appears, however, to be less evidence focusing on transferring skills of reading and applying them to curriculum areas. A literacy intervention that not only develops reading age but also applies the reading content to curriculum subjects and which helps to develop transferable study skills is an area in which I feel further enquiry would be beneficial. This would allow pupils' literacy development to be utilised alongside other important skills, for example, research skills and the development of subject-specific technical vocabulary.

## Description of the innovation

The innovation was carried out in four schools:

1. Northgate High School (11–18 urban catchment local authority maintained school)
2. Claydon High School (11–16 rural academy)
3. East Bergholt High School (11–16 rural academy)
4. Hadleigh High School (11–16 rural academy)

The innovation was designed for Year 7 disadvantaged pupils. Pupils were invited to attend two 45-minute long after-school sessions per week. This was over a period of 25 weeks. The Access Reading Test interactive (ARTi) was used as a method for pre- and post-testing.

Pupils were rewarded for attendance via the schools' internal reward systems, and refreshments were provided each week to encourage attendance. Pupils who attended were also given the opportunity to attend trips to different academic institutions to help raise aspiration (eg, the Science Museum).

Both sessions were based in the school library. One session each week focused on reading and comprehension. The second session focused on using reading as a tool to implement and develop key study skills based around the five Rs of Research, Review, Reading around, Responding to feedback, and Reflection. The second session focused on key target subjects (beyond English), which were science, history and geography.

All staff leads involved in the project were invited to three training sessions. These sessions were to introduce the resources which would be used within the sessions and explain how each session would run. The staff lead then disseminated the training to the pupil ambassadors supporting the scheme and other support staff back at each participating school.

Following training, pupil ambassadors (Year 12 and 13 in the 11–18 school, Years 9, 10 and 11 in the 11–16 schools) attended sessions to support the member of staff leading each session and supported the group within reading and partner reading sessions. They were recruited through the sixth form at the lead school and the Year 9, 10 and 11 pastoral teams at the 11–16 schools. An identified member of staff tracked, monitored and liaised with parents regarding progress.

## **Research question**

For disadvantaged pupils, does a nine-month after-school reading intervention improve reading age compared to those who do not follow the after-school intervention programme?

# Method

## Sample

The initial aim of the project was to involve a total of 60 disadvantaged pupils (those in receipt of pupil premium funding) in the four schools (15 in each school) in the intervention programme. It was intended that a similar number would be in the control group in the four schools. The four schools involved have a similar demographic with a comparable overall percentage of pupil premium pupils. Raising the attainment of pupil premium pupils is a key target in all four schools.

The schools involved were:

### Northgate High School, Ipswich

This is an 11–18 comprehensive school with over 1,700 pupils. At Northgate, disadvantaged children do not perform as well as their non-disadvantaged peers in Key Stage 4 (our in school gap is -0.4 which is in line with the national picture). Support for pupils in general is better integrated and supported at Key Stage 4 (KS4). Support packages are available for pupils identified as having special educational needs (SEN), however disadvantaged pupils who have no learning need at Key Stage 3 (KS3) can get overlooked.

### Claydon High School

This is an 11–16 comprehensive school located in the village of Claydon on the outskirts of Ipswich. The Progress 8 gap between disadvantaged pupils and non-disadvantaged pupils is -0.6 (2018) which is greater than the national picture. This is in part due to the nature of some of the pupils that made up this cohort, however, this is still an area of focus that forms part of the school's development plan. Over the last couple of years Claydon has significantly improved the systems of analysis to ensure teachers are closing gaps early in the pupils' journey. They wanted to learn more about bespoke programmes of early intervention that are research- and evidence-based to run alongside their current practice to improve pupil outcomes and ultimately reduce the disadvantage gap.

### East Bergholt High School

At East Bergholt High School, an 11–16 comprehensive school, pupil premium pupils have not historically achieved as well as their non-pupil premium peers. In the 2017–18 academic year, GCSE figures showed a -0.4 difference in Progress 8 between disadvantaged and non-disadvantaged pupils. In order to address the attainment gap the school has appointed a pupil premium champion and has begun to increase the provision of literacy intervention for GCSE pupils at KS3. They therefore welcomed the opportunity to pilot a literacy-based early intervention scheme.

The school had recently appointed two literacy coordinators and the development of functional and confident literacy forms part of the school's development plan and is a leading school priority.

In addition, as the school's catchment area widens, the school had seen an increase in the number of pupil premium pupils attending – it is essential for the school to meet the needs of disadvantaged pupils early on in order for them to achieve the very best.

## Hadleigh High School

Hadleigh High School is an 11–16 comprehensive school located in rural Suffolk. The school's KS4 progress data in 2018 showed a -0.4 difference between disadvantaged and others for the English element of Progress 8. Like Northgate, interventions take place in a more structured fashion at KS4, but the school was keen to develop strategies at KS3 that are rooted in research.

The innovation was focused on Year 7 disadvantaged pupils (those in receipt of pupil premium funding).

As mentioned above the intention of the project was to deliver the intervention to a total of 60 disadvantaged pupils in the four schools (15 in each school). All pupil premium pupils within Year 7 across all four participating schools were tested in the first week of the autumn term using Access Reading Test interactive (ARTi) (McCarty & Swift, 2007) to give a baseline reading age. The ARTi reading test also provided a score for literal comprehension, vocabulary, inference and analysis. A higher number of pupils than expected achieved a reading age above their chronological age. It was interesting when looking at their initial results that even though more pupils than expected achieved a reading age above their chronological age, scores for literal comprehension, vocabulary, inference and analysis varied, with many pupils showing a weakness in one or more of these areas.

If we had stuck with our original intention of focusing on pupils whose reading age was either at or below their chronological age to take part in the project this would have made the project unviable due to numbers being so low. We therefore agreed to widen the inclusion criteria to include pupils who had a lower score (compared to the rest of the disadvantaged group) in one or more of the ARTi skills, alongside those whose reading age was at or below their chronological age.

SEN pupils who were already receiving support (through the work of the schools' learning support departments) were not involved in the intervention programme.

At this point we sent out consent forms to the pupils who showed a weakness in one or more of the ARTi skills alongside those whose reading age was at or below their chronological age. This gained consent for both taking part in the evaluation and the use of participants' evaluation data for analysis purposes. If an opt-in response wasn't received, we then telephoned home to seek consent to take part in the project. Some parents did not consent to their child taking part in the evaluation. Reasons for not providing consent included parents not feeling that their child needed the intervention through to parents not wanting them to take part.

## Assignment to the condition

All pupils who met the inclusion criteria and for whom we had gained parental consent to participate were randomly allocated to either the intervention or control group. This was done at school level so that even numbers were in each group between the control and intervention group (+/- 1) across all of the participating schools.

Pupils in the control group acted as a waiting-list control. If the evaluation found a positive impact they would get the intervention in Year 8.

## **Innovation**

Pupils in the intervention group were invited to attend two sessions each week. One session focused on reading and comprehension of text. The second session focused on developing study skills – in particular their ability to research and carry out enquiries in a range of curriculum areas.

In the sessions, members of staff were present to support pupils. These members of staff were English specialists for the reading session alongside subject specialists for the application of reading in the study skills session. At the lead school of Northgate, we tended to have four members of staff continuously present at each session, whereas at the other participating schools there were fewer members of staff present consistently. Pupil ambassadors were also present at the sessions but this tended to differ at each session due to their varying educational demands. We normally had two regular attendees at the lead school. These were Year 12/13 ambassadors. In the other participating schools, there was consistently one member of staff present as well as support from pupil ambassadors in Years 9, 10 and 11 (although the levels of support from pupil ambassadors was not consistent).

Ambassador training took place in all schools in July 2018. This was delivered to teachers and teaching assistants by a specialist leader in education (SLE) and then disseminated to ambassadors via an identified teacher in each school. The training lasted over two sessions, with follow-up support provided via email when needed.

**TABLE 1: OUTLINE OF THE INTERVENTION ROTATION THROUGH THE SUBJECTS BELOW**

Session one: Reading for pleasure	Session two: Application of reading to study skills
<p>Week 1– Getting started! Reading for fun. This involved using the book <i>Running on the Roof of the World</i> by Jess Butterworth.</p> <p>Support from staff, teaching assistants and librarian. Setting challenging goals.</p>	<p>Week 1 – Reflection session – looking back at primary school experiences on completing research tasks. Focus on metacognition. Thinking about how to research and useful strategies using guidance report from EEF on metacognition and self-regulation.</p> <p>Introduction to the non-fiction section of the library. Quick-fire research tasks relating to subject-specific content (led by librarian with support from pupil ambassadors).</p>
<p>Week 2 – Supervised small-group shared reading (modelled by staff and pupil ambassadors). Non-specialist staff were trained by English SLE from Northgate on guided reading and dialogic reading. Develop inference skills within discussions and skills of prediction.</p>	<p>Week 2 – Establishment of a subject-specific research task (led by subject specialist). Model how to use advance organisers (led by subject specialist).</p> <p>Support and development on skimming and scanning pieces of text (led by literacy specialist from Claydon High School or school staff following CPD from Claydon staff).</p> <p>Supported research within the library. Research notes made by pupils. This used the Cornell method of note taking (all staff involved trained by Northgate specialist).</p>
<p>Week 3 – Continued shared reading combined with discussion-based comprehension activities. Built-in opportunities for pupils to develop their confidence in reading aloud. Also to identify new vocabulary, and set challenges to use this vocabulary during the week. Use of Alex Quigley research/book. Key ideas disseminated by SLE and teacher in charge of KS3 English.</p>	<p>Week 3 – Further research leading into an initial group presentation based on their research findings. Review of progress including feedback from peers.</p> <p>Incorporate ‘skills’ session on summarising.</p>
<p>Week 4 – Completion of reading challenge (either the book itself or a set number of chapters) used to build resilience and confidence/motivation.</p>	<p>Week 4 – Respond to feedback – based on the Austin’s butterfly model. Pupils adapt and add to their research. Planning of presentations. Use Northgate’s six-stage feedback protocols.</p>
<p>Week 5 – Group book review and presentations. Celebrate success.</p>	<p>Week 5 – Presentations to an invited audience which included parents and a subject specialist (showcase presentations, celebrating success).</p>

Each five-week block for session two was subject-specific. A total of five block cycles took place.

- history (x2)
- geography (x2)
- science (x1).

Each session was originally intended to run for one hour but ended up lasting 45 minutes. This was due to making sure the sessions were keeping attention and motivation high.

Rewards were introduced for pupils who fully engaged in the scheme. Each school was able to reward pupils with letters home and reward points (in participating schools these reward points lead to 'off-timetable' reward trips/events. The nature of these events varied from school to school but the timing of the rewards and positive letters home were consistent). Within the lead school, when doing the science element, a trip to the Science Museum was the reward. This particularly had an impact on motivation and showed real-life examples of what they were focusing on and helped to bring their learning to life. When East Bergholt High School were focusing on the book, *Running on the Roof of the World*, they took their pupils to a Tibetan restaurant to look at Tibetan culture and lifestyle, the theme of the book.

## Outcome measures

Data was collected pre- and post-intervention. Both tests were conducted using the ARTi test to provide a reading age alongside individual scores for literal comprehension, vocabulary, inference, and analysis skills.

The individual scores for the ARTi skills were as follows:

- literal comprehension = out of 20
- vocabulary = out of 15
- inference = out of 15
- analysis = out of 9.

Scores in these subtests were combined to calculate the reading age.

Pre-test was taken in September 2018.

Post-test took place in May 2019.

The tests were a computer-based test, measuring reading age, literal comprehension, vocabulary, inference, and analysis skills. The pre- and post-tests were equivalent versions of the same test meaning the two tests were written by the publisher to measure comparable skills at the same level of difficulty using different questions. They were sat under exam conditions administered via a computer by the lead member of staff at each school.

## Process evaluation

The lead teacher from each school observed sessions along with a member of each school's senior leadership team (SLT) to make sure pupils were getting what the intervention intended.

The observations involved checking the sessions were delivering the content specified, engaging the pupils and that participation rates were high. Attendance data was recorded for each session.

Pupil perception interviews were used to provide valuable additional supporting evidence of whether the intervention had a wider impact on overall pupil progress and learning attributes (including behaviour for learning). These were conducted by a member of SLT in all schools. These took place at the half-way point of the evaluation.

All pupils in the intervention groups were asked:

1. Tell me three things you have enjoyed or disliked about doing the project?
2. How have you found the evaluation project so far?

3. Have there been any benefits for you, eg, confidence/outcomes/self-esteem – How do you know?
4. Have you seen any benefits to other people in the group?
5. Has there been any benefits to your learning, for example in lessons? How do you know?
6. Which elements of the project have been useful for you and why?
7. Which elements of the project have not been useful and why?
8. Any further comments about the project.
9. How could it be improved?

Also, feedback was gathered from subject teachers (these teachers were not involved in delivering the intervention) who taught the children to see whether a change in approach had happened in relation to study skills being utilised.

## Data analysis

Comparison of the ARTi tests pre- and post-intervention was the key measure used by all schools. Effect sizes were calculated to establish whether the intervention had an impact on reading age, alongside developments in literal comprehension, vocabulary, inference and analysis.

The comparisons between the intervention and control group made during the analysis were:

- reading age of the whole sample at pre-test and post-test
- scores in sub-tests from ARTi test (literal comprehension, vocabulary, inference, and analysis skills) at the pre- and post-test
- reading age of boys at pre-test and post-test
- reading age of girls at pre-test and post-test.

For each of these analyses, the mean pre-test and post-test scores or reading ages for each group, mean progress for each group and an effect size based on the progress of each group were calculated.

We also intended to analyse progress for pupils who scored between one month and two years, 11 months below their chronological age at the pre-test (middle/low ARTi attainers at pre-test) and pupils who scored three years or more below their chronological age at the pre-test (significantly low ARTi pre-test attainers). This analysis wasn't carried out due to much smaller numbers than expected falling into these subgroups.

We also looked at mean pre-test reading age, post-test reading age and progress by level of attendance in subgroups of 100%, 99%–90%, 89%–80%, 80% and below. Attendance was analysed to see whether a particular attendance subgroup made greater progress.

## Process analysis

In order to analyse the responses from interviews, the responses were looked at using a thematic approach. This provided supportive evidence of how the innovation had supported the wider school such as connections to lessons and development in confidence and self-esteem.

## Cost

A lot of the financial resources for the innovation were put towards staffing, training and the purchase of the ARTi test. The costings for the lead school Northgate were lower as we already had the ARTi test in school, which was ready to use. Now that training and resources are in place, the cost for running the project in all schools would be considerably less, making the project more financially viable in the future.

In addition, it should be recognised that the lead school of Northgate didn't have to factor in costs for travel or cover due to training occurring at the school. The surplus money which Northgate had was spent on enrichment activities to reward attendance (eg, a Science Museum trip). Also as the lead school we had members of staff who voluntarily committed their time to the project due to their interest in the project which meant we didn't have to pay staffing costs compared to the other schools.

### COSTINGS FOR THE LEAD SCHOOL (FOR RUNNING THE INTERVENTION AT NORTHGATE)

Description	Cost
Books for reading	£294
Photocopying/resources	£175.88
Science Museum visit	£575
Author visit	£175
Catering	£57
<b>Total</b>	<b>£1,276.88</b>

### COSTINGS FOR THE OTHER PARTICIPATING SCHOOLS

These schools are in a MAT so the figures below show the average money spent in each of the schools. The total cost = £13,122.

Description	Cost
Arti Test	£304
ARTi manual	£40
Cover to administer tests	£900
Staffing	£2400
Transport Staff for Training	£320
Fuel	£160
Admin	£90
Catering	£160
<b>Total</b>	<b>£4,374</b>

Both the Science Museum visit and the author visit were offered to all schools. However, due to schools having different timetabled activities it was not possible for them to attend.

#### **COSTS FOR LEADING THE PROJECT (LEAD SCHOOL ONLY)**

Description	Cost
Launch meeting (x2 staff lead)	£200
Mid-term review meeting (x1 member of staff)	£100
Cover costs for support meetings/visits (x3 school visits)	£300
Evaluation meetings	£200
Cover for production of final report (1 day)	£200
<b>Total</b>	<b>£1,000</b>

# Results

## Overview

The Access Reading Test interactive (ARTi) test produced data for the reading age, literal comprehension, vocabulary, and inference and analysis skills. The mean test scores and progress are reported for both intervention and control group in months for reading ages and raw scores for sub-test scores.

### Reading age

The results of the reading age are summarised in the table below.

**TABLE 2: READING TEST RESULTS**

	Intervention group (n = 27)			Control group (n = 27)			Additional progress of intervention group compared to control group (months)	Effect size
	Pre-test Arti reading age mean (months)	Post-test Arti reading age mean (months)	Mean progress (months)	Pre-test Arti reading age mean (months)	Post-test Arti reading age mean (months)	Mean progress (months)		
<b>Whole sample</b>	137.33	149.44	+12.11	153.66	157.11	+3.44	+ 8.67	+0.34

This data shows a positive impact for the pupils who took part in the project compared to the pupils that didn't, with the intervention group making 8.67 months more progress in reading age than the control group.

While this effect size is positive, the small sample size means it is important to be cautious when interpreting the findings.

### Attendance

The analysis of attendance and its impact on reading age is summarised in the table below.

**TABLE 3: ATTENDANCE VS NON-ATTENDANCE**

Session attendance	Pre-test ARTi score mean (months)	Post-test ARTi score mean (months)	Mean progress (months)
100% (n = 4)	142.3	161.8	+19.5
90-99% (n = 2)	152.0	189.0	+ 37
80-89% (n = 4)	146.8	162.3	+ 15.5
less than 80% (n = 17)	132.2	138.9	+ 6.7

The numbers in the 100%, 90–99%, and 80–89% groups are small. However, it can be seen that they all made more mean progress than the pupils who attended for less than 80% of the sessions. All attendance groups made more progress, on average, than pupils in the control group (who made an average of +3.44 months progress). Session attendance across the participating schools was a particular issue and something which will be discussed further in the report.

**TABLE 4: BOYS VS GIRLS PERFORMANCE**

	Intervention group				Control group				Additional progress of intervention group compared to control group	Effect size
	Number of pupils	Pre-test Arti reading age mean (months)	Post-test Arti reading age mean (months)	Mean progress (months)	Number of pupils	Pre-test Arti reading age mean (months)	Post-test Arti reading age mean (months)	Mean progress (months)		
<b>Boys</b>	13	128.61	148.92	+20.30	12	138.66	143.08	+4.42	+15.88	+0.52
<b>Girls</b>	14	146.07	149.93	+ 3.86	15	165.66	168.33	+2.67	+1.18	+0.06

The effect size comparing boys' progress between intervention group and control group is positive (effect size +0.52). A comparison of girls' progress between intervention group and control group was also slightly positive (effect size +0.06). This data would suggest that the intervention did have a positive impact on reading age. Interestingly when looking at mean progress between boys and girls in the intervention group, boys had a larger increase in mean progress compared to the girls, with the boys making 20.30 months of progress in reading age compared to the girls who made 3.86. The boys in the control group had an increase of 4.42 months mean progress in reading age and the girls in the control group had an increase in their mean progress reading age score of 2.67. It appears that the intervention had a more positive impact on boys than girls.

#### *Scrutiny of data for reading age*

Individual reading age scores varied widely – some pupils increased their reading age dramatically, a few saw their reading age decline. The decline in reading age for some pupils could be because of a dip at transition between primary and secondary. This illustrates the importance, when teaching, of focusing on individual pupils, but also, when looking at the data, of not over-analysing. When scrutinising the data which ARTi produced, it is apparent there were increases and decreases in reading age which appeared abnormal and lead to a healthy scepticism of the validity of the data it produced. The data does show positive outcomes but to solely count on the validity of these results for reading age in isolation would be incorrect.

## ARTi subtests

**TABLE 5: LITERAL COMPREHENSION**

The literal comprehension score for the ARTi test was out of 20.

	Intervention group (n = 27)			Control group (n = 27)			Additional progress of intervention group compared to control group	Effect size
	Pre-test ARTi score lit comp	Post-test ARTi score lit comp	Mean progress in ARTi score for comp	Pre-test ARTi score lit comp	Post-test ARTi score lit comp	Mean progress in ARTi score for lit comp		
<b>Literal comprehension (lit comp)</b>	12.07	12.22	+0.15	13.40	12.85	-0.55	+0.70	+0.27

These results suggest that the intervention shows evidence of promise on developing aspects of literal comprehension.

**TABLE 6: VOCABULARY**

The vocabulary score for the ARTi test was out of 15.

	Intervention group (n =27)			Control group (n = 27)			Additional progress of intervention group compared to control group	Effect size
	Pre-test ARTi score, vocabulary	Post-test ARTi score, vocabulary	Mean progress for vocabulary	Pre-test ARTi score, vocabulary	Post-test ARTi score, vocabulary	Mean progress for vocabulary		
<b>Vocabulary</b>	10.15	10.96	+0.81	11.88	11.88	0	+0.81	+0.35

This would suggest that the intervention shows evidence of promise on developing aspects of vocabulary.

**TABLE 7: INFERENCE**

The score for inference for the ARTi test was out 15.

	Intervention group (n = 27)			Control group (n = 27)			Additional progress of intervention group compared to control group	Effect size
	Pre-test ARTi score, inference	Post-test ARTi score, inference	Mean progress for inference	Pre-test ARTi score, inference	Post-test ARTi score, inference	Mean progress for inference		
<b>Inference</b>	6.85	8.59	+1.74	9.22	9.88	+0.66	+1.08	+0.32

These results suggest that the intervention shows evidence of promise in developing aspects of vocabulary.

**TABLE 8: ANALYSIS SKILLS**

The score for analysis was out of 9.

	Intervention group (n = 27 )			Control group (n = 27)			Additional progress of intervention group compared to control group	Effect size
	Pre-test ARTi score, analysis skills	Post-test ARTi score, analysis skills	Mean progress for analysis skills	Pre-test ARTi score, analysis skills	Post-test ARTi score, analysis skills	Mean progress for analysis skills		
<b>Analysis skills</b>	4.63	5.44	+0.81	4.92	5.48	+0.56	+0.25	+0.11

These results suggest that the intervention shows very small evidence of promise on developing aspects of analysis skills.

## Process evaluation findings

In addition to the positive outcome findings, the qualitative data obtained through observations of the pupils, and pupil interviews, support the conclusion that the intervention did have a positive impact on pupils.

## Observations

Observations by lead members of staff across the four schools showed that the intervention was delivered as planned. Attendance affected aspects of the delivery of the intervention which made it more challenging to deliver. There was no evidence of the control group receiving any elements of the intervention outside what would normally be delivered to all pupils within the curriculum.

### *Pupil perceptions of the intervention (pupil voice)*

Pupil perception was gathered using pupils' perception interviews. The pupil voice reflected the positive outcomes of the project. The questions asked to the pupils were as follows:

1. Tell me three things you have enjoyed or disliked about doing the project?
2. How have you found the evaluation project?
3. Have there been any benefits for you, eg, confidence/outcomes/self-esteem – How do you know?
4. Have you seen any benefits to other people in the group?
5. Have there been any benefits to your learning for example in lessons? How do you know?
6. Which elements of the project have been useful for you and why?
7. Which elements of the project have not been useful and why?
8. Any further comments about the project.
9. How could it be improved?

In all four schools, the pupils who engaged in the project were overwhelmingly positive about the sessions (see Appendix 2). Many said that it had helped with and supported the development of confidence and self-esteem. In the lead school there was a clear indication that the content in the study skills sessions aligned really well with the timing of when similar content was being taught in the subjects. This helped with pupils being more confident in these lessons and it was reported back from their subject teachers that they were more actively engaged. In schools where attendance wasn't consistent, there appeared to be a suggestion that this affected the quality of the innovation being delivered as it was hard to complete some of the more active tasks due to pupil numbers.

# Discussion/conclusion

## Interpretation of findings

As presented in Table 2, the intervention group pupils made more progress in their reading age compared to the control group as measured by the Access Reading Test interactive (ARTi) test. When analysing the whole sample the intervention group made 8.67 months additional progress in reading age compared to the control group, with an effect size of +0.34.

Interestingly, when breaking down the attendance of the pupils in the intervention group, the pupils who attended 90–99% of sessions appeared to have the greatest increase in progress in reading age (+37 months). However, because of the small number of pupils in this group these results might not be generalisable.

The steep overall increase in reading age score could also be explained by how focused and motivated the pupils were when they took the tests. For example, some pupils might have focused more on the post-test than they did on the pre-test. The largest number of pupils were found within the less-than-80% attendance group. Although there was a positive increase in reading age progress (+6.7 months), which was greater than the mean increase in reading age in the control group (+3.44 months), the number of pupils in this category highlights the impact of attendance on the project and also provides possible evidence that two sessions in close proximity was possibly an issue, and something which may need to be thought about for the future. When looking at the data, however, there is still evidence from the rest of the attendance data (Table 3) that pupils who did attend produced a positive increase on their reading age, which supports the overall project outcomes suggesting the intervention shows promise.

When analysing the data comparing boys' and girls' performance (Table 4) it was clear that boys in the intervention group made greater progress in reading age compared to girls (+20.30 months compared to +3.86 months). Although the sample size was smaller than originally expected (27 in the intervention group and 27 in the control), the boys and girls were evenly distributed across the intervention and control groups. This finding was positive as across all schools the gender gap widens, especially at Key Stage 4 (KS4), with girls normally outperforming boys. The data from this project would suggest that for boys, taking part in the project provided them with a solid grounding in the skills involved in the project at an early stage of their secondary school education.

Analysis of the other elements of the ARTi test scores – literal comprehension, vocabulary, inference and analysis, (tables 5 to 8) – showed that these all produced a positive impact. The skill score which produced the biggest positive effect size was vocabulary (+0.35). On reflection this skill was probably used more throughout the sessions whereas analysis skills, which only produced a positive effect size of +0.11, were less important in the sessions.

## Limitations

There could have been a number of additional factors which affected progress or lack of progress within the project.

The biggest limitations for the study were:

- initial recruitment
- attendance
- pupil commitment

- school location
- the ARTi test.

As previously mentioned, when initially carrying out the ARTi pre-tests, the results produced reading ages that were higher than expected. This would have affected the viability of the project if we had kept to the original project parameters because we would have had significantly lower numbers. We therefore decided to widen the inclusion criteria to include pupils who were deemed to be scoring less than expected on the additional ARTi skills scores of inference, analysis, literal comprehension or vocabulary. This allowed us to increase the number of pupils taking part in the project, and we eventually finished with 27 pupils in both the control group and the intervention group. These high reading scores are an interesting finding in themselves as all four schools have suggested that the progress gap widens between disadvantaged pupils and their counterparts as they progress through school, but these high reading scores would suggest that upon entry into the school pupils have a good base to understand and possibly interpret information. One possible reason for these high scores could be that the initial ARTi test was at the beginning of Year 7. This was not long after the extensive preparation, focused on English and Literacy, to prepare the children for their Key Stage 2 (KS2) SATS in Year 6. It could be plausible from this that the gap isn't as significant at the beginning of Year 7 but increases throughout Year 7, providing a good rationale for delivering the intervention as soon as possible in Year 7, so that pupils don't slip back .

Across all four schools, getting pupils to attend both sessions consistently was a significant issue. Three of the four schools who participated reported that pupil commitment certainly reduced the further the project went on. The lead school, however, did manage to keep regular numbers throughout the evaluation. The main reasons for low attendance was that within a school week there are numerous other extra-curricular opportunities for a child to take part in such as sports clubs and music and drama clubs. It is natural for a pupil who is starting a new school to want to attend as many extra-curricular experiences as possible as it helps them to enrich their time at school alongside helping them to form new friendships and settle into the school. It would have been unethical and potentially detrimental to a child to force them to attend as this would have made the pupils have a negative perception of the sessions, which would have affected the quality and possibly the outcomes of others.

Three of the four schools were situated in more rural settings where bus transport was the main mode of transport to and from school. This had a negative impact on attendance as essentially if pupils couldn't get picked up by parents/careers, they wouldn't have been able to get home, therefore they needed to utilise the after-school transport on offer to them.

All of these factors in relation to attendance affected the consistency of delivery across the four schools, with the bigger problems with attendance being seen in the three more rural schools.

Another limitation, which needs to be taken into consideration, is the ARTi testing itself. Although pre- and post-tests were taken the same amount of time before the start of the project and the end of the project, there could have been other factors and external influences which could have influenced the pupils' test focus and motivation. Examples of these factors could be personal issues, friendship issues or even their experience in a lesson before taking the test.

These factors are often supported in school but cannot be predicted and could have influenced how the pupils took the tests. This is something that could never have been controlled for completely but something which certainly could have influenced pupils' test results.

Looking at the data at an individual pupil level, there were substantial improvements in test score for some and decreases for others that suggest that the pupils' focus and attitude when they took the test might have varied thus creating such variance in score. The test results in relation to reading age were unexpectedly high, possibly calling into question the test itself being a suitable method for pre- and post-testing in this case.

These doubts about the test results suggest the positive findings should be treated with caution if taken in isolation, however positive pupil perception responses support the finding that the intervention had a positive impact.

The project was focused on disadvantaged pupils, which made the sample size relatively small and could have affected attendance (eg, pupils may have been influenced by friends who did not have to stay for an after-school club). Although we randomly allocated the pupils into the control group and the intervention group this did lead to a control group that had an initially much higher mean pretest score than the intervention group (153.66 months vs 137.33 months, which is more than a year-and-a-half higher). It is possible that this may have influenced the progress of the groups or the support they were given as the lower scoring intervention group may have received more support throughout the year.

The generalisability of the findings is limited because of the small-scale nature of the evaluation.

## **Implications for practice**

This small-scale evaluation showed a positive impact on reading age, although a larger trial would be an important next step to validate what the findings suggested.

The findings of the project show that a targeted approach does have a positive impact on reading age, however focusing purely on disadvantaged pupils did decrease the sample size and actually didn't include all pupils within Year 7 in the four schools who may have benefited more from taking part. The programme which was created did have a positive impact and sessions were reported to be engaging and interesting when a sufficient number of pupils attended. To repeat the project again, especially with schools based in a more rural setting, I believe it would be beneficial not to run the sessions after school and perhaps utilise the project within school as part of an alternative curriculum. This would probably increase the sample size thus making the results more generalisable. Opening the intervention up to all pupils within a year group in school would then allow for more pupils with a lower-than-expected reading age access to the intervention rather than only the subgroup of disadvantaged pupils.

## **Implications for further evaluation**

There are a number of questions raised by our findings which it would be interesting to investigate further:

1. What impact would a repetition of the project have on all groups within the year?
2. Would better outcomes be seen if it was offered as part of an alternative curriculum?
3. What would the impact be of the intervention if it was continued for longer, especially if it is suggested across the school that a gap does widen between disadvantaged and their counterparts?
4. Bearing in mind the positive impact the project had on boys, would this be a viable approach to monitor with this important subgroup for a longer period of time?
5. Is the ARTi test the best vehicle to measure progress in this type of project due to the variance in scores seen?

## 6. Could self-esteem and motivation be measured as well as the ARTi scores?

### Conclusions

In conclusion, our findings did demonstrate that the structured after-school project had a positive effect on the reading age of the pupils who attended and engaged with it. The development and structure of the project was developed utilising research and key pedagogical approaches. The innovation does appear to have some potential to investigate further, especially with the interesting finding of boys improving most when comparing boys' and girls' progress. The pupil voice responses also made it clear that the project had a positive impact on confidence and self-esteem. This was not measured quantitatively in this evaluation, but could be considered an important outcome if confirmed by further research.

Due to the small sample size, it is difficult to generalise the findings, however, all of the findings do suggest a positive effect size, which is potentially worthwhile investing further time and effort in. In addition, for urban schools, the cost for this intervention, once the initial training has been carried out, is relatively small.

It is interesting to note that the school which had the biggest buy-in from the pupils in terms of attendance did not pay staff to run the intervention and the pupils did not have to rely on extra after-school transport. This could suggest that a key factor in the success in any after-school intervention is teacher enthusiasm and members of staff intrinsically valuing the aims of the project, and making it as easy as possible for pupils to attend.

Finally the project was focused on the subgroup of disadvantaged pupils. If this project was opened up to all pupils in a year group, we feel that this could lead to additional benefits because our initial findings show that pupils valued being able to attend after-school sessions with friends, which made them more likely to commit long-term to the project.

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# Appendix 1

## Pupil perception question Evaluation project

Name:

Tell me three things you have enjoyed or disliked about doing the project?

How have you found the evaluation project so far?

Have there been any benefits for you eg Confidence/outcomes/self-esteem – How do you know?

Have you seen any benefits to other people in the group?

Has there been any benefits to your learning for example in lessons? How do you know?

Which elements of the project have been useful for you and why?

Which elements of the project have not been useful and why?

Any further comments about the project.

How could it be improved?

## Appendix 2

### Pupil perception question

#### A representation of findings

##### *Outcomes*

##### **Tell me three things you have enjoyed or disliked about doing the project?**

“Enjoyed inference skills in History”.

“I have enjoyed learning interesting facts”.

“It’s stressful but in a good way”.

“I didn’t like how the books turned out”.

Enjoyed learning loads of different facts”.

I like the quizzes and making the books”.

“Our books, group work and learning new facts”.

“I have enjoyed the group work, making the books and learning some of our lessons”.

“That we have made things that a place in the library”.

“Enjoyed learning things about the human body”.

“Competition, making the books and teamwork”.

“Prizes, rat dissections and creating”.

##### **How have you found the evaluation project so far?**

“Really good”.

“I like it because you learn a lot”.

“Fun and exciting”.

“Very interesting”.

“Fun, good”.

“Really good and it has helped a lot”.

“Fun and interesting”.

“It’s ok I guess”.

“Really fun and interesting”.

##### **Have there been any benefits for you eg, confidence/outcomes/self-esteem – how do you know?**

Confidence x 12

Outcomes x 10

Self-esteem x 2

### **Have you seen any benefits to other people in the group?**

“Yes I think it is definitely helping people’s confidence”.

“Yes, because pupils have got up in front of others to do speeches, and also because we are always helping each other”.

“Some people have become quicker at writing”.

“Seeing people work well as a group”.

“Leadership”.

“They know a lot more”.

### **Has there been any benefits to your learning for example in lessons? How do you know?**

“Yes in science”.

“Yes when looking at the body parts in the body, I knew extra things”.

“I can write quicker in English, and pick out info quicker”.

“Yes in history, as I keep getting higher marks”.

“I have been able to contribute more and get extra reward points”.

“Yes because I know more facts now”.

“More confidence to put my hand up”.

“Yes in history, I feel I know more than most”.

### **Which elements of the project have been useful for you and why?**

“Developing my inference skills”.

“Doing the speech as it helped my confidence”.

“When we did the science project, it boosted me up as I am not very good at science”.

“Science, history and geography – these have all helped in lessons”.

“Better behaviour and more confidence”.

### **Which elements of the project have not been useful and why?**

Nothing

None

### **Any further comments about the project.**

#### **How could it be improved?**

“Probably more games”.

“It could be improved by making it a bit longer”.

“Looking forward to the trip”.

## Appendix 3

### Northgate's 6 stage model for developing Feedback for Progress

**STAGE 1 – When the work is set** – Make sure pupils can 'see' what a good response to the task looks like (modelling, examples of excellence, clear success criteria).

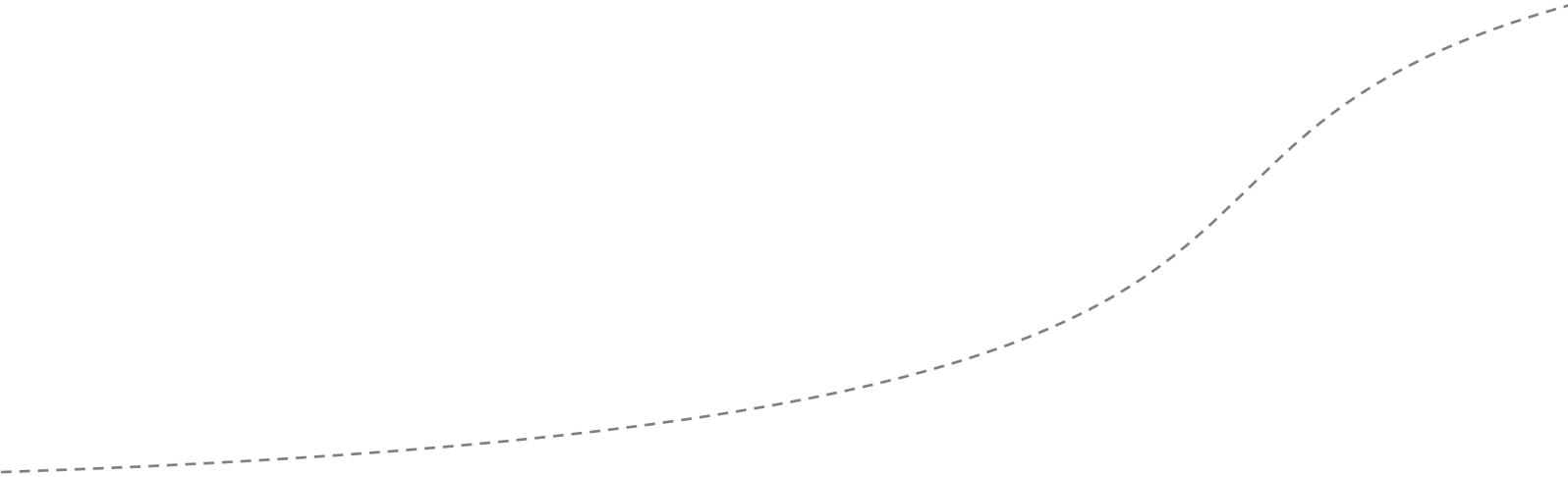
**STAGE 2 – When pupils are working** – Make oral feedback really count. Encourage pupils to record key pieces of advice, respond to oral feedback and show where they have used it in their work.

**STAGE 3 – Just before pupils hand in their work to be marked** – Establish the rule self-assessment before teacher assessment. Have high expectations and encourage pride in presentation.

**STAGE 4 – When marking the work** – Marking identifies strengths and areas where the pupil has made progress. It also highlights areas for development and informs their next steps.

**STAGE 5 – Returning the work** – Pupils engage with their feedback. Feedback should be more work for the recipient than the donor.

**STAGE 6 – Reflection** – Pupils recognise that responding to feedback leads to improved performance. They are able to identify where and how they have progressed. Pupils will need to be coached through this stage.



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