Leadership Lite

Evaluation Report

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Contents

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The project was independently evaluated by a team from the National Foundation for Educational Research (NFER). The principal investigator for this trial was Jack Worth, Lead Economist. Palak Roy, Senior Trials Manager, led the evaluation team.

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Acknowledgements

Executive summary

The project

Leadership Lite is a leadership development and school improvement intervention. It is designed to create a leadership of change that is collaborative and focused on continuing professional development (CPD) to reduce teacher workload and increase teacher satisfaction with the longer-term aim of improving teacher retention. Improving student attainment outcomes is also a goal of the school improvement programme.

Leadership Lite is delivered over two years and includes direct face-to-face training, gap tasks in between training sessions, network meetings, additional in-school support as required, exemplar materials, policy guidance and templates, and online support. The programme provides training for a senior leader, a governor, the head of the science department, and a nominated 'lead teacher' from the science department as well as all other science teaching staff. The programme focuses on three aspects of the quality of provision in science departments: quality assurance procedures, marking and feedback, and classroom practice. The programme was developed and piloted (initially in maths departments) by Carmel Education Trust—now Bishop Hogarth Catholic Education Trust or BHCET—a multi-academy trust and teaching school in the North East of England.

The Education Endowment Foundation (EEF) and the Wellcome Trust co-funded an evaluation of Leadership Lite. The EEF appointed the National Foundation for Educational Research (NFER) as the independent evaluator. The programme was intended to be evaluated using a two-armed efficacy randomised controlled trial with randomisation at multi-academy trust (MAT) level. The trial aimed to include 140 secondary schools across two successive cohorts. Two cohorts were created to aid programme delivery to 140 intervention schools across two cohorts, with 70 schools in each. The evaluation activities were scheduled to run from September 2018 to March 2025, with programme implementation in Cohort 1 schools across academic years 2019/2020 and 2020/2021 and programme implementation in Cohort 2 schools across academic years 2021/2022 and 2022/2023. According to the original design, the intended primary outcome of the trial was retention of science teachers in the state-funded school system six months after the end of programme delivery. The trial had several intended secondary outcomes: retention of teachers in the school they were employed in at randomisation, students' GCSE attainment in science, teacher workload and job satisfaction, and student progression to select science subjects at A level.

As a result of the COVID-19 pandemic, schools participating in Cohort 1 schools were closed to the majority of pupils for in-person learning on two occasions, for lengthy durations, during the intervention delivery period. It was therefore not possible for intervention schools to continue with the programme delivery. At this time, the government announced that the 2021 GCSEs would be teacher-assessed rather than assessed by examination, which affected the trial because GCSE scores were intended to be one of the secondary outcomes. Given these disruptions in programme delivery and implementation and the inability to collect reliable secondary attainment data, it was jointly decided by the EEF, NFER, and BHCET to cancel this trial and discontinue all remaining evaluation activities.

This report presents findings based on the implementation and process evaluation (IPE) data collected between March 2019 and March 2020. This comprised baseline surveys of participating heads of science and science teachers, observation of Leadership Lite training, case-study visits, and management information (MI) data. This data provides some information on science teacher recruitment, existing management, and CPD practices at baseline in addition to information on the first two terms of intervention delivery. The report does not present findings on any of the intended primary or secondary outcomes.

Summary findings

Due to the trial cancellation, findings of this report are limited to the insights and data gathered at baseline and during the early stages of implementation. Findings from the school staff survey at baseline showed that nearly one-third of participating science departments had at least one unfilled post for a permanent subject specialist

teacher and nearly half of these departments had struggled to recruit them for a year or longer. This suggests that the under-recruitment of science teachers was an issue for participating schools at the time of intervention delivery and a programme such as Leadership Lite, which aims to increase teacher retention by reducing their workload, was highly relevant to them.

Analysis of data from the baseline survey showed that science teachers' self-reported use of the teaching practices identified as desirable by Leadership Lite were positively correlated with their ability to manage their workload, job satisfaction, and intention to stay in teaching. Survey findings also suggested that teachers' perceptions of school leadership quality were positively related to having a manageable workload, job satisfaction, and their intention to stay in teaching. This evidence supports the logic model and the core underlying principles of Leadership Lite.

Findings from the initial IPE indicated that the school staff perceived the CPD sessions to be relevant and of high quality. Fidelity, adherence, and responsiveness were moderate with slightly lower than the expected engagement levels. The attendance at training sessions was lower than expected with only 10% of schools being fully compliant. The training attendance was especially low among school governors. If governors' attendance at training was not considered, nearly 40% of schools would have been fully compliant. Only one intervention school requested in-school support and only seven participants completed the gap tasks allocated to them.

Participating science teachers perceived that the intervention's likelihood of success would be dependent on the attitudes and support of the senior leadership team (SLT) and some staff anticipated possible resistance to leading this type of change in their school. Direct SLT engagement in the training was moderate.

Findings from the baseline surveys and interviews suggest that pre-trial practices ('business as usual') were distinct from those in Leadership Lite. For example, nearly three-quarters of science teachers' lessons were observed by senior colleagues termly or more frequently for quality assurance purposes whereas Leadership Lite recommends a system based on peer review. Similarly, teachers reported that the focus of their existing quality assurance system was on teaching practice, rather than student outcomes, whereas the opposite is recommended by Leadership Lite.

Had the trial continued, it would have allowed the evaluation to identify the change in practices brought about by Leadership Lite, to test the programme logic model, and to assess whether the programme had impacted on the intended outcomes by making comparisons with the control group.

Introduction

Leadership Lite is a leadership development and school improvement intervention designed to reduce teacher workload and increase teacher satisfaction with the longer-term aim of improving teacher retention. Improving student attainment outcomes is also a goal of the school improvement programme. The programme was developed and piloted by Carmel Education Trust—now Bishop Hogarth Catholic Education Trust or BHCET—a multi-academy trust and teaching school in the North East of England. The programme, delivered over two years, focuses on three aspects of the quality of provision in science departments: quality assurance procedures, marking and feedback, and classroom practice. Thus, the focus of this evaluation was on evaluating impact on science teachers and science departments.

The programme was intended to be evaluated using a randomised controlled trial. It was designed as a two-armed efficacy trial with randomisation at MAT-level. The aim was to include up to 140 secondary schools across two successive cohorts to support intervention delivery. Thus, the evaluation activities were scheduled to run from September 2018 to March 2025 with Cohort 1 schools taking part in the trial across academic years 2019/2020 and 2020/2021 and Cohort 2 schools taking part in the trial across academic years 2021/2022 and 2022/2023.

As a result of the COVID-19 pandemic, schools closed in March 2020 for all pupils. This was the first year of intervention delivery for Cohort 1 schools where trial activities were paused for the rest of the academic year. BHCET adapted the training model such that training sessions could be delivered remotely.[1] The three organisations (the EEF, NFER, and BHCET) discussed and decided that the challenges that the programme aims to address were still present in schools and it would be useful to continue with the trial, albeit with a slightly different model. Therefore, it was jointly decided that the intervention training would resume in 2020/2021 with a remote delivery model. Cohort 1 intervention schools were provided with exemplification and additional resources online. BHCET also offered remote support via email. In November 2020, BHCET also commenced recruiting schools for Cohort 2 with an aim to continue the trial. However, due to the third national lockdown from January to March 2021, schools were closed for in-person learning to the majority of pupils and delivered daily lessons remotely. Both instances of school closures (2020 and 2021) meant that participating intervention schools could not engage with the programme fully. In addition, it would have been challenging for schools to implement marking and feedback, classroom practice, and quality assurance practices as per the programme logic model when normal practice did not take place. This meant that the programme delivery and implementation were far from typical and, therefore, it would be difficult to evaluate the impact of the intervention as intended.

Moreover, due to the school closures and ongoing disruptions to in-person learning, the government also decided that the 2021 GCSEs would no longer be assessed by state examinations; instead, they would be teacher-assessed. GCSE attainment was the secondary outcome, which meant we would not be able to collect reliable secondary outcome data for Cohort 1. Note that the primary outcome for the trial was teacher retention using an administrative dataset. We would have been able to collect and analyse this had the programme delivery continued in 2020/2021. However, on balance, given the disruptions in programme delivery and implementation and the inability to collect reliable secondary attainment data, it would be difficult to interpret the impact of the intervention even if we were able to collect the primary outcome data. Therefore, it was jointly decided by the EEF, NFER, and BHCET to cancel this trial and discontinue all remaining evaluation activities.

This report presents findings based on the evaluation data collected between March 2019 and March 2020. This includes baseline surveys of participating heads of science and science teachers, Leadership Lite training observations, case-study visits, and MI data.

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[1] Original programme components included direct, face-to-face training, gap tasks in between training sessions, network meetings, and additional in-school support as requested.

Background

Ensuring sufficient supply of teachers in secondary schools is an issue of increasing policy importance due to the number of pupils forecast to increase by 11% between 2018/2019 and 2023/2024 (Worth, 2020). Long-standing under-recruitment of science teachers compared to the numbers needed to maintain sufficient supply means that the supply of science teachers is of even greater relevance (Worth and De Lazzari, 2017; DfE, 2017). Recent research has found that science teachers are more likely to leave the profession than non-science teachers, particularly within their first five years of teaching (Worth and De Lazzari, 2017; DfE, 2017). While several government schemes have sought to improve the recruitment and retention of teachers, largely through offering financial incentives to physics and chemistry teachers but also with CPD and support packages, they have had little success (Public Accounts Committee, 2018). There is a dearth of causal evidence as to how to improve teacher retention in England (See et al., 2020).

Leadership Lite was developed and piloted by BHCET[2] in science and mathematics departments. Early work was exclusively science and the later work was focused on mathematics as the subject vehicle in a small number of schools in the North East of England (Bailey, unpublished report). It is a school-developed approach that is rooted in a range of evidence-based strategies as well as the team's practical understanding of school improvement. The programme supports senior and middle leaders (heads of science) as well as governors to develop the skills of effective leadership and culture change management (for example, Goleman, 2000; Hill et al., 2016a and b) to support the implementation of evidence-based school improvement strategies within science departments. Science teachers also received instruction on implementing the strategies within their own practice. The programme focused on three main aspects of quality provision:

- quality assurance procedures—emphasising informal, supportive peer-observation and lesson demonstrations and greater prominence of student voice to understand the effectiveness of lessons, based on evidence from Coe et al. (2014), Timperley et al. (2007), and Joyce and Showers (2002);

- marking and feedback—reducing the quantity of written teacher marking and increasing the focus on student peer- and self-assessment and exploring the impact of marking on students' understanding of how they can improve, based on evidence from Shute (2008), Hattie and Timperley (2007), and Black and Wiliam (1998) and

- classroom practice—emphasising teaching focused on clear goals, responsiveness to students' prior knowledge and misconceptions, learning activities that deepen thinking and facilitate metacognition, as well as reducing the unnecessary detail of lesson planning and shifting from individual to more reflective and shared lesson planning, based on evidence from Black and Wiliam (1998), Sadler (1989), Driver et al. (1994), Hattie (2009), Quigley et al. (2018), and Adey and Shayer (1994).

A school-randomised controlled trial was therefore required to evaluate whether the programme can improve science teacher retention when implemented at a large scale. This efficacy trial was designed to include up to 140 secondary schools across two cohorts (with the second cohort intended to run two years after the first). The trial was spread over two cohorts due to the capacity of the delivery team. Intervention schools in each cohort implement the programme for two academic years. Schools either received the intervention or were allocated to the control group. The intervention was delivered by a network of partners until COVID-19 led to the cancellation of the trial, as described previously. The impact of the intervention was intended to be assessed by one primary outcome, retention of science teachers in the state-funded school system six months after the end of programme delivery, and several secondary outcomes relating to the logic model (see Figure 1) and the aims

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[2] Previously called Carmel Education Trust. Website available at: **https://carmelresearch.org.uk/**

of the programme. The secondary outcomes were retention of teachers in the school they were employed in at randomisation, students' GCSE attainment in science, teacher workload and job satisfaction, and student progression to select science subjects at A level.

The accompanying IPE aimed to assess the quality of the intervention, implementation fidelity, and variation in fidelity. The process evaluation was intended to complement the impact evaluation by providing insights as to how the implementation of the Leadership Lite programme may account for the impact findings. It was intended to explore how the programme was delivered, the engagement of participants, the effectiveness of individual elements of the programme as well as the package as a whole, and to identify implications for future application.

Intervention

Brief name

Leadership Lite.

Why (rationale/theory)

Leadership Lite is a leadership development and school improvement intervention aiming to reduce teacher workload and increase teacher satisfaction and, ultimately, teacher retention in the profession. The programme, delivered over two years, focuses on three aspects of the quality of provision in science departments: quality assurance procedures, marking and feedback, and classroom practice.

Who (recipients)

In each participating school, the programme involves a senior leader, a governor, the head of the science department, a nominated 'lead teacher' from the science department who will support the implementation of the approaches, as well as all other science teaching staff, including science subject leads, science teachers (including those who are newly and recently qualified—NQTs/RQTs), and early career teachers (ECTs) in their first five years of teaching.

What (materials)

Core programme components include direct, face-to-face training, gap tasks in between training sessions, network meetings, additional in-school support as required, exemplar materials, policies, and templates (for example, sample lesson plans), and online support (for example, a Virtual Learning Environment). Exemplar materials, policies, and templates are designed to provide teachers and leaders with 'ready to use' resources to support the implementation of the strategies advocated in the training with minimal additional input from participants.

What (procedures, activities and processes used)

The training for senior and middle leaders and governors (as well as the nominated lead teacher, if appropriate) involves practical activities designed to encourage reflection on leadership styles and culture and promote evidence-based leadership approaches (for example, understanding how to influence individuals with different motivations or identifying effective leadership attributes). This is designed to enable these participants to lead the improvements in the science department around quality assurance practices, marking and feedback, and classroom practice in order to reduce workload and increase effectiveness.

The training for science teachers focuses primarily on developing classroom practice (such as effective strategies for lesson planning) though it also touches on the other two aspects of the programme—quality assurance and marking and feedback—and the implications of the Leadership Lite advocated practices for classroom science teaching (for example, understanding student peer- and self-assessment techniques, strategies to support moderation, and how to maximise the benefit of peer coaching).

Gap tasks are assigned to be completed in between the training sessions to encourage participants to implement the ideas and approaches presented at the training and to provide feedback about their experiences at subsequent sessions and via the Virtual Learning Environment (moodle)—for example, a brief reflection piece having tried a recommended approach or watching a video tutorial of a lesson and writing a short reflection having modelled the lesson. For leaders and governors, this typically included pre-session reading of the underpinning research before the session and development of implementation plans afterwards. Further in-school support is intended to be available for schools that require additional support with implementation and organisational changes (in the form of diagnostics, coaching, advice, co-planning, and demonstrations).

Network sessions provide an opportunity for participating schools to present and feedback on any changes they have made to practices, and facilitate school-to-school sharing and further embedding of the approaches.

Who (implementers)

The Leadership Lite programme is intended to be delivered by a network of partners, mainly centred on Science Learning Partnerships across areas of the North of England and surrounding areas, but may also include other school improvement organisations, such as local authorities and teaching school alliances. For this trial, Science Learning Partnerships led the delivery of the CPD along with colleagues from local authorities. Science Learning Partnerships are led by local teaching school alliances, schools, colleges, higher education institutions, and other local partners with expertise and reputations for excellence in science. Staff from BHCET's teaching school and Science Learning Partnership train Specialist Leaders in Education (SLEs) and consultants from the network of Science Learning Partnerships to deliver the Leadership Lite programme to clusters of schools within their local areas. Each cluster comprises between five and 16 intervention schools. Each Leadership Lite school is allocated a named SLE/consultant to work with and each SLE/consultant worked with between one and six schools (hence, more than one SLE/consultant may work with each cluster of schools).

How (mode of delivery)

The Leadership Lite programme was intended to be delivered through:

- external (off-site) face-to-face sessions for personnel from all participating schools within each local area delivered at local training centres (that is, off-site training delivered to 'clusters' of participating schools); sessions were delivered to three groups of people:

    o senior leaders and governors;

    o middle leaders—heads of science and science subject leads; and

    o science teachers;

- additional in-school training for all science teachers may also be provided depending on specific needs;

- gap tasks in between the training sessions to encourage implementation of the ideas and approaches presented at the training and pre-reading to maximise the face-to-face training opportunities; brief summaries of participants' experiences of implementing the strategies were intended to be uploaded to the programme Virtual Learning Environment (moodle);

- local network sessions for senior leaders, middle leaders, governors, and science teachers (face-to-face twilight meetings with an option for remote dial-in);

- in-school support for implementation and organisational changes, as required (for example, diagnostics, coaching, advice, co-planning, and demonstration);

- course materials and exemplar policies and templates; and

- ongoing online support was intended to be provided to participants throughout the programme via a Virtual Learning Environment (moodle) (for example participants were asked to upload completed gap tasks).

Where (location)

Training is intended to be delivered externally at local training centres and on-site in schools. Implementation of the Leadership Lite practices takes place in regular classrooms in participating schools. For the purposes of this trial, the programme was intended to be delivered to schools in the north of England and surrounding areas. A group of schools in the South East signed up to take part in the trial and therefore a regional hub was created. See the section on randomisation for a list of the seven hubs that delivered the programme.

When and how much (duration and dosage)

The Leadership Lite programme is intended to be delivered over two years.

- Sessions for senior leaders and governors take place once per term in the first year of the programme for half a day per session (that is, three half-day sessions). The expectation is that a minimum of one senior leader and one governor from each school attend each session.

- Training sessions for middle leaders (heads of science) and the lead teachers take place once per term in the first year of the programme, for a full day per session (that is, three full-day training sessions). The expectation is that a minimum of one middle leader (head of science) or a designated lead teacher per school attends each training session. The SLT/governor sessions take place on the afternoon of the middle leader training sessions.

- Training sessions for science teachers take place once per term in the first year of the programme, for a full day per session (that is, three full-day training sessions). The expectation is that at least one teacher attends each of the cluster training sessions.

For the on-site training sessions scheduled according to specific school needs, the expectation is that as many science teaching staff as possible attend (this could also include the head of science and lead teacher if they wish to attend both the training for 'leaders' and for 'teachers').

In the second year of the programme, all participants are able to join twilight (outside of school hours) network sessions with other participating schools and BHCET, which would be offered once per term (a total of three twilight network sessions). It is expected that a minimum of two participating members of staff from each school attend each round of network sessions. Additional in-school support is intended to be provided, in negotiation with each school, to support implementation of Leadership Lite approaches (for example, diagnostics, coaching, advice, co-planning and demonstrations). In the second year of the programme, 'catch-up' training sessions are intended to be offered for any new staff or staff who missed the training in the first year of the programme, as required. Table 1 indicates which training components are compulsory and which optional.

Table 1: Leadership Lite training components

Training component	Time period	Compulsory	Optional
Senior leader/governor half-day training sessions, one per term (3 in the first year).	Year 1	Minimum of one senior leader and one governor attend each half-day session.	Additional senior leaders/governors attend the training sessions.
Middle leader/lead teacher full-day training sessions, one each term (3 in the first year).	Year 1	Minimum of one middle leader or a lead teacher attend each full-day session.	Additional middle leaders/lead teachers attend the training sessions.

Teacher full-day training session, one each term (3 in the first year).	Year 1	Minimum of one teacher attends each full-day training session.	Additional teachers and middle leaders attend training.
Scheduled on-site training depending on school needs.	Year 1	As many science teaching staff as possible attend training.	
Twilight network sessions, one each term (3 in the second year).	Year 2	Minimum of two participating members of staff from each school attend each round of network sessions.	Additional staff attend network sessions.
Catch-up training sessions.	Year 2	Staff who missed training during Year 1 attend catch-up.	
Gap tasks (between each training session).	Year 1, and Year 2 catch-up	Two tasks per participant.	

The minimum specified compliance is expected for the compulsory components of the programme. Additionally, there is some flexibility around who attends the programme training and networking events, depending on what is appropriate for each participating school. However, the tenets of the programme delivery are that it is a holistic approach facilitated by developing common approaches to school improvement that are understood by senior leaders and governors through to classroom teachers in order to support phased implementation and embed the approaches. Hence, it is expected that each school will involve one or more members of staff with each of the different activities offered.

Each participant should therefore experience a minimum of three training events and three network sessions, however some participants (such as middle leaders—heads of science, heads of biology/physics/chemistry, and lead teachers) may receive more if they attend both the leaders' and teachers' training. In addition to attending training and networking events, each participant is expected to engage with gap tasks and use the course materials. There are gap tasks between each training session, including leaders' and teachers' training (that is, two tasks per participant), as well as pre-course reading for all participants and an end-of-training reporting task for middle leaders and teachers. Apart from the pre-reading, participation in the gap-tasks is monitored by completion of brief reflective journals and other tasks that are uploaded to a programme Virtual Learning Environment (moodle).

Tailoring (adaptation to the intervention)

The Leadership Lite programme incorporates four dimensions that are considered as essential for effective school improvement and teacher satisfaction and retention: leadership of change, classroom practice, marking and feedback, and quality assurance. Within each dimension, Leadership Lite identifies a spectrum of practices ranging from those that are considered least effective through to more effective and evidence-based practices. These dimensions are central to the Leadership Lite programme and underpin the delivery of the programme for all participants. However, there are some variations in the emphasis placed on each dimension depending on the programme participants' roles and needs. Training for senior and middle leaders and governors emphasises the 'leadership of change' aspects; conversely, training for science teachers will emphasise the 'classroom practice' aspects. There is scope for tailoring in terms of the specific examples of practices that schools and participants elect to reform and the extent of this, depending on their individual needs. The intervention may also be tailored in the sense that individual schools will identify different priorities and areas of focus for the development and application of the practices.

Table 2 below sets out the core dimensions of Leadership Lite, the overarching focus of each dimension, and specific examples of practices and how Leadership Lite aims to shift these from what they identify as common practices at one end of the spectrum to Leadership Lite practices at the other. Note that common practices are those identified by Leadership Lite, based on the experiences of the developers. This may not, therefore, be

common practice amongst all schools participating in the trial, which could potentially reduce any observed impact of Leadership Lite.

Table 2: Leadership Lite dimensions, strategies and example practices

Dimension	Overarching focus of each dimension	Example of common practice	Example of Leadership Lite practice
Leadership of change	Shifting from 'short-term leadership focused on improving performance' to 'strategic, people-focused, long-term leadership focused on improving outcomes'.	Leadership is based on the leader's vision.	Leadership is based on a shared vision with a common goal (e.g. focused around the 'ideal learner').
		Leadership is focused on embedding established best practice across all areas of the school, regardless of the need, often leading to multiple initiatives.	Leadership is focused on essential change (e.g. based on diagnostic work).
		Imposing change that is felt necessary, such as in response to the current national agenda, perceptions of Ofsted etc.	Leading people using phased implementation, accounting for the strengths and weaknesses of the team and the enthusiasm for change of individuals/groups.
		Ensuring compliance via consequence as the main mechanism.	Ensuring compliance via motivation as the main mechanism.
		Improvements are focused on examination performance.	Improvements are focused on the broader outcomes for children that include skill development, employability etc.
		Leaders keep up the appearance of the school.	Leaders serve the community.
		Teachers are seen as part of the problem.	Teachers are seen as part of the solution.
		Short-term wins are prioritised, sometimes at the expense of long-term gains, e.g. teachers not released for CPD as they are needed in the classroom, intervention/extra classes for Year 11 take place at the expense of earlier intervention.	Long-term approaches are prioritised, such as investment in CPD, intervention across all year groups.
		Individual accountability.	'Collaborative' accountability.

Classroom practice	Shifting from 'classroom practice is focused on the teachers planning their lessons well to teach the students what they need to know in order to perform well in examinations' to 'classroom practice is focused on collaborative and essential planning, designed to develop students' skills and the transferability of those to develop an enthusiasm for science and an understanding of how science fits in to the world and careers'.	Lone planning.	Collaborative planning.
		Detailed lesson planning.	Minimalistic planning focuses on the necessary components of lesson planning.
		Teaching is focused on developing subject knowledge and understanding.	Teaching is focused on developing the transferability of the subject knowledge, skills, and understanding.
		Teaching is focused on covering the curriculum.	The curriculum is designed to widen the understanding of how science fits in to the wider world, everyday life, and future careers.
		Ensuring student compliance via consequence	Ensuring student compliance through motivation, engagement and effective practice.
		Teaching is task focused. Tasks are adapted for the ability of the students.	Teachers act professionally and adapt their work to fit the needs of the students, without necessarily writing or recording this.
		Tasks are clearly differentiated according to ability.	Activities are both accessible and challenging for all students.
Marking and feedback	Shifting from 'assessment, marking, and feedback is the process for teachers to diagnose and guide students to improve their work' to 'assessment, marking, and feedback encourages high levels of student response, better quality work and independence'.	Assessment and feedback is focused on detailed teacher marking.	Assessment and feedback is a process to diagnose and improve students' work and can happen interactively, in-class, and may not have a written record.
		Data is trusted implicitly and fine differences in the data are used to make decisions. Few processes (if any) are in place to increase the quality of the data. Quantity of data may be prioritised over quality	There is an understanding of the tentative nature of data and leaders respond accordingly to make it more robust, for example, by moderation (internal and external), standardisation across assessments, fewer but higher quality assessments, referencing with a larger sample size.
		There is a focus on regular (e.g. fortnightly) detailed diagnostic teacher comments as the main method of feedback	Assessment, marking, and feedback are a mixture of teacher, peer, and self-assessment. These skills are taught to children with the aim of them becoming self-remediating/self-regulating. Checklists, highlighted success criteria, or symbolic marking may also feature.
		There is a school/departmental focus on the quality and quantity of teacher feedback. This might include meeting established best practice criteria	There is a focus on improving the student response through assessment, marking, and feedback.
		Feedback is usually given in the form of 'what went well' then 'even better if', before students are expected to respond.	Assessment, marking, and feedback focuses on improvement first (e.g. uses the 'even better if (ebi)' then at some later point there may be 'what went well' (www) or 'mission then medal'.

Quality assurance	Shifting from 'quality assurance is a process to check on the work of teachers'—it typically centres on lesson observation (both formal and informal) and other 'input' measures'—to: 'Quality assurance procedures are designed not to interfere with the work of teachers, and to triangulate evidence from outcome data and stakeholder perceptions. Lesson observations (formal and informal) are rarely, if ever, used as part of quality assurance processes. Instead they are carried out by teachers who observe their peers in a developmental way.'	Broad or generic interventions based on established best-practice	Focused interventions based on themed question level analysis (TQLA)
		Focus on features of practice meeting particular 'ideal' criteria (for example, lesson planning, homework, marking, may have checklists of particular features, upon which QA is based).	Focused on the impact on outcomes of provision in school (e.g. lessons, home learning, marking/feedback) rather than checking that these have particular features.
		Little use of stakeholder voice.	Stakeholder voice is used regularly (e.g. termly) as part of outcome measures (e.g. students, staff, parents).
		Implied distrust of a significant number of teachers.	Implied trust in the professionalism of the vast majority of teachers.
		Book scrutiny takes place by asking for random sample of books (or sample of specific students).	Book review takes place as part of a dialogue with students (i.e. students are present during the review and are asked questions to probe assumptions about practice related to marking and feedback).
		Superficial use of collected data, which is often collected more than three times per year.	Deeper and smarter use of data, which has been through a process to ensure that it is reliable.
		Intensive monitoring with multiple formal lesson observations (typically termly or more frequently) and informal observations (such as learning walks), which may take place as frequently as fortnightly or even weekly.	Light touch monitoring, with fewer formal lesson observations (ideally zero or close to zero) and fewer informal lesson observations (ideally zero or close to zero). Teachers may choose to demonstrate their practice to middle/senior leaders via demonstration lessons.

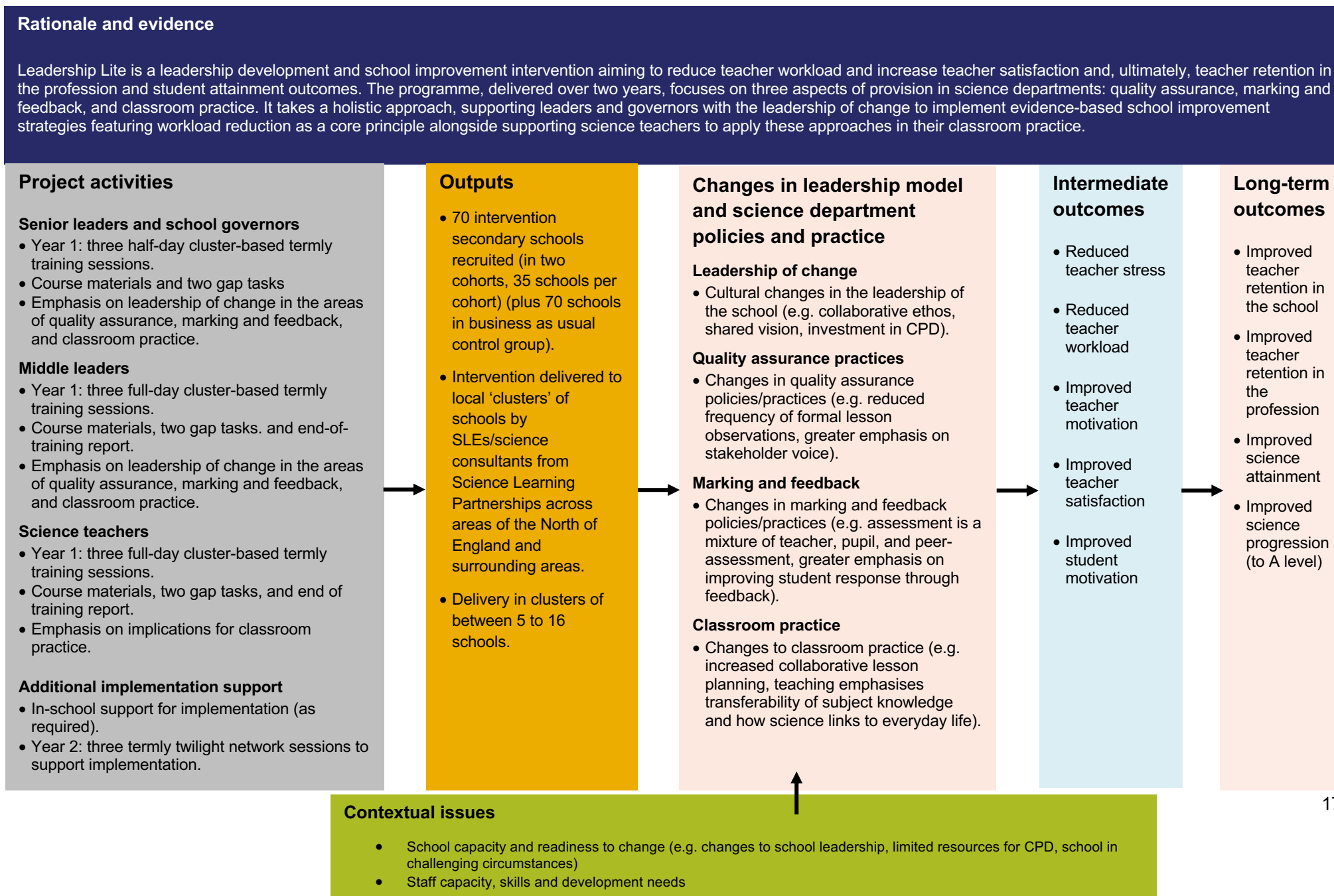**How well (planned)—strategies to maximise effective implementation**

The programme aims to maximise effective implementation by providing initial central training for the delivery team from BHCET staff who have extensive experience of teacher development and school improvement. The delivery team is comprised of experienced science teachers and leaders with significant experience of leading professional development and providing advisory support. Trainers are expected to hold some form of accreditation in science teaching, leadership, or CPD delivery (for example, STEM Learning Lead, Association for Science Education (ASE), Chartered Science teacher). The delivery team was provided with a package of presentation and course materials that have been developed centrally by the BHCET team and were intended to be used consistently by the delivery team throughout the programme. BHCET monitored and quality assured the programme delivery to ensure the Leadership Lite training was delivered as intended. Participating schools were provided with clear information and guidance about the programme and the strategies and practices to implement. The programme has been refined based on learning from a pilot study of the implementation of Leadership Lite in science and maths departments in a small number of schools. Implementation issues arising in the pilot study (for example, low levels of engagement with particular aspects of the support and schools' reluctance to reduce the number of lesson observations) were addressed through modifications to the intervention design and materials.

Figure 1 below sets out a logic model for the evaluation of Leadership Lite outlining the activities and outputs of the programme and the changes to practice and intermediate outcomes that were expected to lead to ultimate impacts on teacher retention and student attainment and progression. Note that Figure 1 sets out the intended outcomes prior to the disruption caused by COVID-19.

Changes due to COVID-19

Due to the COVID-19 school closures, in March 2020 the third and final CPD training sessions for Cohort 1 schools were postponed. Schools were provided with exemplification and additional resources via the Virtual Learning Environment (moodle) for planning purposes. This included a resource explaining how the Leadership Lite approach could work remotely to help schools to continue using the intervention. BHCET also offered remote support, initially via email. The twilight sessions scheduled for the second year did not occur due to trial cancellation. In October 2020, NFER, the EEF, and BHCET agreed a new model of implementation, proposed by BHCET, which included an increase in remote learning (thus not limited by geographical hub), different waves of training sessions, and online follow-up support. This model did not go ahead as the trial was cancelled (see the introduction section above), though schools were offered the opportunity to continue with the intervention with support from BHCET. This report will only detail the intervention as it was implemented up until March 2020. Further details on adaptations that occurred in this trial can be found in the implementation and process evaluation results.

Figure 1: Evaluation logic model of Leadership Lite

Rationale and evidence

Leadership Lite is a leadership development and school improvement intervention aiming to reduce teacher workload and increase teacher satisfaction and, ultimately, teacher retention in the profession and student attainment outcomes. The programme, delivered over two years, focuses on three aspects of provision in science departments: quality assurance, marking and feedback, and classroom practice. It takes a holistic approach, supporting leaders and governors with the leadership of change to implement evidence-based school improvement strategies featuring workload reduction as a core principle alongside supporting science teachers to apply these approaches in their classroom practice.

Project activities

Senior leaders and school governors
- Year 1: three half-day cluster-based termly training sessions.
- Course materials and two gap tasks
- Emphasis on leadership of change in the areas of quality assurance, marking and feedback, and classroom practice.

Middle leaders
- Year 1: three full-day cluster-based termly training sessions.
- Course materials, two gap tasks. and end-of-training report.
- Emphasis on leadership of change in the areas of quality assurance, marking and feedback, and classroom practice.

Science teachers
- Year 1: three full-day cluster-based termly training sessions.
- Course materials, two gap tasks, and end of training report.
- Emphasis on implications for classroom practice.

Additional implementation support
- In-school support for implementation (as required).
- Year 2: three termly twilight network sessions to support implementation.

Outputs

- 70 intervention secondary schools recruited (in two cohorts, 35 schools per cohort) (plus 70 schools in business as usual control group).
- Intervention delivered to local 'clusters' of schools by SLEs/science consultants from Science Learning Partnerships across areas of the North of England and surrounding areas.
- Delivery in clusters of between 5 to 16 schools.

Changes in leadership model and science department policies and practice

Leadership of change
- Cultural changes in the leadership of the school (e.g. collaborative ethos, shared vision, investment in CPD).

Quality assurance practices
- Changes in quality assurance policies/practices (e.g. reduced frequency of formal lesson observations, greater emphasis on stakeholder voice).

Marking and feedback
- Changes in marking and feedback policies/practices (e.g. assessment is a mixture of teacher, pupil, and peer-assessment, greater emphasis on improving student response through feedback).

Classroom practice
- Changes to classroom practice (e.g. increased collaborative lesson planning, teaching emphasises transferability of subject knowledge and how science links to everyday life).

Intermediate outcomes

- Reduced teacher stress
- Reduced teacher workload
- Improved teacher motivation
- Improved teacher satisfaction
- Improved student motivation

Long-term outcomes

- Improved teacher retention in the school
- Improved teacher retention in the profession
- Improved science attainment
- Improved science progression (to A level)

Contextual issues

- School capacity and readiness to change (e.g. changes to school leadership, limited resources for CPD, school in challenging circumstances)
- Staff capacity, skills and development needs

17

Evaluation objectives

The primary research question for this evaluation was:

1. What is the impact of Leadership Lite on the retention of science teachers in state-funded schools in England six months after the end of programme delivery?

The secondary research questions were:

1. What is the impact of Leadership Lite on the retention of teachers in the school that they were employed in at randomisation within six months of the end of programme delivery?
2. What is the impact of Leadership Lite on students' GCSE attainment in science?
3. What is the impact of Leadership Lite on teachers' workload and job satisfaction?
4. What is the impact of Leadership Lite on student progression to science A level (Cohort 1 only)?

However, schools did not implement the programme fully due to COVID-19 related school closures. The trial activities were stopped during the second term of programme implementation and before the second cohort of schools was recruited (March 2020). The evaluation team did not collect any outcomes data, so this report does not include any outcomes-related findings for the primary or secondary research questions.

The process evaluation aimed to complement the impact evaluation by providing insights as to how the implementation of the Leadership Lite programme may account for the impact findings, had the trial not been cancelled. It intended to explore how the programme was delivered, the engagement of participants, the effectiveness of individual elements of the programme as well as the package as a whole, and identify implications for future application. The implementation and process research questions outlined in the protocol covered eight key areas: fidelity and adherence, dosage, quality of delivery, reach, responsiveness, programme differentiation, monitoring of control group, and adaptation. There were three aspects of dosage that the IPE intended to collect information on:

- the breadth of engagement within schools (for example, the proportion of staff in a school engaged in Leadership Lite activities);
- the appropriateness of staff involved (for example, the role of school staff involved, including governors, senior leaders, middle leaders, and teachers); and
- the extent of engagement (for example, the number of Leadership Lite training sessions attended, the number of further support/implementation activities engaged with such as network sessions, gap tasks, and online support).

The intended IPE research questions can be found in Table 5 within the IPE Methods section. Table 6 details the research questions that are addressed in this report.

The trial protocol (Roy, 2019) is published on the EEF website and can be found at:
https://educationendowmentfoundation.org.uk/public/files/Projects/Evaluation_Protocols/Leadership_Lite_ev aluation_protocol.pdf

The Statistical Analysis Plan (SAP) was not published on the EEF website due to the cancellation of the trial.

Ethics and trial registration

Ethical approval was granted according to the NFER Code of Practice as part of the standard project set-up procedures on 18 January 2019.

The trial was designed, conducted, and reported (as far as possible) to CONSORT standards (**http://www.consort-statement.org/consort.statement/**). The trial is registered on the ISRCTN registry at **https://doi.org/10.1186/ISRCTN15126357** (ISRCTN15126357; Impact of Leadership Lite on teacher workload, teacher satisfaction and teacher retention in the profession).

Ethical agreement for participation in the trials was provided by the headteacher or the senior leader of the school via signing a memorandum of understanding (MoU). Teachers in the science department were provided with full details about the intervention via a school information sheet and were given the opportunity to withdraw their data from processing if they had objections to this.

Copies of the information sheet and school MoU are included in Appendix A.

Data protection

Data protection statement
All data gathered during the trial is held in accordance with the data protection framework created by the Data Protection Act 2018 and the General Data Protection Regulation 2016/679 and will be treated in the strictest confidence by the NFER, BHCET and the EEF. No individual or school is identified in any report. Teacher data collected from schools by NFER will not be made available to anyone outside of the parties listed. Our legal basis for gathering and using this data is our legitimate interest to administer the randomised controlled trial and analyse its data.

NFER and BHCET are the joint data controller for this evaluation. Specialist Leaders in Education (SLEs) and consultants from Science Learning Partnerships acted as Leadership Lite delivery partners and are data processors.

Legal basis for processing personal data

The legal basis for processing personal data is covered by GDPR Article 6 (1) (f), which states that 'processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of the personal data'.

We have carried out a legitimate interest assessment, which demonstrates that our legitimate interest for processing personal data for this trial is to administer the RCT and analyse its data.

NFER, BHCET, and the EEF have signed a Data Sharing Agreement that sets out the roles and responsibilities for this trial. This includes a description of the nature of the data being collected and how it will be shared, stored, protected, and reported by each party. In addition, BHCET provided a memorandum of understanding to schools explaining the nature of the data being requested of schools, teachers, and pupils, how it will be collected, and how it will be passed to and shared with NFER.

Personal data processed and shared

For the purposes of the trial, BHCET collected name, role, and contact details of a key contact person at schools when they were recruited. BHCET shared this data with NFER via NFER's secure data portal. NFER collected head of science and teacher details directly from schools using NFER's secure data portal for schools. This includes name, job title and role, Teacher Reference Number (TRN), date of birth, school and personal contact email address, length of time in teaching, subject taught, and degree of specialism. NFER also administered baseline online questionnaires, observed Leadership Lite training, and conducted telephone interviews with BHCET, intervention providers, school senior leaders, governors, heads of science, and science teachers. NFER also intended to administer follow-up questionnaires to heads of science and teachers and intended to share teacher administrative data with DfE in order to access the data held in the School Workforce Census (SWC), however, due to the trial's cancellation, this did not take place.

Data security and transfer

Personal data was transferred between schools and NFER using NFER's secure data portal for schools and shared securely via a password-protected portal. Personal data-sharing from the SWC was intended to take place via the DfE's secure data exchange portal. However, due to COVID-19 disruptions, no personal data was transferred from the SWC.

Data retention and deletion

It was intended that school and teacher data would be sent to the EEF's data archive partner. Due to trial cancellation, this will not take place. NFER and BHCET will retain personal data for one year after report publication (currently planned for October 2021) in case there are any queries about the report. Any data collected prior to the discontinuation of the trial which is not used in this report will be deleted as soon as possible. One year after report publication, all personal data will be securely deleted.

Right to withdraw

Participants had the right to withdraw their data or correct any errors in it at any time. The memorandum of understanding made it clear that participants could withdraw at any time. Communications sent to all participating schools included a link to the project Privacy Notice. The Privacy Notice was on the project page of the NFER website, available at: https://www.nfer.ac.uk/media/3287/eell_privacy_notice.pdf. Contact details for how to withdraw or correct errors were provided in the Project Privacy Notice (see Appendix B).

Project team

The evaluation was led by a team at NFER. Jack Worth (Lead Economist, NFER) was the Trial Director and principal investigator who had responsibility for strategic oversight and quality assurance. Palak Roy (Senior Trials Manager, NFER) led and managed the trial on a day-to-day basis, acting as a daily contact with BHCET and the EEF. She was also responsible for overseeing the impact evaluation. Caroline Sharp (Research Director, NFER) directed the process evaluation supported by Jennie Harland (Research Manager, NFER). Kathryn Hurd (Head of NFER's Survey Operations) had overall responsibility for school communications and data collection from schools, including administering staff surveys. Afrah Dirie (Statistician) conducted statistical analysis for the trial. The analysis was quality assured by other members of NFER's Centre for Statistics. Vani Cardozo and Vrinder Atwal provided administration support to the project.

The delivery team at BHCET was led by David Bailey (Director of Research and Development, BHCET). He was the project lead, taking responsibility for oversight of the programme delivery. He was supported by Sarah McGee (Research and Development Project Officer, BHCET).

Methods

Trial design

As Leadership Lite is a whole-school intervention with a department focus, the trial was designed as a two-armed randomised controlled efficacy trial with randomisation (to control and intervention groups) at Multi-Academy Trust (MAT) level. This means schools that were part of the same school structure—the same MAT—were randomised to the same group as a single unit and single entity schools were randomised as a unit in itself. This eliminated the challenges of implementing a teacher-level design and the risk of contamination. The randomisation was stratified using delivery hubs as strata, which intended to achieve geographic balance and, thereby, support effective intervention delivery. The recruitment and randomisation was planned for two cohorts to support capacity to deliver the intervention.

The evaluation team intended to access the primary outcome measure from the SWC. At baseline, and as a condition of randomisation, we collected administrative data about all science teachers in order to match their records to the SWC. This included names, dates of birth, TRN, and role in the science department of all the school's science teachers. Once the schools had submitted the administrative teacher data, NFER revealed the school's randomisation outcome to them.

A first cohort of 81 schools[3] was randomly allocated to either intervention (40) or control (41) in May to June 2019. This was above the target of 70 schools for Cohort 1. A second cohort of 52 schools (to make a total sample of 140) was due to be randomised in May to June 2021. The intervention delivery for Cohort 1 intervention schools commenced in September 2019. Cohort 1 control group schools continued with their usual practice and were due to receive a payment of £1,500 in lieu of the intervention, following completion of data collection activities. However, due to the cancellation of the trial, we did not administer the end-point survey, therefore a payment of £1,000 was sent to control schools in March 2021.

Table 3 presents the intended trial design in brief.

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[3] of which nine schools were across four MATs and remaining schools were a single entity.

Table 3: Trial design—as intended until the trial cancellation

Trial design, including number of arms		Two-arm, cluster randomised
Unit of randomisation		MAT (if schools are part of a MAT, otherwise a single school)
Stratification variable (s) (if applicable)		7 delivery hubs and randomisation cohort
Primary outcome	Variable	Science teacher retention in state-funded schools
	Measure (instrument, scale, source)	Teacher records from School Workforce Census (binary indicator: 1 = longitudinal record appears in SWC database, 0 = does not appear).
Secondary outcome(s)	Variable(s)	Science teacher retention in the same school as at randomisation
	Measure(s) (instrument, scale, source)	Teacher records from School Workforce Census (binary indicator: 1 = longitudinal record in the same school in SWC database, 0 = has moved school or does not appear in SWC).
Secondary outcome(s)	Variable	Student GCSE attainment in science
	Measure (instrument, scale, source)	GCSE point score from the National Pupil Database
Secondary outcome(s)	Variable	Student A level progression in science
	Measure (instrument, scale, source)	National Pupil Database (binary indicator: 1 = entry to an A level in a science subject, 0 = no science entry)
Secondary outcome(s)	Variable	Teacher workload and job satisfaction
	Measure (instrument, scale, source)	Teacher pre- and post-survey. Scales were to be defined using the baseline survey data

Participant selection

Schools

BHCET was responsible for school recruitment. It aimed to recruit 140 secondary schools across two cohorts: 70 schools in Cohort 1 and 70 schools in Cohort 2. All secondary schools in the North of England and surrounding areas were eligible to take part in the trial. A group of schools based in the Slough area was interested in the trial. These schools were recruited and they collaborated with the intention of forming a hub. School recruitment for Cohort 1 took place between January and April 2019. Schools signed up to the trial via a memorandum of understanding (MOU) where they nominated a key contact person. Schools were recruited via a variety of means including emails from the trust, delivery partners and other partners, and promotion at local events for science leaders and direct contact.

For Cohort 1, the recruitment target was exceeded, with 92 schools recruited.[4] Four schools withdrew before randomisation and seven did not provide teacher data, which was a requirement for randomisation. As a result, 81 schools were retained in the trial. These schools were from seven different delivery hubs, two more than the geographies originally planned as per the protocol. Cohort 2 recruitment did not take place due to the discontinuation of the trial.

Teachers

Once a school had signed the MoU, NFER collected science teachers' identifying information in order to match to the SWC and access the primary outcome measure in future censuses. This took place between March and June 2019. All science teachers who were going to be employed in the academic year 2019/2020, the first year of programme delivery for Cohort 1, were included. We included those on maternity leave during the 2018/2019 academic year but excluded staff who were known to be leaving during the 2018/2019 academic year.

Science teachers included those who were teaching physics, chemistry, biology, or general science to any year group for more than 50% of their timetable, and for a minimum of four hours per week for part-time staff, in the academic year 2019/2020 (Cohort 1). In the case of staffing changes, schools provided an update in autumn 2019 (prior to intervention delivery). We did not intend to measure the retention outcomes of science teachers who joined the school after the intervention delivery had started for a given cohort: this eliminated the risk of their recruitment being for a reason that was biased by the intervention.

Pupils

We planned to gather GCSE science attainment data from the NPD as a secondary outcome measure. This would have included students who were in Year 9 at randomisation (academic year 2018/2019 for Cohort 1 schools and 2020/2021 for Cohort 2 schools) and therefore sitting GCSEs at the end of the two-year intervention (May 2021 for Cohort 1 and May 2023 for Cohort 2). Due to trial cancellation this did not occur.

Outcome measures

Primary outcome

The primary outcome for this trial was the retention of science teachers in the state-funded school system six months after the end of programme delivery. This was intended to be measured using data from the SWC (each teacher's presence in the SWC, whether in the same school or in a different school, and teaching any subject).[5] As Leadership Lite is a two-year programme, the primary outcome was due to be collected in the census after the programme was scheduled to finish (that is, November 2021 for Cohort 1 and November 2023 for Cohort 2). This outcome measure was not collected due to trial cancellation and therefore does not form part of this report.

Secondary outcomes

There were a number of secondary outcome measures for this trial. The first was the retention of science teachers in the same school that they were employed in at randomisation, six months after the end of programme delivery for each cohort (measured via the same SWC censuses as the primary outcome measure).

Another secondary outcome measure was science attainment—the impact of the Leadership Lite programme on students' GCSE attainment in science. This analysis planned to use de-identified NPD data for all randomised schools.

Progression to selection of a science subject at A level was also due to be a secondary outcome. As the only way to measure progression to studying a subject at A level from administrative data is from the A level outcome data, we would have only been able to analyse this for cohort 1 within the timescale of the evaluation (from A level exams sat in May 2023, for the cohort that sat their GCSE exams in May 2021).

The above outcome measures were not collected due to trial cancellation and therefore do not form part of this report.

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[4] Of these, nine schools were from four MATs and the remaining schools were a single entity.
5. The primary outcome measure would have been based only on SWC data so would have suffered from virtually no measurement attrition. We believe that this was an appropriate measure given the concern was about retaining teachers in the state-funded school system than teaching a different subject.

We intended to measure teachers' workload and job satisfaction as secondary outcome measures. We planned to measure these outcomes using teacher surveys, which were administered at baseline (before the intervention delivery) and intended to be administered at follow-up (summer 2021 for Cohort 1; summer 2023 for Cohort 2). Baseline surveys were administered for Cohort 1. There was no endpoint survey administered for Cohort 1. For Cohort 2, neither baseline nor endpoint surveys were administered. Where we combined multiple items to form scales that are used for outcome measurement, we created these using factor analysis of the baseline survey data as the survey items do not come from an existing instrument. We classed these factors as reliable if they had a Cronbach's alpha of 0.7 or above.

Sample size

Table 4: Sample size calculations at protocol

|		OVERALL
MDES		5.8 percentage points (MDES = 0.2) (Odds ratio = 1.4) (Control group retention rate assumed = 77%)
Covariate correlations	level 1 (teacher)	0.32
	level 2 (school)	0
Intra-cluster correlations (ICCs)	level 2 (school)	0.08
Alpha		0.05
Power		0.8
One-sided or two-sided?		Two-sided
Average cluster size		8 teachers per school
Number of schools	Intervention	70
	Control	70
	Total	140
Number of teachers	Intervention	560
	Control	560
	Total	1120

Figure 2 shows the sample size calculations at protocol stage assuming that 140 schools would be recruited. Using parameters estimated from teacher-level SWC data, it was estimated that an evenly-randomised sample of 140 schools would enable the team to detect a difference of 5.8 percentage points with 80% power (purple curve). Assuming a 77% teacher retention rate in the control group three years after baseline, the design gives adequate statistical power to detect an increase in the intervention group teacher retention rate to 83% (or higher), or a reduction in the intervention group teacher retention rate to 71%.

The protocol discussed the implications in case of lower school numbers. If recruitment of 140 schools was not achieved, then a design with fewer schools would still be feasible. For example, a design including 110 schools (55 intervention and 55 control) would result in a fairly small loss of power compared to a design with 140 schools. A design with 110 schools would enable us to detect a difference of 6.4 percentage points with 80% power (blue curve in Figure 2).

The Leadership Lite documents suggested that the intervention was associated with a 23 percentage point increase in school retention rates in the pilot study (Bailey, unpublished report). However, quasi-experimental research by Allen and Sims (2017) found that the impact of participating in a science CPD programme was associated with an increase of three to four percentage points in department-level rates of science teacher retention in the profession. This suggests that lowering the MDES from 5.8 to 6.4 percentage points would appreciably increase the risk of a false negative.

Note that it was not possible to provide the MDES at randomisation as the school numbers presented here are only based on Cohort 1 schools.

Figure 2: Statistical power curves
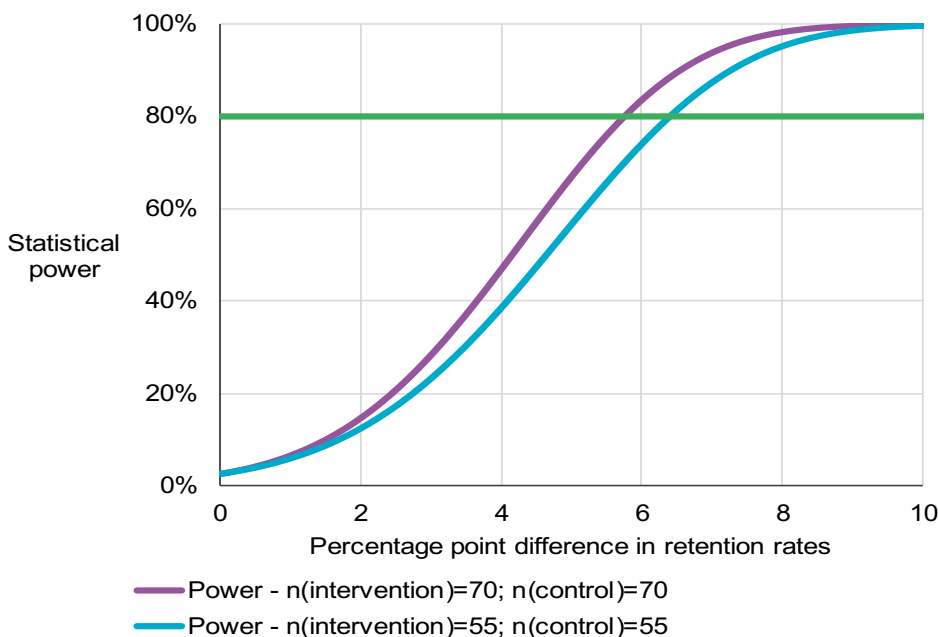
Assumptions:
8 science teachers per school (from analysis of SWC data)
ICC = 0.08 (from SWC)
Correlation with covariates (5-year age bands) = 0.32 (from SWC)
Confidence level of the test = 95 per cent
3-year science teacher retention rate for control schools = 77% (from SWC)

Randomisation

An NFER statistician randomised schools from the first cohort of 88 in June 2019 (see the syntax in Appendix F). Schools that are part of the same school structure (that is, a multi-academy trust) were randomised to the same group as a single unit. There were nine schools across four MATs where each MAT was randomised as a unit and the remaining 79 schools were randomised as a single unit. The statistician was not blinded to group allocation. Randomisation was stratified by seven hubs to aid effective intervention delivery: North Tyneside/Newcastle, Yorkshire and Humber, Preston, Lancashire, Warrington, Leicestershire, and Slough. Within each stratified group, schools were allocated half to the intervention group and half to the control group. It was a condition of randomisation for schools to provide the teacher information.

Schools in the first cohort assigned to the intervention group were due to receive the Leadership Lite programme for two years. Schools in the control group were to continue with their usual practice and receive a payment of £1,500 in lieu of the intervention, following completion of data collection activities. However, due to the end-point survey being cancelled as a result of early project closure, a revised payment of £1,000 was sent to control schools in March 2021.

Statistical analysis

Due to cancellation of the trial activities, no outcomes data was collected and therefore no impact evaluation analysis was conducted. The intended analysis methods are described in the protocol but a Statistical Analysis Plan was not published.

Implementation and process evaluation

Research methods

The process evaluation was intended to complement the impact evaluation through providing information on how implementation affected the outcomes, had the trial not been cancelled. The implementation and process evaluation (IPE) aimed to address eight key areas: Fidelity and adherence; Dosage; Quality of delivery; Reach; Responsiveness; Programme differentiation; Monitoring of control group; and Adaptation. The IPE also gathered information on compliance within Cohort 1 in the first two terms. Table 5 details the intended IPE methods.

Table 5: Intended data collection to address IPE dimensions

IPE dimension	RQ/focus of data collection	Source of data	Timing of data collection
Fidelity and adherence	1. How is Leadership Lite intended to work?	Developer interviews.	Developer interviews: autumn 2019.
	2. To what extent does the delivery of Leadership Lite adhere to the intended approach? Is it delivered as planned (e.g. cluster delivery model, external and in-school training, involvement of senior and middle leaders and teachers, attendance at training and networking events, engagement with course materials, and gap tasks)? 3. How consistent is delivery across the clusters and how closely does delivery adhere to the practices advocated by Leadership Lite?	MI data; developer interviews; observations; case studies.	MI Data: termly C1 and C2. Developer interviews: autumn 2019, autumn 2021, and summer 2023. Observations: C1 autumn 2019; C2 autumn 2021. Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.
Dosage	4. To what extent does each school engage with Leadership Lite and, within each school, to what extent does each targeted participant participate in the different aspects of Leadership Lite? (E.g. how many and which staff in each school participate in training, networking, and gap tasks that are submitted to the programme VLE?)	MI data.	MI Data: termly C1 and C2.
Quality of delivery	5. What do school leaders and teachers think about the quality and effectiveness of delivery by Leadership Lite (e.g. views on the programme structure, content, and quality of SLEs/consultants)? 6. What are school leaders' and teachers' perceptions of the effectiveness of individual elements of the programme (elements of delivery, such as direct training, network sessions, or gap-tasks or elements of content, such as emphasis on leadership of change, QA, classroom practice, marking and feedback) or does it work well as a package? 7. What are participants' suggestions for improving the programme? 8. What are participants' perceptions of the impacts of the Leadership Lite programme on leadership and teaching practices, teacher workload, and satisfaction?	Head of science survey; teacher survey; case studies.	Heads of Science (HoS) and teacher surveys (endpoint): C1 summer 2021; C2 summer 2023. Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.
	9. What does the Leadership Lite delivery team think about the quality and effectiveness of delivery (e.g. quality of SLEs/consultants, quality of training and ongoing support and coordination from central Leadership Lite team, consistency of the quality of delivery across the clusters/SLEs/consultants, and aspects of the programme that require improvement)? 10. What factors are affecting the quality of delivery?	Developer interviews; observations; case studies (deliverer interviews with Leadership Lite trainers/consultants/ SLEs).	Developer interviews: autumn 2019, autumn 2021, and summer 2023. Observations: C1 autumn 2019; C2 autumn 2021. Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.
Reach	11. How many schools and staff are engaged in the programme? How many schools/staff drop out during the programme and what are the reasons for this, if known?	MI data.	MI Data: termly C1 and C2.

Responsiveness	12. How do school staff respond to Leadership Lite? (E.g. do they anticipate it will be useful? Are they convinced the strategies will support school improvement?) To what extent are the approaches advocated congruent with their existing beliefs about effective practice? Are they implementing the strategies? To what extent? 13. What additional support is required to engage with the Leadership Lite programme and its advocated school improvement practices? (E.g. do senior/middle leaders allocate additional time or support to implement the approaches?) 14. What are participants' views about the suitability, sustainability and potential for roll out of the intervention (E.g. are they likely to apply Leadership Lite practices to other areas of the school? Would they recommend that other schools participate in Leadership Lite? What is required to facilitate this?)	Head of science survey; teacher survey; case studies; observations.	HoS and teacher surveys (endpoint): C1 summer 2021; C2 summer 2023. Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023. Observations: C1 autumn 2019; C2 autumn 2021.
Programme differentiation	15. To what extent do Leadership Lite participants think that the intervention is distinctive to practices prior to randomisation? 16. What practices and approaches does Leadership Lite replace in participating schools?	Case studies.	Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.
Monitoring of control group	17. What are the business as usual practices in control schools (in relation to leadership, QA, classroom practice, marking, and feedback) and how distinctive are these from Leadership Lite practices?	Head of science survey; teacher survey.	HoS and teacher surveys: C1 Spring 2019; C2 Spring 2021; C1 summer 2021; C2 summer 2023.
Adaptation	18. What challenges have schools faced in implementing the programme? 19. How have schools adapted Leadership Lite and why (e.g. adapted their engagement with the support offered, such as involved different staff, or adapted their implementation of Leadership Lite practices)? 20. What contextual factors have influenced implementation of the Leadership Lite practices (e.g. senior leader support, time, amending policies, staff involved)? 21. How have challenges been overcome?	Case studies.	Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.
	22. What challenges have deliverers faced in providing the programme (e.g. sustaining engagement, changes to staffing, drop out, supporting implementation in schools)? 23. What adaptations will the developers make to the programme for Cohort 2 in light of learning from the first cohort?	Developer interviews; case studies (interviews with Leadership Lite trainers/ consultants/ SLEs).	Developer interviews: autumn 2019, autumn 2021, and summer 2023. Case studies: C1 autumn 2019 and summer 2021; C2 autumn 2021 and summer 2023.

Due to trial cancellation, it was not possible to answer all the research questions. Table 6 below indicates the intended IPE research questions that were addressed or partially addressed.

The IPE provides some indications of whether the assumptions underpinning the logic model are supported by the available evidence. The IPE is limited by the small number of observations and interviews conducted. Furthermore, the data collection was only partially completed, which means that little or no data was available on adherence, dosage, ongoing quality, responsiveness, and differentiation as this evidence was due to be collected later in the trial. Therefore, only baseline data was available for the IPE with no follow-up data for comparison. This means that insights from the IPE must be considered to be tentative and incomplete and cannot be used to judge the effectiveness of Leadership Lite.

Table 6. Completed IPE methods overview

Research methods	Data collection methods	Participants/data sources	Data analysis methods	Research questions addressed within the delivery period (Cohort 1; term 1 and 2)	Intended research questions addressed partially
Baseline surveys with heads of science.	Baseline survey distributed to heads of science.	Heads of science in intervention and control schools.	Exploratory analysis	RQ16	RQ17
Baseline surveys with science teachers.	Baseline survey distributed to science teachers.	Science teachers in intervention and control schools.	Exploratory analysis	RQ16	RQ17
MI data.	Participation data, time and cost implications.	MI data from intervention schools.	Descriptive analysis	RQ2 RQ4 RQ11	
Observation of Leadership Lite training session.	Observation of three Leadership Lite training sessions.	Observation of Leadership Lite training.	Qualitative analysis	RQ2 RQ9 RQ12 RQ13 RQ14	
Interviews with Leadership Lite facilitators.	In depth, semi-structured, 30-minute telephone interviews.	Five facilitators across three case studies.	Qualitative analysis	RQ1 RQ2 RQ9	
Interviews with school staff.	In depth, semi-structured, 15- to 25-minute telephone interviews.	Three heads of science, two senior leaders, two lead teachers, and one governor across three case studies with intervention schools.	Qualitative analysis	RQ2 RQ5 RQ6 RQ7 RQ8 RQ12 RQ13 RQ14 RQ15	RQ17 RQ18 RQ19 RQ20 RQ21

Baseline surveys and interviews with school staff were used to inform a slightly adapted version of RQ16: What are the business as usual practices in participating schools (in relation to leadership, QA, classroom practice, marking, and feedback)? This adapted RQ was developed in discussion with the EEF in response to the trial cancellation and data collection implications.

Data collection

Surveys

Baseline and endpoint (online) surveys were planned with heads of science and science teachers in Cohort 1 and Cohort 2 schools. Only baseline survey data for Cohort 1 (73 heads of science and 462 science teachers) was collected due to trial cancellation.

One head of science withdrew after randomisation, two left school at the start of the baseline survey, and five answered less than 50% of the survey and so were removed. Surveys were sent to 603 teachers for whom contact details and roles had been provided by the school; 108 teachers did not respond at all and 27 answered less than 50% of the survey and so were removed. Two teachers withdrew after randomisation and four left school at the start of the baseline survey. Baseline surveys were administered prior to randomisation for Cohort 1 (spring 2019). See Appendices C and D for the full survey instruments used.

The survey administered to heads of science explored practice in relation to the leadership of their departments as it related to workload, quality assurance of lessons, marking and assessment, lesson planning, and classroom practice. The survey also asked about science staffing including whether there were any current science teacher vacancies and whether any science teachers had left in the previous year and, if so, why. The baseline survey to science teachers explored attitudes and practice in relation to school leadership, workload, quality assurance of lessons, marking and assessment, lesson planning, classroom practice, and satisfaction with, and engagement in, teaching.

Management information

BHCET intended to collect management information (MI) data from all intervention schools termly for the following areas:

- attendance at training sessions (year 1 of intervention) or network events (year 2 of intervention);

- data on number of gap tasks completed; and

- data on whether schools have received any in-school support.

MI logs also intended to collect data on time and cost implications of participation with Leadership Lite. The MI returns were completed by BHCET up until the point of trial cancellation. This resulted in MI data for the autumn and spring terms for Cohort 1 intervention (n = 40) schools. NFER designed the data collection logs in collaboration with BHCET.

Case studies

The research team intended to conduct case studies in six intervention schools (three in each cohort) to explore culture change in the implementation environment—such as the factors that have facilitated or impeded implementation of the Leadership Lite practices in schools and the anticipated cultural, policy, and practice changes identified in the intervention description and logic model—as well as detailed insights on programme quality, fidelity, and time and costs associated with engaging with the programme. Due to trial cancellation, only the three Cohort 1 case studies were partially completed; there were no endpoint interviews or observations. The Cohort 2 case studies were not completed. The hubs selected for the case studies were intended to provide some variation in characteristics such as location (to consider the effects of programme delivery within and beyond the immediate location of BHCET), hub size, whether the hub facilitator is a new or existing partner for BHCET, and school science recruitment challenges. Due to only three case studies being partially completed, from three hubs, these could not reflect the variation in characteristics of schools participating in the trial, but provide some limited insights.

Each baseline case study included:

- an interview with one or both of the Leadership Lite facilitators for the hub;

- interviews with school staff in one selected school per hub; and

- an observation of a Leadership Lite training session (CPD 1).

Interviews with Leadership Lite trainers/consultants explored their experiences of the central training and coordination by Leadership Lite, perceptions of school engagement and response to the programme, and how the programme was being delivered in their clusters.

Interviews with school staff explored existing practice, preparation for Leadership Lite, anticipated impacts and challenges, and views on early implementation of Leadership Lite. The research team intended to conduct interviews with a senior leader, head of science, lead teacher, and a governor in addition to other science teachers, but the interviews with science teachers, other than the lead teacher, did not take place due to their limited involvement at this point of the intervention. All science teachers were invited to the CPD but in practice only lead teachers attended.

The observations of training focused on how Leadership Lite was delivered, whether delivery appeared to be consistent across different clusters, what was delivered and how closely it aligned with the recommended practices, as well as indications of quality, effectiveness, and school response.

Interviews with developers

The research team intended to conduct telephone interviews with up to two representatives from BHCET at three timepoints during the course of the trial. Only one interview, at baseline, was conducted. This interview covered their cluster delivery model and early progress to inform data gathering about intervention fidelity and adherence.

Analysis

Due to the cancellation of the trial, the IPE analysis was adapted to focus on the implementation of the programme in the first two school terms, including insights on fidelity, responsiveness, and quality of delivery.

The IPE data available for analysis was sourced from:

- observations of Leadership Lite CPD sessions (two 'Teacher CPD Day 1' observations and one 'Leadership CPD Day 1' observation);

- baseline interview with one BHCET representative;

- interviews with five Leadership Lite facilitators and eight school staff in the early stages of implementation (three heads of science, two SLT, two lead teachers, and one governor);

- baseline surveys from 73 heads of science and 462 science teachers exploring typical practices in the areas Leadership Lite seeks to address as well as perceptions of workload and job satisfaction; and

- MI data from all Cohort 1 intervention schools for terms one and two.

The team summarised qualitative data from observations and interviews with developers, deliverers, and case study schools in a grid representing data sources mapped against research questions (for example, fidelity, quality of delivery, and adaptation). The analysis used both inductive and deductive approaches (that is, seeking to identify patterns in the data as well as to test the assumptions in the theory of change) to enable detailed analysis of the available data.

The surveys were intended to measure secondary outcomes. However, due to trial cancellation and the lack of follow-up data, this was not possible. Therefore, baseline survey responses were analysed to establish existing practices in both intervention and control schools (combined). Responses were also analysed to explore whether there was any correlation between specific departmental practices identified by the Leadership Lite programme and job satisfaction, and between departmental practices and a manageable workload. This was possible by combining a number of related survey items that measured an underlying construct. Factor analysis was run to identify reliable summary measures. For more information on factor analysis and how these measures were created, please see Appendix E.

This additional analysis was exploratory, observational, and limited to participating schools, which is not a representative sample of the population. It was not appropriate to break the responses down by subgroup (for example, by respondent role or hub area) due to the small numbers involved. Findings are reported at overall level only to avoid the risk of identifying specific schools or individuals.

Quantitative data from the heads of science and teacher surveys was analysed using SPSS. This analysis was conducted with a full audit trail and quality-assured by a senior statistician. The MI data was collated and summarised using Microsoft Excel.

Costs

A cost evaluation was planned but not conducted due to the trial cancellation. This will not be presented in the findings section.

Timeline

The timeline for the evaluation activities is set out in Table 7. The activities are listed as they took place. Italicised activities were affected by the COVID-19 pandemic.

Table 7: Timeline of evaluation activities

| Dates	Intended activity	Organisation responsible / leading
Jul–Aug 2018	Set up meetings 1 and 2.	EEF/ NFER/ BHCET
Sep 2018–Jan 2019	IDEA workshop and protocol.	NFER/ BHCET
Feb–Jun 2019	Cohort 1 recruitment and schools sign MoU.	BHCET
Mar–Jun 2019	- Baseline teacher data collection (Cohort 1 schools). - Baseline survey to heads of science and science teachers (Cohort 1 schools).	NFER
Jun 2019	School randomisation.	NFER
Sep 2019–Mar 2020	- Cohort 1 delivery begins. - Recruit case study schools and arrange visits. - Observe Leadership Lite training sessions and conduct initial case-study interviews. - Initial interviews with developers. - Term 1 and 2 MI data collection.	BHCET NFER
Mar–Dec 2020	*Schools in England closed due to COVID-19.* *Contingency planning for the trial and intervention delivery.* *Training model adapted for remote delivery in 2020/2021.* *Re-engaging intervention schools to receive remote training and continue Leadership Lite practices in 2020/2021.* *Cohort 2 recruitment commenced.*	*NFER BHCET EEF*
Jan–Feb 2021	*Schools in England closed due to COVID-19.* *Government announced GCSE 2021 to be teacher-assessed.* *Trial discontinued with all trial activities cancelled.*	*NFER BHCET EEF*
Mar–Sep 2021	*Agree trial analysis and reporting.* *Draft report submitted to the EEF.*	*NFER EEF*

Impact evaluation results

Participant flow diagram including losses and exclusions

Figure 3 below presents details of the Cohort 1 participants' flow through various stages of the trial up until the point of cancellation.

As indicated in Table 7, BHCET was responsible for the school recruitment for this trial between February and June 2019. In total, 685 schools were invited to take part. Of those, 92 expressed their interest to take part and signed an MOU, 94 did not agree to participate, 33 did not meet the inclusion criteria, and 466 did not reply. Four schools that

signed MoUs withdrew before randomisation. This resulted in 88 schools that were randomised. Seven did not provide teacher data to NFER. Since providing this data was a prerequisite for randomisation, they were dropped from participating in the trial. As a result, the trial retained 81 schools (40 intervention and 41 control). Those 81 schools had a total of 750 science teachers. These are presented in the recruitment and allocation sections of Figure 3. Of these, 73 heads of science and 462 science teachers completed the baseline survey.

Figure 3: Participant flow diagram (two arms) Cohort 1
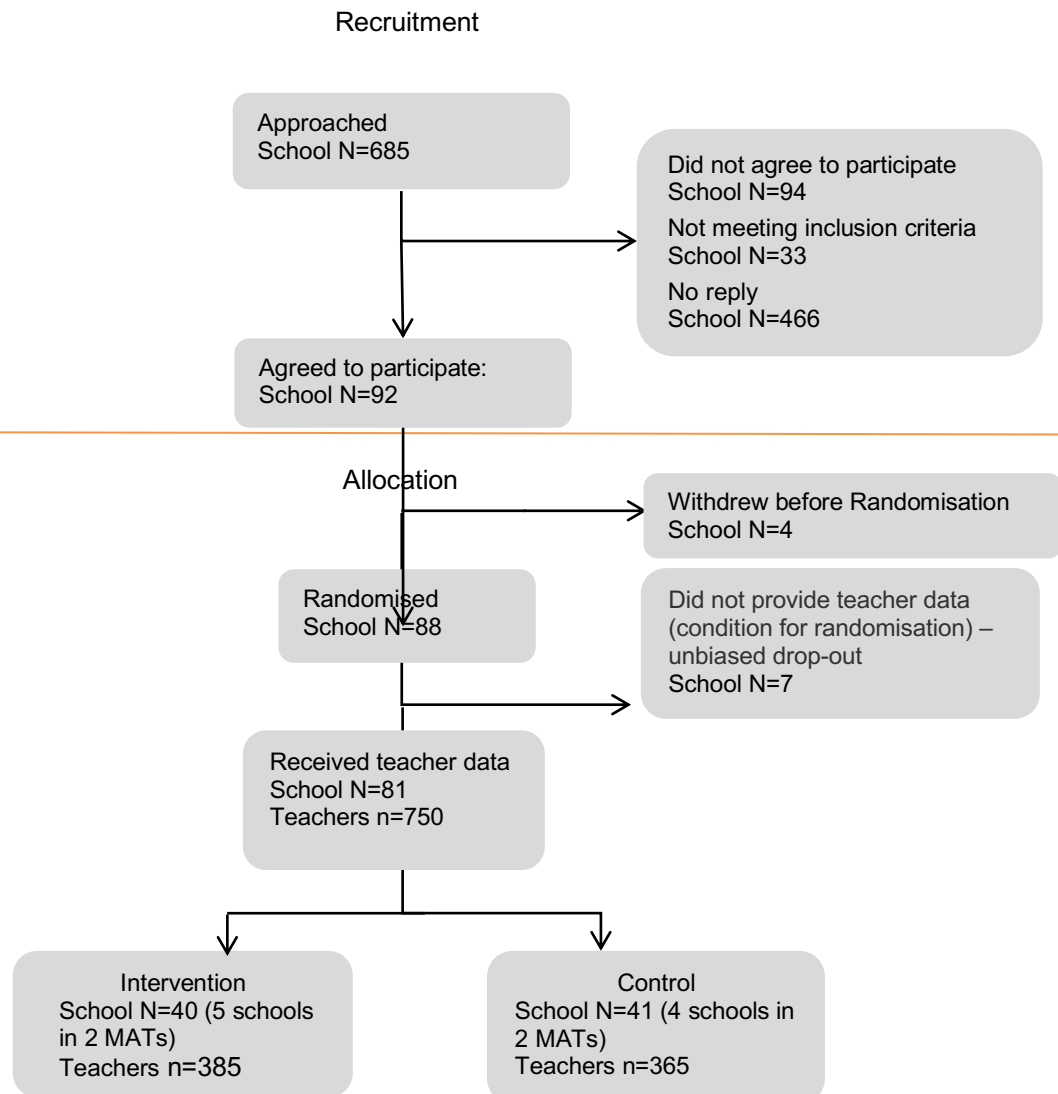
Pupil and school characteristics

Table 8 presents school-level baseline characteristics by randomisation groups. These include proportions of pupils eligible for FSM as a proxy for school deprivation, Key Stage 4 attainment quintiles, urban or rural schools, school type, and school Ofsted rating.

Table 8: Baseline characteristics of groups as randomised

School-level (categorical)	Intervention group		Control group	
	n/N (missing)	Count (%)	n/N (missing)	Count (%)
% pupils eligible for FSM				
Lowest 20%	5/40 (2)	13%	4/41 (2)	10%
2nd lowest 20%	10/40 (2)	25%	9/41 (2)	22%
Middle 20%	10/40 (2)	25%	10/41 (2)	24%
2nd highest 20%	3/40 (2)	8%	8/41 (2)	20%
Highest 20%	10/40 (2)	25%	8/41 (2)	20%
KS4 attainment				
Lowest 20%	7/40 (4)	18%	4/41 (2)	10%
2nd lowest 20%	8/40 (4)	20%	11/41 (2)	27%
Middle 20%	7/40 (4)	18%	9/41 (2)	22%
2nd highest 20%	8/40 (4)	20%	8/41 (2)	20%
Highest 20%	6/40 (4)	15%	7/41 (2))	17%
Urban or Rural				
Urban	4/40 (2)	10%	2/41 (2)	5%
Rural	34/40 (2)	85%	37/41 (2)	90%
School Governance				
Academy or Free school	26/40 (0)	65%	19/41 (1)	46%
Maintained	14/40 (0)	35%	21/41 (1)	51%
Ofsted rating				
Outstanding	11/40 (1)	28%	10/41 (2)	24%
Good	18/40 (1)	45%	20/41 (2)	49%
Requires improvements	5/40 (1)	13%	8/41 (2)	20%
Inadequate	5/40 (1)	13%	1/41 (2)	2%

Note: this table does not include imbalance at baseline and only presents school characteristics to understand the full sample that is discussed in this report.

As shown in Table 8, compared to the intervention group, the control group schools had a slightly higher proportion of FSM pupils and were more likely to be rural. Schools in both groups had broadly similar levels of attainment at Key Stage 4 and school types. There was a slightly higher proportion of schools with an 'inadequate' Ofsted rating in the intervention group compared to the control group. For the purpose of this report, we do not make any comparisons of outcomes data between the intervention and control group schools as none was collected after randomisation.

Implementation and process evaluation results

Key findings

Overall, whilst no firm conclusions can be made due to the limited data, tentative findings from Cohort 1 baseline interviews and surveys suggest that:

- Fidelity and adherence during the first two terms was moderate, with some attrition due to a change of leadership after sign-up or a lack of engagement. There is a lack of data regarding ongoing fidelity and adherence to Leadership Lite practices.

- The intervention quality in the first two terms was high with an anticipated positive impact on teacher satisfaction, workload, and retention. However, a small number of school staff anticipated that the intervention might lead to increased workload for middle leaders. There were two main suggestions for improvement: (1) clearer programme aims and (2) increased collaboration between teachers, heads of science, and senior leaders in implementing the programme.

- The responsiveness was moderate, as indicated by some school staff agreeing that Leadership Lite practices aligned with the direction of the school. The feasibility of the intervention was perceived as depending on the attitudes and support of the senior leadership team with some school staff anticipating possible resistance to change.

- Ongoing monitoring of the control group was not possible due to trial cancellation. However, data from baseline interviews and surveys suggest that pre-trial practices in both treatment and control schools were distinct from the Leadership Lite practices. This suggests that Leadership Lite practices were distinct from business as usual and that the intervention had the potential to influence the intended outcomes as compared to the control group.

- Based on a limited measure (training attendance over the first two terms), compliance (see 'Compliance' section below) was poor with only four schools (out of 40) attending enough training to be considered compliant. Attendance was low among school governors in particular. Overall, therefore, compliance was very low with only a tenth of schools being fully compliant up until the point of cancellation. Had the trial continued, endpoint surveys and interviews would have provided in-depth qualitative data on the reasons for this non-compliance and aspects of the intervention that schools found challenging.

The evaluation team conducted some additional analysis of the baseline head of science and teacher survey data. This provided some support for the assumptions in the Leadership Lite logic model (see Figure 1).

Fidelity

Research question: To what extent does delivery adhere to the intended approach/delivered as planned?

To ascertain fidelity, the evaluation team interviewed the BHCET representative during Term 1 intervention delivery.

At this early stage of implementation, the developer (BHCET) reported that delivery was on schedule. There were a few adaptations to the materials to clarify the content of training or examples of Leadership Lite practices. BHCET reported that there were 'a few [schools] not engaged at all, several not engaged fully'. The reason for this was largely due to a change of leadership since the original sign-up, or general school instability.

Due to trial cancellation and a lack of follow-up data, fidelity to the intervention could not be fully measured. The intervention could not be delivered as planned due to the school closures and there was no data collected on how schools were implementing Leadership Lite practices throughout the year. Furthermore, no data was available on consistency of delivery across clusters.

Adaptation

Research question: Challenges faced in implementation? How was Leadership Lite adapted and why?

There were several implementation challenges in this trial. One concerned low compliance, particularly from governors. BHCET indicated that catch-up CPD was offered for some schools who missed their hub CPD. However, MI data indicates that over half of schools in the Cohort 1 sample did not achieve minimum compliance (see below).

Compliance

Forty schools were allocated to receive the Leadership Lite programme in Cohort 1. Table 9 shows attendance by school where at least one member of each staff/governor group attended the CPD. For example, the first column shows that in 30 of the 40 schools at least one senior leader attended the session. The expectation was that at least one senior leader, one governor, one middle leader, and one teacher from each school would attend each relevant cluster training session.

Table 9: Summary of MI data on CPD attendance for autumn and spring terms in 2019/2020

	Key: *at least one staff member attended ** no staff member attended	Senior leader	Governor	Middle leader	Teacher
No. of schools in trial		40	40	40	40
Autumn term (2019)	% school attendance* at hub CPD training session or national catch up	75% (30 schools)	23% (9 schools)	83% (33 schools)	85% (34 schools)
	% non-attendance** at hub CPD training session or national catch up	15% (6 schools)	68% (27 schools)	8% (3 schools)	5% (2 schools)
	% withdrawn (or presumed withdrawn as no attendance across any CPD/gap tasks)	10% (4 schools)	10% (4 schools)	10% (4 schools)	10% (4 schools)
Spring term (2020)	% school attendance* at hub CPD training session or national catch up	65% (26 schools)	30% (12 schools)	75% (30 schools)	78% (31 schools)
	% non-attendance** at hub CPD training session or national catch up	18% (7 schools)	53% (21 schools)	8% (3 schools)	5% (2 schools)
	% withdrawn (or presumed withdrawn as no attendance across any CPD/gap tasks)	18% (7 schools)	18% (7 schools)	18% (7 schools)	18% (7 schools)

NOTE: percentages have been rounded to the nearest whole number so may not sum to 100%.

The majority of attendees at the middle leader training were heads of science (only two middle leader attendees in the spring term were not). Attendance among school governors was particularly low. School-level attendance was higher for all teaching staff in autumn term whereas for governors there was slightly better attendance in the spring term, although governor attendance was much lower (23–30%) than teacher attendance (78–85%). If the intervention had continued as planned, endpoint surveys and interviews would have provided in-depth qualitative data on the reasons

for this non-compliance and whether there were certain aspects of the intervention (for example, attending the training sessions) that schools found challenging.

The findings from the survey mirror the reports from teachers in interviews that SLT participation and engagement is crucial to any anticipated success of the intervention. From the limited data available, it appears that SLT engagement was moderate.

MI returns showed that no schools received in-school support in the first term of the programme and only one school did so in the second term. The model relied on schools requesting BHCET to provide the in-school support. There may be a number of reasons why they did not, including high workload and, in the spring term, disruption due to COVID-19.

MI also showed that completion rates of gap tasks was low; only seven schools had at least one staff member that completed the one gap task set between autumn and spring training sessions.

Measuring compliance

The protocol sets out what is considered as compliance to the programme for the purposes of the trial. The expected minimum compliance with the intervention in each school is participation in:

- training—at least one senior leader, one governor, the head of science or a designated 'lead teacher', and as many science teachers as possible each participate in three training sessions;

- network sessions—a minimum of two representatives from senior leadership/governance and middle leadership from each school attends three network sessions; and

- gap tasks—two tasks completed per participant.

The CPD training session attendance is shown in Table 9 above for autumn term 2019 and spring term 2020. The summer term's sessions were postponed and eventually cancelled due to COVID-19. Network sessions were not due until the second year of the programme, which was also cancelled. Only one gap task was set due to only two training sessions going ahead. Therefore, an amended compliance measure based on attendance at the first two training sessions provides partial insight into compliance.

Thus, considering only the first two training sessions, only four schools (out of the 40 in the trial) attended enough training to be considered compliant. This was mainly due to governors not attending sessions. If governors were excluded from this compliance measure there would be 16 compliant schools. This data, although a limited measure, suggests that compliance to Leadership Lite was very low with only a tenth of schools being fully compliant up until the point of cancellation (Cohort 1; term 1 and 2).

Quality of delivery

Due to the trial cancellation, several research questions on quality cannot be fully answered as there is no data on ongoing delivery, support, and materials.

Research question: What do school leaders and teachers think about the quality and effectiveness of delivery by Leadership Lite?

Of the eight school staff from three schools interviewed in Term 1 (October 2019), seven respondents largely gave positive feedback on the content, knowledge, and communication of the facilitators with regard to the CPD element of the programme. Positive feedback from one staff member included that it was 'very clear what the message is', though some felt the overall aims could have been made clearer at the first session (see suggestions for improvement below). Staff also found the training to be an 'enriching and educational experience' and reported that the CPD had changed their thoughts and views with regard to the aspects covered in the training days, which is a key aim of the Leadership Lite programme. This indicates that the delivery of the training sessions, a core activity according to the logic model, was well-received overall. The content of the programme, including materials, was regarded as high quality by school staff who appreciated the rigour of the research base and found the content relevant to school needs and concerns.

Research question: What are school leaders' and teachers' perceptions of the effectiveness of individual elements of the programme, or does it work well as a package?

Research question: What are participants' perceptions of the impacts of the Leadership Lite programme on leadership and teaching practices, teacher workload, and satisfaction?

The logic model (see Figure 1, 'Intervention' section) assumes that leadership of change, quality assurance practices, marking and feedback, and classroom practice are the core elements of Leadership Lite leading to the intended outcomes.

Leadership of change

Comments on the leadership of change were limited but positive—buy-in from the department was seen as an important aspect of the success of the new strategies. This is discussed further in 'suggestions for improvements' below. However, one staff member expressed concern about whether Leadership Lite would be successful in changing leadership practices in their school. There is not enough evidence from the limited baseline data on whether aspects of a leadership of change, for example, a collaborative ethos and focus on CPD, were adopted. However, comments suggest that this was an important aspect of the logic model.

Quality assurance

A majority of the eight interviewed science teachers, heads of science, and SLT members, along with the observations of the teacher CPD, indicated positive perceptions of the quality assurance element. Observing peer teaching was one element of the programme that school staff responded very well to, reporting that it encouraged sharing good practice on a non-judgemental basis as compared to high-stakes lesson observations. School staff reported that the Leadership Lite programme had changed their thinking around quality assurance: 'That was a great session—but it [the recommended approach to observing peer teaching] was a curve ball for me, that really did change my thinking, I wouldn't have thought of doing it like that.' One concern was raised about the flipped observation procedure increasing workload for middle leaders. Overall, the data gathered during the early stages of implementation supports the logic model with regard to quality assurance, although the perceptions of ongoing effectiveness of the quality assurance practices cannot be assessed due to the trial cancellation and lack of follow-up data from school staff.

Marking and feedback

Reduced marking and alternative feedback was mentioned by some interviewed school staff as a positive element of the programme. Staff commented on the focus on more effective marking as opposed to marking every piece of work. One staff member reported that the recommended method of 'flash marking' had allowed them to 'pick up misconceptions and address them at the time rather than going through the book after the lesson and realising [I am] going to need to change [my] next lesson'. This indicates that, at baseline, schools perceived the marking practices recommended by Leadership Lite as something that would be effective in their schools.

Classroom practice

The classroom practice element of Leadership Lite was also viewed as a positive aspect of the programme. Staff felt positive about planning engaging lessons, for example: 'We're looking to build in a lot more practicals and investigative work into lessons, with more real-world clips, which is something they suggested on the Leadership Lite programme, which is a great idea—linking the lesson to something "wow".' However, a few interviewees said they were concerned about finding time to plan the more engaging lessons.

Although the interviews took place early in the implementation, one interviewee reported implementing the recommended changes in classroom practice: 'We've found a lot of our students engage better when they know where they're going, where they're thinking more and giving them extra practice. The other big change that we have made is a recognition of the importance of curiosity.' Taken together, this limited evidence suggests some support for the classroom practice aspects of the Leadership Lite logic model.

Teacher workload

A majority of the heads of science and lead teachers interviewed reported that there were early signs of Leadership Lite practices reducing workload, largely by reducing teacher marking and using marking differently, for example, to track students and put interventions in place sooner. However, a small number of staff had raised concerns about flipped observations potentially increasing workload. The data overall, therefore, tentatively indicates support for the logic model as reduced workload is one of the intended intermediate outcomes of Leadership Lite, however, more information that would have been gathered from endpoint interviews would be needed to clarify the effect.

Teacher satisfaction

Most interviewees predicted increases in job satisfaction as a result of their school's participation: 'I can see that it will help me grow, because in previous years I've felt stagnated in what I'm doing, like I'm not really making any progress in myself, which is something I've been dissatisfied with. Now I can see this gives me a method to actually become better.' This was also linked to future teacher motivation and retention: 'It's all about reducing teacher workload, so if we can get that right, then more [teachers] will be encouraged to stay.' However, one staff member working in a school with a track record of under-achievement in science and general teacher recruitment issues did not anticipate any impact on job satisfaction because they did not believe that the programme would be sufficient to change how the school was run and the issues they were facing, though they did acknowledge that it may have some positive impacts.

On balance, the limited evidence available supports several aspects of the logic model relating to improved teacher satisfaction and motivation and, potentially, the long-term outcome of improved teacher retention.

Research question: What are participants' suggestions for improving the programme?

Five out of a total of eight participants (two heads of science, two SLT members, and one lead teacher) gave suggestions for improving the programme. These included having clarity on the 'big picture' from the first session so staff know what is coming and how it fits together. A few responses also suggested that they would have liked to have access to a Virtual Learning Environment or another central hub to access all the information given from the start of the programme. Some respondents suggested increased work between SLT and the head of science to create a plan for making changes in adherence to the Leadership Lite programme. Other comments included requests for a wider variety of teaching examples, and attendance of other schools to facilitate discussions with other SLT members.

Research question: What do the Leadership Lite delivery team think about the quality and effectiveness of delivery? What factors are affecting the quality of delivery?

Leadership Lite facilitators were positive about the quality and effectiveness of delivery with regard to the CPD sessions. Facilitators reported being well prepared for the sessions and were pleased with the training they had received. The facilitators also reported good engagement from attendees and had received very positive reactions from the participants. Furthermore, facilitators enjoyed delivering the CPD sessions as they felt they were giving delegates exactly what was needed. Leadership Lite staff felt that they were building a relationship with school staff to support the implementation of change.

Some facilitators had already held remote catch-ups and had 'mopped up' those schools that had not been able to attend. At the time of the interviews, facilitators reported that they had not yet delivered in-school implementation support in all schools. This is backed up by MI data (see 'IPE results' compliance section), which shows that only one school received in-school support in the autumn and spring terms (though this is likely to have been affected by the pandemic).

Facilitators made a few suggestions for improvement. They said that they had found it necessary to make some minor adaptations to the CPD materials, and, in future, it would be good practice to review the first day of the training with other facilitators before moving on to day two. Another suggestion was to clarify the main message and make the link between workload and retention more explicit. This echoes points raised by school staff.

The Leadership Lite delivery team felt that the level of support and detail would enable them to deliver the training and in-school support to a high standard.

Responsiveness

Research question: What do school staff think about Leadership Lite? To what extent are the approaches similar to existing beliefs about effective practice?

The five senior participants (SLT members and heads of science) interviewed at an early stage of implementation reported that Leadership Lite approaches aligned somewhat with the direction of their existing strategies. For example, some respondents reported an existing focus on reducing workload such as a reduction in the requirement for planning and marking. Several respondents also mentioned moving towards better quality assurance procedures to take pressure off staff. However, one staff member remarked that the peer observation method recommended by Leadership Lite was very different to their current perception of quality assurance.

From the observations of Teacher and Leadership CPD Day 1, some school staff had reservations about the effectiveness of their current practices. Teachers reported that the new ideas in Leadership Lite, particularly around

delivering effective lessons, were very different from how they were trained, for example, they had been taught that pupils must always be writing in lessons and showing progress every few minutes. Training participants agreed that excessive marking is used more for accountability purposes than for the benefit of students. Teachers also commented on lesson observations and that they felt these were not truly objective. This indicates that Leadership Lite has the potential to make a difference to teachers' existing practices, some of which are not the most effective or constructive for pupil progress and teacher satisfaction.

One concern was raised about Leadership Lite potentially causing additional workload for middle leaders (for example, making curriculum changes) and, from the observation of Leadership CPD Day 1, there was some resistance to practical lessons on the grounds that this would provide less evidence of student learning for assessment.

Research question: What additional support is required to engage with Leadership Lite programme?

Four senior and middle leaders commented on the additional support required to engage with Leadership Lite. These respondents felt that more time was needed for SLT and heads of science to discuss an action plan. The involvement of SLT was reported to be key, and in one school it was felt that attitudes of the SLT would need to change. The involvement of SLT arises in several places throughout the IPE and indicates that the 'leadership of change' element of the logic model appears to be very important for the intervention to be successful.

Research question: What are views about suitability/sustainability and roll out of intervention?

Four of the eight school staff interviewed felt that Leadership Lite was potentially suitable for implementation in their school as it was popular with staff and some schools had a current focus on retention. One key message from staff was that support from the SLT was crucial to the successful roll out of the intervention. A minority of staff interviewed felt that their senior leadership team was unwilling to change. Overall, it appears that school staff felt Leadership Lite was suitable for roll out in their school, though there is a somewhat mixed picture.

Control group/usual practice and differentiation

**Research question: What are business as usual practices?**

Business as usual (BAU) practices were gathered from baseline interviews with intervention schools and survey responses from intervention and control schools. As described in the Methods section, the baseline survey data was analysed to provide further insights into BAU and any correlations between current departmental practices identified by the Leadership Lite programme and job satisfaction and workload. This was not a pre-planned analysis but rather an exploratory analysis to investigate the data that had been collected. Note that these surveys were only baseline surveys for Cohort 1 and do not cover endpoint, or Cohort 2, and are therefore limited in the conclusions that can be drawn from them.

The survey asked teachers and heads of science (N = 533) how many hours they spent on activities relating to their job, per week. The mean number of hours reported was 47.2 (range: 3–90). This is similar to the average of 49.5 hours reported for teachers and middle leaders in the 2019 teacher workload survey (Walker, Worth and Van den Brande, 2019).

The head of science and teacher surveys included a series of questions about quality assurance (QA) of science teaching; the results are shown in Figure 4. As discussed above, these surveys were limited to baseline of Cohort 1 and do not include endpoint or Cohort 2 data. Therefore, this exploratory analysis cannot provide firm conclusions but offers an insight into pre-trial practices.

Figure 4: Frequency of QA teaching and learning activities in intervention and control schools

On average, how often do the following QA teaching and learning activities happen in the science department?
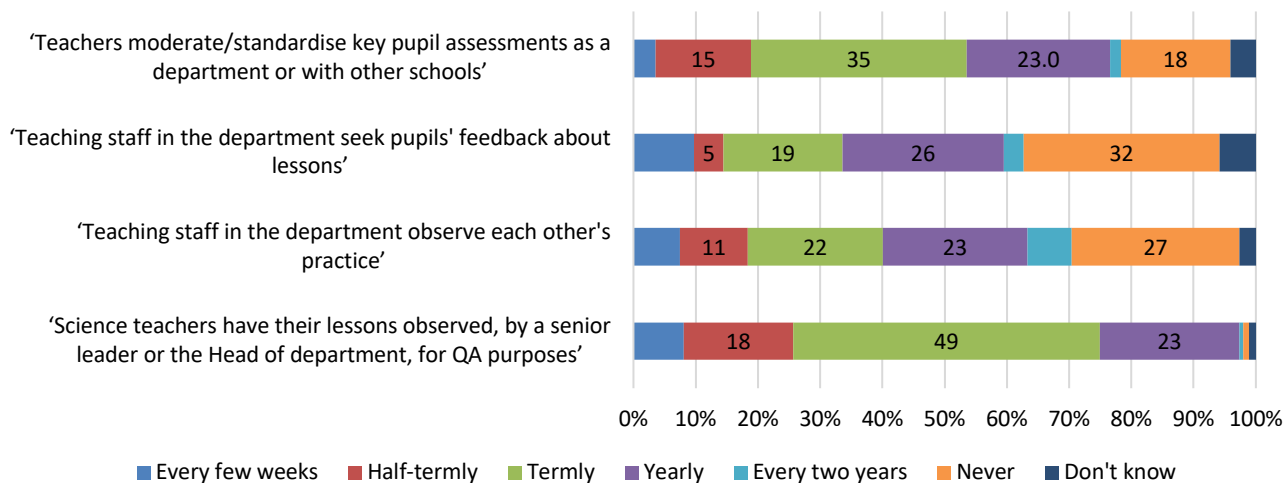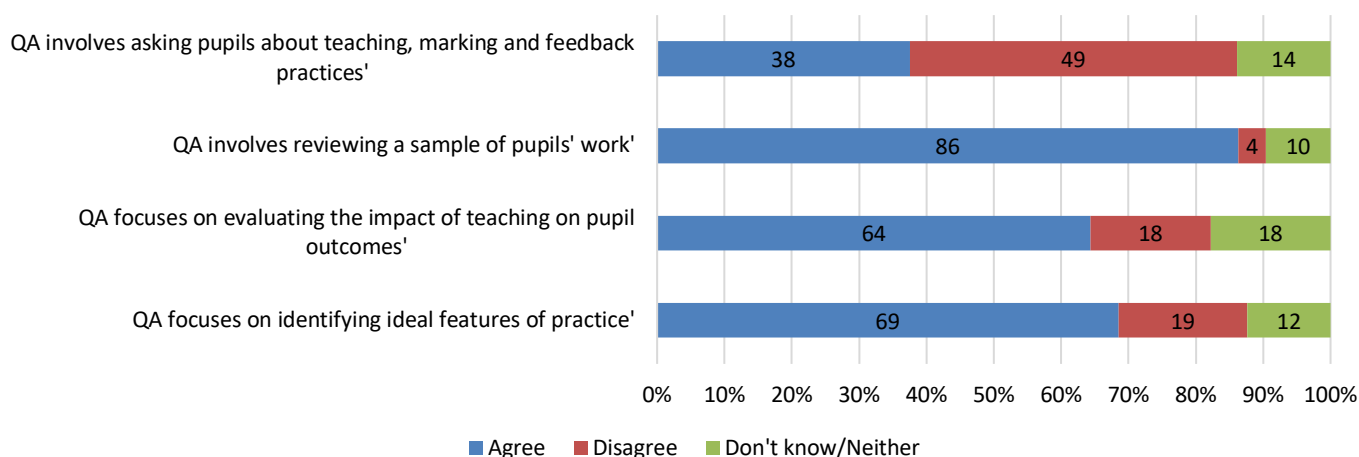

Note: n = 462 teachers, n = 73 heads of science; percentages have been rounded to integers and therefore may not sum to 100.

This suggests that Leadership Lite practices had the potential to change BAU and would be distinct from practices occurring prior to randomisation, for example, by reducing or removing formal observations of teachers by senior colleagues and increasing the frequency of teachers observing their peers.

Heads of science were asked in the survey about quality assurance in the science department. They were asked to what extent certain practices were typical in their science department.

Figure 5: QA approaches in intervention and control schools

To what extent are the following approaches to QA typical in the science department?

Note: n = 73 heads of science; percentages have been rounded to integers and therefore may not sum to 100.
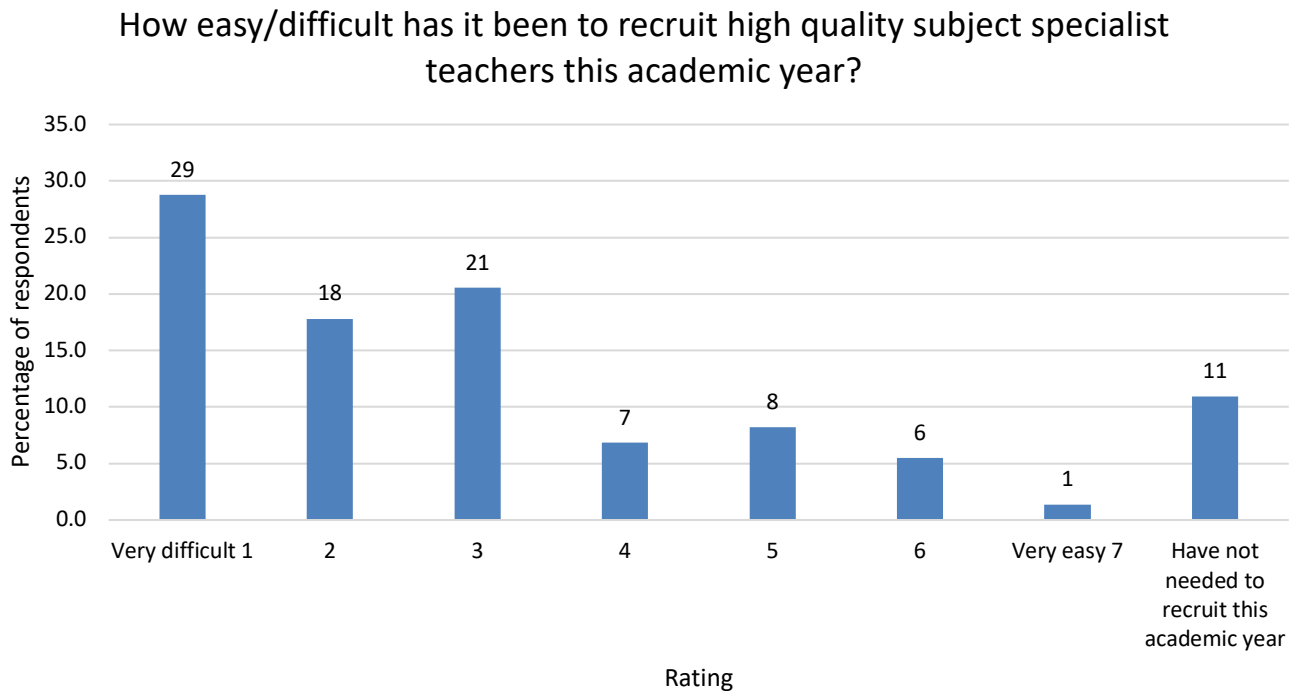
Figure 5 suggests that the QA practices Leadership Lite was aiming to change were widespread in intervention schools at baseline.

Heads of science were also asked about whether they had any vacant posts that they had been unable to fill with a permanent subject specialist teacher. A total of 21 respondents (28.8%) indicated that they had an unfilled post. Of

these, 66.7% had one unfilled post, 14.3% two , 9.5% three, and 9.5% had five unfilled posts. Regarding the length of time the posts had been unfilled, 23.8% reported the post(s) had been unfilled for one term, 28.6% for two terms, 28.8% for one year, 9.5% between one and two years, and 9.5% reported more than two years.

Finally, heads of science were also asked how easy or difficult it had been to recruit high quality subject specialist science teachers this academic year, on a seven-point scale. Responses are shown in Figure 6.

Figure 6: Difficulty of recruitment in the 2019/2020 academic year in intervention and control schools at baseline

How easy/difficult has it been to recruit high quality subject specialist teachers this academic year?

Note: n = 73 heads of science; percentages have been rounded to integers and therefore may not sum to 100.

The high number of respondents with at least one unfilled post and retention challenges is to be expected as schools struggling with retention would have been likely to sign up for the trial. Had the trial proceeded as planned, it would have provided evidence on whether Leadership Lite had made an impact on teacher recruitment and retention. As it stands, this suggests that recruitment of specialist science teachers was an issue for the participating schools.

BAU practices were also gathered from case study interviews. Practices reported in the staff interviews that had been implemented to try to encourage teacher recruitment and retention included:

- strong middle leaders; appointing a head of each key science subject; giving staff responsibility;

- sequencing of the curriculum and planning lessons ahead;

- increased feedback to pupils but 'not endless marking';

- socialising to build team/relationships;

- pastoral support with discipline issues;

- weekly CPD sessions; CPD on in-class assessments; and

- pushing to reduce workload—for example reducing number of reporting periods per year.

It should be noted that some of these reported practices differ from the pre-trial practices assumed by the Leadership Lite logic model (see Table 2 and Figure 1). This has implications for the intervention as if the common practices that Leadership Lite aims to change are not occurring in most schools, any impact of the intervention would be minimal.

However, evidence from surveys detailed above does suggest occurrence of some of the common practices identified by Leadership Lite as potentially burdensome and demotivating, such as regular observations from SLT members. The question asked in interviews was to heads of department and SLT members and focused on what strategies had been adopted to encourage retention and recruitment, rather than a simple report of BAU practices, which may have influenced the emphasis of these responses. It should also be noted that these are based on interviews with a small number of interviewees.

Exploratory analysis of the survey

The factor analysis of items in question ten from the surveys (see Appendix E) yielded two factors: 'workload' and 'job satisfaction and intention to stay (in teaching)'. Workload has been positively scored, to reflect staff feeling able to manage their workload. The statistic presented in the section below is Pearson's correlation coefficient ®.

The two factors (workload, and job satisfaction and intention to stay) were positively and moderately correlated (r = 0.420, $p < 0.05$, n = 531). This suggests that teachers who feel able to manage their workload also have a greater sense of satisfaction in their job and they intend to stay in teaching. Distribution scores for each factor can be found in Appendix E.

Question 5 on the science teacher survey asked about their approach to science teaching practices by responding to statements, on a scale from 1 (strongly disagree) to 7 (strongly agree). Five items loaded onto one factor, 'science teaching practices'. These teaching practices are those recommended by Leadership Lite. Details about this factor can be found in Table E3 in Appendix E.

This factor was significantly positively correlated with workload (r = 0.132, $p < 0.05$, n = 457). There was also a significant positive correlation between this factor and job satisfaction and intention to stay (r = 0.218, $p < 0.05$, n = 457). This suggests that, at baseline, there is a relationship between teachers conducting these Leadership Lite-recommended science teaching practices and feeling able to manage their workload, having job satisfaction, and intending to stay.

Question 7 in the science teacher survey asked teachers about their feelings about the senior leadership team by responding to statements on a scale from 1 (strongly disagree) to 7 (strongly agree). Eight items loaded onto one factor, 'leadership practices'. These are leadership practices recommended by Leadership Lite. Details about this factor can be found in Table E4 in Appendix E.

This factor was significantly positively correlated with a manageable workload (r = 0.427, $p < 0.05$, n = 457). There was also a significant positive correlation between school leadership quality and job satisfaction and intention to stay (r = 0.509, $p < 0.05$, n = 457). This suggests that senior leadership practices recommended by Leadership Lite are related to having a manageable workload, job satisfaction, and intention to stay; this is in line with previous research (Lynch et al., 2016; Sims and Jerrim, 2020). This evidence supports the logic model and the core underlying principles of Leadership Lite: to create a leadership of change that is collaborative and focused on CPD to improve teacher retention.

Individual and collaborative lesson planning (survey questions 3a and 3b, head of science and science teacher surveys)

There was a small, statistically significant positive correlation between *a department emphasis on planning lessons collaboratively* and a more manageable workload (r = 0.093, $p < 0.05$, n = 531). There was also a significant positive but weak correlation between a respondent's perception of *the department's emphasis on planning lessons collaboratively* and an individual's job satisfaction and intention to stay (r = 0.182, $p < 0.05$, n = 531).

A department's emphasis on summarised lesson plans (rather than detailed lesson plans) had a positive but weak correlation with a more manageable workload (r = 0.133, $p < 0.05$, n = 520). However, the correlation between this practice and job satisfaction and intention to stay was not statistically significant.

Taken together, this provides some tentative suggestion that the Leadership Lite classroom practices outlined in the logic model (including collaborative planning) appear to be related to teachers feeling more able to manage their workload and having higher job satisfaction and intending to stay. Summarised lesson plans were positively correlated with teacher workload but the correlation with job satisfaction and their intention to stay was not statistically significant. Note that all significant correlations were very weak and thus should be interpreted with caution.

Pupil assessment and feedback (survey questions 4a, 4b, and 4c, head of science and science teacher surveys)

The baseline surveys provided no evidence of a significant positive correlation between methods of assessment (teacher assessment, pupil self-assessment, and pupil peer assessment) and workload or job satisfaction and intention to stay.

There was no evidence of a significant correlation between type of feedback (written or verbal) and workload or with job satisfaction and intention to stay.

There was also no significant positive correlation between a focus on how students can improve (rather than giving praise and identifying strengths of student work) and workload or job satisfaction and intention to stay.

This evidence offers little to support the marking and feedback component of the Leadership Lite logic model. There is no link between feedback methods and the intermediate outcomes, although it is important to point out that the Leadership Lite logic model suggests that a *mixture* of assessment methods (teacher, self, and peer) would lead to the intermediate and long-term outcomes. The evidence here is limited to correlational, observational data and not causal and thus, without accompanying impact data from the trial, must be interpreted with caution.

Conclusion

As a result of the Covid-19 pandemic, Cohort 1 schools were closed on two occasions, for lengthy durations, during the intervention delivery period. Therefore, it was not possible for intervention schools to continue with the programme delivery. At the same time, the Government announced that the 2021 GCSEs would be teacher-assessed rather than assessed by examination, which affected the trial as GCSE scores were intended to be one of the secondary outcomes. Given these disruptions in programme delivery and implementation and the inability to collect reliable secondary attainment data, it was jointly decided by the EEF, NFER and BHCET to cancel this trial and discontinue all remaining evaluation activities. Due to the trial cancellation, findings of this report are limited to the insights gathered at baseline and during the early stages of implementation. The baseline survey findings indicated that the recruitment of science teachers was a challenge for a third of participating schools at the time of intervention delivery, which made Leadership Lite highly relevant as it aims to increase science teacher retention by reducing their workload.

Whilst no firm conclusions can be made due to data being limited to case studies with only Cohort 1 at baseline, the initial tentative implementation and process evaluation findings indicated that the school staff perceived the CPD sessions and materials to be relevant to their needs and of high quality. The fidelity, adherence, and responsiveness were moderate. However, compliance during the first two terms (of Cohort 1) was low, with only four of the 40 schools meeting compliance criteria. The reasons for this were not able to be explored due to the cancellation of the trial and the absence of endpoint interviews that would have provided in-depth, qualitative information. Ways to maximise compliance should be fully considered for future trials.

The survey findings indicated that some specific practices identified by Leadership Lite were positively associated with science teachers' manageable workload, job satisfaction, and their intention to stay in teaching. Baseline survey and interviews suggested that the pre-trial practices in schools were distinct from those in Leadership Lite, though information is limited on whether the assumptions of Leadership Lite about schools' pre-trial practices were fully accurate. This supports some of the assumptions in the intervention's theory of change and suggests that it had the potential to influence the intended outcomes in the intervention schools, had the evaluation activities continued.

References

Adey, P. and Shayer, M. (1994) *Really Raising Standards: Cognitive Intervention and Academic Achievement*, London: Routledge.

Bailey, D. M. (unpublished) 'Reducing teacher workload in science using the Leadership Lite approaches'.

Black, P. and Wiliam, D. (1998) 'Inside the Black Box: Raising Standards Through Classroom Assessment', *Phi Delta Kappan,* 80 (2), pp. 139–144, 146–148. http://dx.doi.org/10.1177/003172171009200119

Coe, R., Aloisi, C., Higgins, S. and Major, L .E. (2014) 'What Makes Great Teaching? Review of the Underpinning Research': https://www.suttontrust.com/wp-content/uploads/2014/10/What-Makes-Great-Teaching-REPORT.pdf

Driver, R., Squires, A., Rushworth, P. and Wood-Robinson, V. (1994) *Making Sense of Secondary Science: Research Into Children's Ideas*, London: Routledge.

Goleman, D. (2000) *Leadership That Gets Results*, Massachusetts: Harvard Business Review.

Hattie, J. and Timperley, H. (2007) 'The Power of Feedback', *Review of Educational Research*, 77 (1), pp. 81–112. https://doi.org/10.3102/003465430298487

Hattie, J. C. (2009) *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*, London: Routledge.

Hill, A., Mellon, L., Laker, B. and Goddard, J. (2016a) 'The One Type of Leader Who Can Turn Around a Failing School': https://hbr.org/2016/10/the-one-type-of-leader-who-can-turn-around-a-failing-school

Hill, A., Mellon, L., Goddard, J. and Laker, B. (2016b) 'How to Turn Around a Failing School': https://hbr.org/2016/08/how-to-turn-around-a-failing-school

Joyce, B. and Showers, B. (2002) 'Student Achievement Through Staff Development': https://www.unrwa.org/sites/default/files/joyce_and_showers_coaching_as_cpd.pdf

Lynch, S., Worth, J., Bamford, S. and Wespieser, K. (2016) 'Engaging Teachers: NFER Analysis of Teacher Retention': https://www.nfer.ac.uk/publications/lfsb01/lfsb01.pdf

House of Commons Committee of Public Accounts (2018) 'Retaining and Developing the Teaching Workforce': https://publications.parliament.uk/pa/cm201719/cmselect/cmpubacc/460/460.pdf

Quigley, A., Muijs, D. and Stringer, E. (2018) 'Metacognition and Self-Regulated Learning: Guidance Report', London: Education Endowment Foundation. https://educationendowmentfoundation.org.uk/tools/guidance-reports/metacognition-and-self-regulated-learning/

Sadler, D. R. (1989) 'Formative Assessment and the Design of Instructional Systems', *Instructional Science*, 18, pp. 119-144. http://dx.doi.org/10.1007/BF00117714.

See, B. H., Morris, R., Gorard, S., Kokotsaki, D. and Abdi, S. (2020) 'Teacher Recruitment and Retention: A Critical Review of International Evidence of Most Promising Interventions', *Education Sciences*, 10 (10), p. 262. https://doi.org/10.3390/educsci10100262.

Shute, V. (2008) 'Focus on Formative Feedback', *Review of Educational Research*, 78 (1) p. 153. https://doi.org/10.3102/0034654307313795.

Sims, S. and Jerrim, J. (2020) 'TALIS 2018: Teacher Working Conditions, Turnover and Attrition', Statistical Working Paper: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/919063/TALIS_201 _teacher_working_conditions_turnover_and_attrition.pdf

Timperley, H., Wilson, A., Barrar, H. and Fung, I. (2007) 'Teacher Professional Learning and Development Best Evidence Synthesis Iteration': http://www.oecd.org/education/school/48727127.pdf

Walker, M., Worth, J. and Van den Brande, J. (2019) 'Teacher Workload Survey 2019', Department for Education: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/855933/teacher_workload_survey_2019_main_report_amended.pdf

Worth, J. and De Lazzari, G. (2017) 'Teacher Retention and Turnover Research – Research Update 1: Teacher Retention by Subject', National Foundation for Educational Research: https://www.nfer.ac.uk/media/2044/nufs01.pdf

Worth, J. (2020) 'Teacher Labour Market in England: Annual Report 2020', National Foundation for Educational Research: https://www.nfer.ac.uk/media/4063/tlm_annual_report_2020.pdf

Appendix A: Recruitment material

Randomised Controlled Trial of
Leadership Lite: Information for schools

What is Leadership Lite?

Leadership Lite is a whole-school leadership development and school improvement intervention that aims to reduce teacher workload and increase teacher satisfaction and, ultimately, improve teacher retention in the profession. The programme, delivered over two years, focuses on three aspects of teaching and leadership provision: quality assurance procedures; marking and feedback; and classroom practice. Leadership Lite has been piloted within maths departments in a small number of schools in the North East of England. This trial will focus on supporting developments within the science departments and will offer the training to a larger number of secondary schools in England.

How is it delivered?

Leadership Lite was developed and piloted by Carmel Education Trust (CET) – a Multi-Academy trust and Teaching School in the North East of England. Leadership Lite is delivered by a network of Specialist Leaders in Education (SLEs) and/or consultants from Science Learning Partnerships to provide locally-based support to clusters of schools. Leadership Lite training is delivered through a mixture of face-to-face external training sessions, in-school training, network meetings and support materials and activities. The intervention uses a series of evidence-based school improvement strategies that have workload reduction as a core principle. Training is provided to: governors/senior leaders; middle leaders (heads of science); science teachers; and newly qualified and early career science teachers. Training and local support meetings for schools will take place termly over the course of the two-year programme.

What are the aims of the evaluation?

Leadership Lite is being evaluated through a randomised controlled trial (RCT) to explore the impact of the programme on teacher retention in the profession. The trial will also investigate the impact of the programme on teacher retention in the school; teacher workload and job satisfaction; pupil GCSE science attainment; and pupil progression to science A level study. The trial will also explore the effectiveness of programme delivery to enable replication and application to other subject areas and in more schools across the country.

Leadership Lite is being offered to secondary schools in the North of England and surrounding areas. All secondary schools in the North of England and surrounding areas will be eligible to take part in the trial.

Who is conducting the trial?

The Education Endowment Foundation (EEF) and Wellcome Trust are funding the delivery and evaluation of Leadership Lite. Carmel Education Trust (CET) is overseeing the delivery of the programme and the National Foundation for Educational Research (NFER) is independently evaluating the programme.

What will the trial involve for schools?

Joining the trial: The trial will involve 70 secondary schools in Cohort 1 (2019-2021) and 70 secondary schools in Cohort 2 (2021-2023). Each school will nominate a lead contact to be the point of contact for the trial and senior leader, middle leader, teacher and governor training recipients, and will sign a Memorandum of Understanding (MoU), which should then be returned to CET. Cohort 1 schools will need to sign the MoU by March 2019, and Cohort 2 schools by March 2021.

Baseline data: Schools will identify the head of the science department and **all current teaching staff in the school responsible for teaching science**. For the purposes of the trial, we would like to include all teachers who teach any

science subject/s[6] to any year group for over 50 per cent of their total teaching time, for a minimum of four hours per week for part-time staff. This should include science teaching staff on roll who are on Maternity Leave. Supply teachers will not be included in the trial. The senior leader will be asked by NFER to complete a spreadsheet to provide brief information on the head of science and each science teacher including: teacher name, Teacher Reference Number (TRN), Date of Birth, role in science department, school contact email and personal contact email.

At this time, we will ask schools to share information about the trial with all prospective participants in their school, and to notify science teachers of their right to withdraw from the evaluation and matching their personal data with the School Workforce Census. If teachers withdraw prior to NFER receiving their data, schools will be responsible for excluding their data from the spreadsheet. If teachers withdraw after their data has been collected, the individual teacher or the lead contact for the school will need to inform NFER, who will delete their data.

Where a school has an unfilled vacancy for science, there will be an opportunity to update NFER with details of newly recruited science teachers prior to the start of the intervention once the post is filled. If a science teacher leaves the school after their information has been provided to NFER and prior to the start of the trial, schools will need to update NFER and we will delete the teacher's data.

The head of department and science teachers will then be asked by NFER to complete a short online baseline survey exploring current practices associated with school culture and leadership, subject leadership, quality assurance of teaching, marking and assessment, planning and classroom practice, and workload. Schools will be required to provide science teacher details and complete the baseline surveys in order to be randomised. Cohort 1 schools will need to complete baseline surveys by April 2019, and Cohort 2 schools by April 2021.

Schools will then be **randomly allocated** by NFER to either the intervention group or the control group. Schools will be informed of their group in May 2019 (Cohort 1) and May 2021 (Cohort 2). Intervention group schools will receive the Leadership Lite programme for two-years starting in September 2019 (Cohort 1). Control group schools will continue with their usual practices (i.e. business as usual) during the trial period. Control schools will receive a payment of £1,500 following completion of data collection activities in lieu of the intervention itself (July 2021 for Cohort 1 and July 2023 for Cohort 2). The trial will then be repeated for another group of schools from September 2021 (Cohort 2).

Participation data: the lead contact for the trial in each intervention school will be asked to complete simple termly Management Information (MI) logs about the school's participation in the programme (e.g. external training sessions attended, in-school training attended, network meetings attended).

Follow-up data: The head of science and science teachers in both intervention group and control group schools will be asked to complete a short online follow-up survey at the end of the intervention period (i.e. Summer term 2021 for Cohort 1 schools; Summer term 2023 for Cohort 2 schools). The follow-up survey will repeat the questions asked at baseline, plus ask additional questions about Leadership Lite or Business as Usual, as applicable. **It is important to have data about every teacher in the trial at baseline and follow-up.**

Observations and case-studies: Some sessions of Leadership Lite training will be observed by the evaluation team. Case-study visits will be conducted in six intervention schools at the start and end of the programme to gather further information on the implementation of Leadership Lite through interviews with senior leaders, governors, heads of science and science teachers.

Matching to administrative records for analysis: The list of science teachers in each school (intervention and control) will be **matched to the School Workforce Census** (SWC), a database maintained by the Department for Education, using Teacher Reference Numbers. The purpose of this is to analyse the impact of the intervention on science teacher retention. We will also analyse (anonymised) pupil GCSE attainment in science and progression to science A levels using the **National Pupil Database** (NPD).

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[6] For the purposes of the trial, science subjects include: Biology; physics; chemistry; general/combined science; and applied science.

What will the Leadership Lite intervention involve?

Schools that are assigned to the 'intervention' group will receive the Leadership Lite programme for two years. For each participant the programme will involve:

- **Senior leaders and governors:** termly training sessions in the first year (three half day training sessions) and termly twilight network sessions in the second year.

- **Middle leaders/Heads of Science:** termly training sessions in the first year (three full day training sessions) and termly twilight network sessions in the second year.

- **Science teachers/NQTs:** support will be tailored to the developmental priorities identified by each school, though is likely to involve termly twilight training sessions in the first year (three twilight training sessions) and termly twilight network sessions in the second year.

In the second year of the programme, 'catch-up' training sessions will be offered for any new staff or staff who missed the training in the first year of the programme, as required.

Each participant should therefore experience a minimum of three training events and three network sessions over the two-year programme. In addition to attending training and networking events, each participant will be expected to engage with gap tasks and use the course materials. Training session will take place in local clusters, within approximately one hour travel time from each school. In-school training for the department will also be provided.

Schools that are assigned to the 'control' group will continue with their usual professional development during the trial period.

How will schools and teachers benefit from taking part in the trial?

All schools in the trial will contribute to the evidence base on what works in staff leadership approaches, workload-reduction practices and teacher satisfaction and retention. Schools and teachers allocated to the intervention group will have the opportunity to benefit from the training and support offered through the Leadership Lite programme. Schools and teachers in control schools will not receive Leadership Lite during the trial period as the impact on teacher retention will need to be tracked longer term, however, they will receive a compensatory payment of £1,500 per school for their engagement in data collection activities. The findings of the trial will be published in a final report in Spring 2025.

How will NFER use and protect the data collected?

Data collected during the evaluation (management information logs, survey responses at baseline and end-point and case study observations) will be used to explore Leadership Lite's impact on teacher retention and the programmes other aims (see above). Administrative data about participating teachers will also be accessed from the School Workforce Census. There will be no direct pupil data collection as part of the trial and the NPD analysis will be conducted on anonymised pupil data, without identifying individual pupils. Further matching to NPD data may take place during subsequent research.

All data gathered during the trial will be held in accordance with the Data Protection Act 2018, and the General Data Protection Regulation (GDPR). The legal basis for processing personal data is covered by GDPR Article 6 (1) where our legitimate interest for processing personal data is to administer the trial and analyse its data. The data will be treated in the strictest confidence by NFER and CET. **No school, teacher or pupil will be named in any report arising from this work.**

School and teacher-level information for the trial will be shared securely between NFER and CET using a secure data exchange portal. All teacher-level information collected by NFER will be stored securely. After three months of the completion of the project, all of the above data will be shared with EEF, EEF's data archive partner and in an anonymised form with other research teams and potentially the UK Data Archive.

A Privacy Notice for the study is available here: https://www.nfer.ac.uk/media/3287/eell_privacy_notice.pdf

What happens if a school or teacher wants to withdraw from the trial?

Schools or teachers can withdraw from the Leadership Lite programme at any point. However, it is important for a randomised trial to collect information from the full range of participants, which means that it is really helpful if we can collect data about all schools and teachers who are taking part, even if they do not attend all of the programme. NFER and CET really appreciate schools' and participants' support for data collection. They will handle all personal in accordance with the rights given to individuals under data protection legislation – details of how to withdraw or correct data, restrict or object to its processing are provided in the privacy notice.

How will the findings be used?

The findings from the trial will be freely available on NFER's and EEF's websites in Spring 2025. They will be used to inform the development of the Leadership Lite programme, and contribute to the broader evidence base on teacher retention.

Who to contact?

For further information about Leadership Lite, please contact David Bailey at CET on dbailey@carmel.org.uk. For further information about the trial and data collection, please contact Max Falinski on ScienceRCT@nfer.ac.uk

Randomised Controlled Trial (RCT) of Leadership Lite

Reply Form and Memorandum of Understanding (MoU)

If you would like to participate in the RCT of Leadership Lite, please read and sign this reply form and Memorandum of Understanding (MoU) and either email it to Sarah McGee at **smcgee@carmel.org.uk** or post to: Sarah McGee, R&D Project Officer, Carmel Education Trust, Carmel College, Darlington, DL3 8RW.

Please retain a signed copy of the document for your own reference. Once we have received your signed form and MoU, NFER will ask you to upload the names and details of all science teachers in your school to a secure project portal (please see further details below).

School Name:	

Name of senior leader nominated as Leadership Lite key contact in the school:

Title: ....

Name: ....

Job title: ……………………………………………………..................

Contact phone number: ………………………………………………………………

Contact email address: ………………………………………………………………

Best time to contact you: ....

Memorandum of Understanding

The following outlines what NFER and CET expect of schools and teachers taking part in the trial. Please read the following statements and sign below to confirm that you have read the document.

Our overall expectations of the school:

- The school must allocate a named contact to the trial to work with NFER and the Leadership Lite Team (guidance can be provided on who this should be by the team at Carmel Education Trust – please contact leadershiplite@carmel.org.uk). The named contact should have sufficient capacity to be able to respond promptly to requests and facilitate requirements as appropriate. If they leave the school or are no longer able to meet the requirements for the role, NFER must be promptly informed of this, and provided with details of a replacement contact.

- Schools will be randomly assigned to either an intervention or a control group[7]. The trial is to be delivered in academic years 2019-2021 (Cohort 1) and 2021-2023 (Cohort 2). Schools can only sign up for one cohort of the programme. If a school is assigned to the control group they will not be able to join Cohort 2 as the trial will compare teacher retention rates in intervention and control schools beyond the intervention delivery period.
- All data required by the evaluation team in relation to the trial must be provided in a timely fashion.
- For the purpose of research, information about your teachers will be accessed from the School Workforce Census and anonymised information about your pupils will be accessed from the National Pupil Database (held by the Department for Education) .This data will be shared with NFER, Carmel Education Trust, the EEF, DfE, EEF's data archive partner and, in an anonymised form, to the UK Data Archive. Your school's and teachers' data will be treated with the strictest confidence. None of these named parties will use teacher names or the name of the school in any report arising from the research.

Specific expectations of all schools

- The named contact for the trial will provide details of all science teaching staff in school, including: name, Teacher Reference Number (TRN), Date of Birth (DoB), role in science department, school and personal contact email address. For the purposes of the trial, we would like to include all teachers who teach any science subject/s to any year group for over 50 per cent of their timetable, for a minimum of 4 hours per week for part-time staff. Please do not provide this information yet; once we receive your signed reply form and MoU, NFER will ask you to upload these teacher details via a secure portal.
- The head of the science department and science teaching staff (in intervention and control schools) will complete an online baseline survey prior to the start of the trial and an online endpoint survey at the end of the two-year trial period. The questionnaire will take no more than 10 minutes to complete.

Expectations of schools allocated to the Intervention group

- The school will commit to participate in the Leadership Lite training programme which will involve termly activities for two years, including training sessions in local clusters and in school, use of programme resources and materials as recommended, gap tasks to support the implementation of the practices advocated, and local cluster network meetings.
- Participation in the programme will involve as many staff as possible from the science department, as well as a minimum of at least one school senior leader and one governor.
- The school will enable the selected staff members to have sufficient time to undertake the programme.
- The named contact will complete simple termly Monitoring Information (MI) logs to record participation in the programme's activities.
- For each participant the programme will involve:

  - **Senior leaders and governors:** termly training sessions in the first year (three half day training sessions) and termly twilight network sessions in the second year.
  - **Middle leaders/Heads of Science/Lead Teachers:** termly training sessions in the first year (three full day training sessions) and termly twilight network sessions in the second year.
  - **Science teachers/NQTs:** support will be tailored to the developmental priorities identified by each school, though is likely to involve selected teachers attending three full day training sessions and other teachers engage with the in-school support and twilight training sessions across the two years.

    In the second year of the programme, 'catch-up' training sessions will be offered for any new staff or staff who missed the training in the first year of the programme, as required.

Each participant should therefore experience a minimum of three training events and three network sessions over the two year programme. In addition to attending training and networking events, each participant will be expected to engage with gap tasks, in school support and use the course materials.

Expectations of schools allocated to the Control group

- Senior leaders, governors, the head of science and science teaching staff and teaching assistants will continue with Business as Usual practice during the trial period, including normal professional development activities.

Timetable of Activities for Schools

Date	Activity
Jan 2019 – April 2019 **All schools**	**Sign-up to take part in the trial** • Return reply form and signed Memorandum of Understanding to Carmel Education Trust • Schools retain a copy of the reply form and MoU for their records Once prompted, schools provide NFER with lists of all science teaching staff in the science department via a secure portal **Baseline data collection** • NFER Head of Science department online baseline survey covering: • Current practices associated with school culture and leadership; subject leadership; quality assurance of teachers; marking and assessment; planning and classroom practice; workload. • NFER science teacher online baseline survey covering: • Current practices associated with school culture and leadership; subject leadership; quality assurance of teachers; marking and assessment; planning and classroom practice; workload. *Only when a school has completed all the above steps have they completed the sign up process.* At this point schools will receive a confirmation email from NFER/CET confirming that their school will go forward to randomisation.
May 2019 **All schools**	**Schools randomly allocated** to the intervention or control group. • Schools will receive an email during the summer term confirming which group they have been allocated to and what the next steps will be.
July - September 2019 **All schools**	**Schools provide final lists of science teachers** and update CET and NFER with details of any newly recruited teachers.
Sept 2019 – July 2020 **Intervention schools**	**Delivery of Leadership Lite begins for Cohort 1 intervention schools** • Participate in Leadership Lite programme (with CET) • Observations of Leadership Lite training (by NFER) • Baseline case-study interviews in six schools during Autumn term 2019 (by NFER) • Complete termly MI logs about participation in the programme throughout the first year (administered by CET).
Sept 2019 – July 2020 **Control schools**	**Control schools continue with business as usual**
Sept 2020 – July 2021 **Intervention schools**	**Participation in Leadership Lite programme continues for Cohort 1** **Endpoint data collection for Cohort 1 intervention schools** • NFER Head of Science department online endpoint survey (Summer term 2021) covering: o Identical questions to those asked at baseline regarding leadership and teaching practices o Engagement with and experiences of Leadership Lite o Costs of engaging with Leadership Lite o Science staffing and turnover • NFER Science teacher online endpoint survey (Summer term 2021) covering: o Identical questions to those asked at baseline regarding leadership and teaching practices o Engagement with and experiences of Leadership Lite

	• Complete termly MI logs about participation in the programme throughout the second year (administered by CET). Endpoint case-study interviews in six schools during Summer term 2021 (by NFER)

April – July 2021
Control schools
	Control schools continue with business as usual
	
	Endpoint data collection for Cohort 1 control schools
	
	• NFER Head of Science department online endpoint survey (Summer term 2021) covering:
	    ○ Identical questions to those asked at baseline regarding leadership and teaching practices
	    ○ Business as usual development activities over the last two academic years
	• NFER Science teacher online endpoint survey (Summer term 2021) covering:
	    ○ Identical questions to those asked at baseline regarding leadership and teaching practices
	    ○ Business as usual development activities

Nov 2020 – July 2023	**Repeat recruitment, delivery and data collection with Cohort 2 schools**
July 2024 – March 2025	**Analysis of National Pupil Database (NPD) and School Workforce Census (SWC)** **Publication of final report**

Please read the following statements and sign at the bottom if you agree with the statements:
I confirm that I have read and understand the information provided about the trial, the Memorandum of Understanding and School Information Sheet. I have had the opportunity to ask questions, and have had these answered satisfactorily.

I understand that my school's participation is voluntary and that I am free to withdraw my school at any time, however I will let NFER know if I choose to withdraw from the trial.

I have read and understand the information provided in the Privacy Notice (available here: **https://www.nfer.ac.uk/media/3287/eell_privacy_notice.pdf**) about the purpose of the trial and how teachers' data will be used.

I agree to facilitate the activities involved in the trial as described above and in the School Information Sheet. I know whom I can contact if I have any concerns or complaints about the trial.

I agree that my school will take part in the above trial and I agree to the conditions stated in this Memorandum of Understanding (MoU).

Signed…………………………………

Print………………………………………

Position………………………………..

Date…………………………………

Once we have received your signed reply form and MoU we will send you a confirmation email confirming receipt and outlining the next steps.

Privacy Notice for Leadership Lite Randomised Controlled Trial

Controlled Trial

Update in light of COVID-19:

As a result of ongoing disruptions in schools due to COVID-19 pandemic, the decision has been taken to discontinue this Randomised Controlled Trial (RCT) of Leadership Lite after the partial completion of cohort 1 activities. As a result, further data gathering activities have been cancelled and the following processing activities will no longer take place:

- There will be no follow-up online surveys for science teachers and head of science in participating schools
- We will not recruit Cohort 2 schools
- No matching of teacher's data to the School Workforce Survey
- Data will not be archived to the EEF archive.

This privacy notice has been updated to reflect these changes.

NFER and Bishop Hogarth Catholic Education Trust (formerly known as the Carmel Education Trust or CET) will analysis the data collected up until March 2021 (prior to the discontinuation) to produce a brief report. This report will be publicly available.

Why are we collecting this data?

The National Foundation for Educational Research (NFER) and Bishop Hogarth Catholic Education Trust (formerly known as the Carmel Education Trust or CET) are collecting personal data to enable the evaluation of Leadership Lite using an RCT. Leadership Lite is a whole-school leadership development and school improvement intervention that aims to reduce teacher workload and increase teacher satisfaction and, ultimately, improve teacher retention in the profession. This trial will focus on supporting developments within science departments. The programme focuses on three aspects of teaching and leadership provision: quality assurance procedures; marking and feedback; and classroom practice.

The original aim of the RCT was to measure the impact of Leadership Lite on science teacher retention in the profession. The project also included interviews and observations to find out about participants' views on the programme and explore how well it was implemented.

As the RCT has been discontinued, the brief report will summarise and report findings from the activities that were undertaken. This will include how the schools were recruited and randomised to the trial, analysis of baseline surveys completed by all schools, an account of intervention delivery and findings from NFER's interviews and observations.

Although the RCT has been discontinued, BHCET will deliver the programme virtually to schools who want to continue with it and invite these schools to take part in case studies should they wish to. They will also invite all cohort 1 schools (in both intervention and control groups) to an 'end of programme' conference, likely to be in July 2021.

Who is this research project funded by?

The Education Endowment Foundation (EEF) and the Wellcome Trust are funding the delivery and evaluation of Leadership Lite. Bishop Hogarth Catholic Education Trust (BHCET) is overseeing the delivery of the Leadership Lite programme and the National Foundation for Educational Research (NFER) is independently evaluating the programme. NFER and BHCET are joint data controllers for this evaluation. Specialist Leaders in Education (SLEs) and consultants from Science Learning Partnerships will act as Leadership Lite delivery partners and are data processors.

What is the legal basis for processing activities?

The legal basis for processing personal data is covered by:

> GDPR Article 6 (1) (f) which states that 'processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of the personal data'.

We have carried out a legitimate interest assessment, which demonstrates that the RCT fulfils the legitimate interests of the joint data controllers (for NFER undertaking research, evaluation and information activities is one its core business purposes and for BHCET it will help improve and develop their programme). It has broader societal benefits and will contribute to the evidence base for improving teacher retention in the profession. The evaluation cannot be done without processing personal data but processing does not override the data subject's interests.

How will personal data be obtained?

BHCET is responsible for school recruitment for this trial. They collected the following personal data:

- The trial invitation reply form and Memorandum of Understanding (MoU), which all schools sign as they join the trial. This will include name, role and contact details of a key contact person.
- Leadership Lite Monitoring Information (MI) logs (also known as participation data) on training and meeting attendance, and regular updates of participants' contact details.
- Developers' and providers' names, contact details, job titles/roles, organisation type

They shared this data with NFER via NFER's secure data portal.

NFER collected the following personal data from schools:

- head of science and teacher details to be uploaded to NFER's secure data portal
- online questionnaires completed by the head of science and science teachers
- observations of Leadership Lite training
- case-study telephone and face-to-face interviews with school senior leaders, governors, heads of science and science teachers.

NFER administered online questionnaires via Questback. Questback's privacy statement can be found at https://www.questback.com/data-privacy/.

NFER conducted telephone interviews with Leadership Lite developers (BHCET) and providers (Specialist Leaders in Education and training consultants).

Due to the discontinuation of the trial, NFER will not collect any further data from schools.

BHCET will invite cohort 1 intervention schools (who are continuing with Leadership Lite) to take part in case studies should they wish to.

What personal data is being collected by this project?

Personal data processed for this RCT is described below:

- Personal identifiers, contacts and characteristics of teachers and heads of science including names, job title/role, Teacher Reference Number (TRN), date of birth, school and personal contact email address, length of time in teaching, subject taught and degree specialism.

- Teachers' and heads' of science views about the Leadership Lite programme, leadership and teaching practices, workload and job satisfaction and costs of school participation.

- Senior leaders' and governors' views about the Leadership Lite programme and leadership and teaching practices.

- Developers' and providers' names, contact details, job titles/roles, organisation type and views about the programme.

Case studies undertaken by BHCET will collect teachers' and science leaders' views about the Leadership Lite programme.

Who will personal data be shared with?

School names, key contact person's details and MI logs (also known as participation data) were shared securely between NFER and BHCET (including BHCET Leadership Lite delivery partners, such as SLEs and consultants from Science Learning Partnerships, where necessary) via a secure, password-protected portal.

The case study data collected by CET will not be shared with NFER.

Is personal data being transferred outside of the European Economic Areas (EEA)?

No personal data for this RCT is being stored or transferred outside of the EEA.

How long will personal data be retained?

NFER and BHCET will retain personal data for one year after the report publication (currently planned for July 2021) in case there are any queries about the report. One year after the report publication, all personal data will be securely deleted.

Any data collected prior to the discontinuation of the trial which will not be used in the brief report will be deleted as soon as possible.

Can I stop my personal data being used?

NFER and BHCET handle your personal data in accordance with the rights given to individuals under data protection legislation. If at any time you wish us to withdraw your data or correct errors in it, please contact Max Falinski on ScienceRCT@nfer.ac.uk or BHCET at leadershiplite@carmel.org.uk

In certain circumstances, data subjects have the right to restrict or object to processing. They also have the right to make a subject access request to see all the information held about them. NFER and BHCET will cooperate fully when a subject access request (SAR) is made. To exercise any of these rights, please contact NFER's Compliance Officer on compliance@nfer.ac.uk or BHCET's Data Protection Officer, Mr Julian Kenshole, Carmel Education Trust, The Headlands, Darlington, DL3 8RW, Tel: 01325 5234418 Email: jkenshole@bhcet.org.uk.

Who can I contact about this project?

NFER is responsible for the day-to-day management of the RCT. If you have any queries about the trial, please contact Max Falinski at NFER on ScienceRCT@nfer.ac.uk. BHCET is responsible for the delivery of Leadership Lite. If you have any queries about the delivery of the project, please contact David Bailey at BHCET on leadershiplite@carmel.org.uk.

If you have a concern about the way this project processes personal data, we request that you raise your concern with NFER and BHCET in the first instance (see the details above). If you remain dissatisfied, you can contact the Information Commissioner's Office, the body responsible for enforcing data protection legislation in the UK, at https://ico.org.uk/concerns/.

Last updated

We keep this privacy notice under review to make sure it is up to date and accurate. Any changes are be noted.

This privacy notice was updated on 24 March 2021. The update covered changes to personal data processing due to the discontinuation of the RCT.

It had previously been updated 10 December 2020 to cover the change of name for BHCET (formerly CET) and to clarify arrangements for archiving evaluation data to the EEF archive.

Appendix C: Evaluation of Leadership Lite: Science teacher baseline survey

Your role

	Q1				
1	**What is your current job role in the science department?** **Please note: if your role does not involve any direct classroom science teaching you do not need to complete this survey.**	*Please select one answer*	1.1	Classroom teacher of science/chemistry/physics/biology/other science	
			1.2	Head of a subject within science - chemistry/physics/biology/other science	
			1.3	Head/Director of science or acting Head/Director of science	
			1.4	Deputy/Assistant Head of science or Deputy/Assistant Director of science	
			1.5	Other role in the science department (please specify)	

Length of time in teaching

	Q2			
2	**How many years have you been in the teaching profession?**	*Please select one answer that describes the length of your whole teaching career from qualifying, excluding career breaks.*	2.1	First year of teaching (NQT)
			2.2	2-4 years
			2.3	5-9 years
			2.4	10-19 years
			2.5	20-29 years
			2.6	30 years or more

Your approach to planning science lessons

Q3	
Please indicate, using the sliding scales, the relative emphasis that you typically give to the following lesson planning approaches.	
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]	
Individual and collaborative lesson planning	
3a.1 I plan lessons on my own	
3a.2 I plan lessons in collaboration with colleagues	

Q3b	
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]	
Detailed and summarised lesson plans	
3b.1 Detailed lesson plans	
3b.2 Summarised lesson plans	

Your approach to science assessment and feedback

Q4	
Q4a. Please indicate, using the sliding scales, the relative emphasis that you typically give to the following assessment and feedback approaches. **If you use a combination of approaches, please indicate the proportion of emphasis you typically give to each approach. If your assessment and feedback approaches differ substantially by key stage, please respond thinking about Key Stage 3 specifically.**	
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]	
Teacher and pupil assessment	
4a.1 Teacher assessment (any form of teacher assessment)	

4a.2	Pupil self-assessment (pupils marking their own work)	
4a.3	Pupil peer-assessment (pupils marking each other's work)	

Q4b		
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]		
Written and verbal feedback		
4b.1	I provide feedback by writing comments on pupils' work	
4b.2	I provide feedback verbally, by discussing pupils' work with them	

Q4c		
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]		
Focus of feedback		
4c.1	My feedback to pupils focuses on giving praise and identifying the strengths of their work	
4c.2	My feedback to pupils focuses on identifying how pupils can improve their work	

Your approach to science classroom teaching

Q5										
	To what extent do you agree or disagree with the following statements?	*Please mark one choice in each row rating your response on a scale of 1 to 7, where 1 is 'Strongly disagree' and 7 is 'Strongly agree'*								
		Strongly disagree				Strongly agree				
		1	2	3	4	5	6	7	Don't know/ not sure	
5.1	My science lessons develop pupils' knowledge and understanding of how science fits with the real-world, everyday life and careers									
5.2	My science lessons develop pupils' knowledge, understanding and skills that are transferable to other subjects and areas of learning									
5.3	My science lessons are accessible and challenging for all pupils									
5.4	My pupils enjoy learning science									
5.5	My pupils are interested in studying sciences post-16									

How your science teaching is quality assured (QA)

		Q6						
Q6	**Thinking about how your science teaching is quality assured, on average how often do the following activities happen?** Please note: we use the acronym 'QA' throughout the survey as an abbreviation for 'Quality Assurance'							
		Please mark one choice in each row.						
		Every few weeks	Half-termly	Termly	Yearly	Every two years	Never	Don't know
6.1	My science lessons are observed, by a senior leader or the Head of department, for QA purposes							
6.2	I observe other science teachers' practice or they observe mine (e.g. peer observations, teacher learning walks, lesson demonstrations)							
6.3	I seek pupils' feedback on my lessons (e.g. focus groups, surveys, informal discussion)							
6.4	I am involved in moderating/ standardising my pupils' assessment results with colleagues in my department or in other schools							

Your views on school leadership

		Q7							
	To what extent do you agree or disagree with the following statements?	*Please mark one choice in each row rating your response on a scale of 1 to 7, where 1 is 'Strongly disagree' and 7 is 'Strongly agree'*							
		Strongly disagree					Strongly agree		
		1	2	3	4	5	6	7	Don't know/ not sure
7.1	The leadership of my school is based on a shared vision with a common goal								
7.2	The leaders in my school listen to staff views								
7.3	I feel trusted by the leaders in my school to do my job effectively								
7.4	The leaders in my school facilitate a culture of								

	collaborative working among colleagues							
7.5	The leaders in my school take account of staff strengths and weaknesses when planning for improvement							
7.6	The leaders in my school recognise workload challenges and support staff with managing workload and achieving a work/life balance							
7.7	The leaders in my school value professional development as a priority for all staff							
7.8	The leaders in my school aim to develop a breadth of outcomes for children such as academic, skills, character, and employability							

Your workload

Q8		
Q8	**Thinking about your most recent full working week, approximately how many <u>hours</u> did you spend working on any activities related to your job?** Please include any time spent working on your job during the day, weekends and evenings. Please round to the nearest hour.	[Enter approximate number of hours worked in a week] [maximum number 99]

Q9						
9.	**We would like to know what you think about the amount of time you spend on <u>particular</u> aspects of your job.** **<u>On average</u>, do you feel the amount of time you spend on the following activities is too little, too much or about right?**					
		Please mark one choice in each row.				
		Far too little	Too little	About right	Too much	Far too much	I don't do this
9.1	Planning lessons on my own						
9.2	Planning lessons in collaboration with colleagues						
9.3	Written marking/correcting pupils' work						
9.4	Providing verbal feedback to pupils about their work						
9.5	Dealing with pupil discipline, including detentions						
9.6	Time associated with lesson observations for QA purposes (e.g. preparation, follow-up, observing/being observed)						

9.7	Time associated with professional development activities (e.g. training, coaching, peer-observations)						

Satisfaction in your job and future plans

<table>
<tr><th colspan="10">Q10</th></tr>
<tr><td rowspan="3"></td><td rowspan="3">To what extent do you agree or disagree with the following statements?</td><td colspan="8"><i>Please mark one choice in each row rating your response on a scale of 1 to 7, where 1 is 'Strongly disagree' and 7 is 'Strongly agree'</i></td></tr>
<tr><td colspan="4">Strongly disagree</td><td colspan="3">Strongly agree</td><td rowspan="2"></td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>Don't know/ not sure</td></tr>
<tr><td>10.1</td><td>My workload is manageable</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10.2</td><td>I often feel stressed by the amount of work I have to do</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10.3</td><td>I am able to achieve a sustainable work/life balance</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10.4</td><td>I am satisfied with my job at this school</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10.5</td><td>I expect to stay in the <u><i>teaching profession</i></u> for at least the next three years</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10.6</td><td>I expect to stay teaching <u><i>at this school </i></u>for at least the next three years</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

Appendix D: Evaluation of Leadership Lite: Head of Science baseline survey

Your role

	Q1			
1	**Are you currently the Head/Director of science or acting Head/Director of science?**	*Please select one answer*	1.1	Yes
			1.2	No

Length of time in teaching

	Q2			
2	**How many years have you been in the teaching profession?**	*Please select one answer that describes the length of your whole teaching career from qualifying, excluding career breaks*	2.1	1-4 years
			2.2	5-9 years
			2.3	10-19 years
			2.4	20-29 years
			2.5	30 years or more

Practices in the science department – lesson planning

Q3	
Please indicate, using the sliding scales, the relative emphasis that is typically given to the following lesson planning approaches in the science department. **If science teachers use a combination of approaches, please indicate the proportion of emphasis typically given to each approach across the science department.**	
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]	
Individual and collaborative lesson planning	
3a.1 Teachers plan lessons on their own	
3a.2 Teachers plan lessons in collaboration with colleagues	
Q3b	
Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]	
Detailed and summarised lesson plans	
3b.1 Detailed lesson plans	
3b.2 Summarised lesson plans	

Practices in the science department – assessment and feedback

Q4
Q4a. Please indicate, using the sliding scales, the relative emphasis that is typically given to the following assessment and feedback approaches in the science department.   **If science teachers use a combination of approaches, please indicate the proportion of emphasis typically given to each approach across the science department. If assessment and feedback approaches differ substantially by key stage, please respond thinking about Key Stage 3 specifically.**

Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]		
	Teacher and pupil assessment	
4a.1	Teacher assessment (any form of teacher assessment)	
4a.2	Pupil self-assessment (pupils marking their own work)	
4a.3	Pupil peer-assessment (pupils marking each other's work)	

Q4b

Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]		
	Written and verbal feedback	
4b.1	Teachers provide feedback by writing comments on pupils' work	
4b.2	Teachers provide feedback verbally, by discussing pupils' work with them	

Q4c

Please use the slider to enter the approximate emphasis on each approach. [each approach on linked sliding scale of 0 to 100; sum to 100]		
	Focus of feedback	
4c.1	Teachers' feedback to pupils focuses on giving praise and identifying the strengths of their work	
4c.2	Teachers' feedback to pupils focuses on identifying how pupils can improve their work	

Practices in the science department – quality assurance (QA) of teaching

	Q5							
Q5	**Thinking about quality assurance of teaching and learning in the science department, on average how often do the following activities happen?** Please note: we appreciate there may be variability in the frequency of these activities for different staff, please try to think about how the frequency of these activities averages across staff. Please note: we use the acronym 'QA' throughout the survey as an abbreviation for 'Quality Assurance'.							
		Please mark one choice in each row.						
		Every few weeks	Half-termly	Termly	Yearly	Every two years	Never	Don't know
5.1	Science teachers have their lessons observed, by a senior leader or myself as the Head of department, for QA purposes							
5.2	Teaching staff in the department observe each other's practice (e.g. peer observations, teacher learning walks, lesson demonstrations)							
5.3	Teaching staff in the department seek pupils' feedback about lessons (e.g. focus groups,							

	surveys, informal discussion)							
5.4	Teachers moderate/standardise key pupil assessments as a department or with other schools							

Q6								
Q6	**To what extent are the following approaches to QA typical in the science department?**	*Please mark one choice in each row rating your response on a scale of 1 to 7, where 1 is 'Not at all' and 7 is 'To a great extent'*						
		Not at all				To a great extent		
		1	2	3	4	5	6	7	Don't know/ not sure
6.1	QA focuses on identifying ideal features of practice								
6.2	QA focuses on evaluating the impact of teaching on pupil outcomes								
6.3	QA involves reviewing a sample of pupils' work								
6.4	QA involves asking pupils about teaching, marking and feedback practices								

Science staffing, recruitment and retention

Q7a			
7a.	**In your department, do you currently have any posts that you have been unable to fill with a permanent subject specialist teacher?** Please note: by 'specialist' we mean a teacher with a degree or other higher qualification in the subject (or very closely related area) that they are teaching, or substantial experience of teaching the subject to at least GCSE level.	*Please select one option*	7a1. Yes (*filter to Q7b.*)
			7a2. No (*filter to Q7d.*)
Q7b			
7b.	**How many current posts have you been unable to fill with a permanent subject specialist teacher?**	*Please enter a number*	*Please enter a number*
Q7c			
7c.	**How long has/have the post/s been unfilled?** **Please note:** if you have more than one unfilled post, please answer for the post that has been unfilled by a permanent subject specialist teacher for the longest period of time. *Please select one option*		

One term	Two terms	One year	Between one and two years	More than two years

Q7d		
7d.	**How easy/difficult has it been to recruit high quality subject**	*Please mark one choice rating your response on a scale of 1 to 7, where 1 is 'Very difficult' and 7 is 'Very easy'*

	specialist teachers this academic year?	Very difficult					Very easy		Have not needed to recruit this academic year
		1	2	3	4	5	6	7	

Your own workload

Q8		
8.	**Thinking about your most recent full working week, approximately how many <u>hours</u> did you spend working on any activities related to your job?** Please include any time spent working on your job during the day, weekends and evenings. Please round to the nearest hour.	[Enter approximate number of hours worked in a week] [maximum number 99]

Q9						
9.	**We would like to know what you think about the amount of time you spend on <u>particular</u> aspects of your job.** **<u>On average</u>, do you feel the amount of time you spend on the following activities is too little, too much or about right?**					
		Please mark one choice in each row.				
		Far too little	Too little	About right	Too much	Far too much	I don't do this
9.1	Planning lessons on my own						
9.2	Planning lessons in collaboration with colleagues						
9.3	Written marking/correcting pupils' work						
9.4	Providing verbal feedback to pupils about their work						
9.5	Dealing with pupil discipline, including detentions						
9.6	Time associated with lesson observations for QA purposes (e.g. preparation, follow-up, observing/being observed)						
9.7	Time associated with professional development activities (e.g. training, coaching, peer-observations)						

Satisfaction in your job and future plans

Q10									
	To what extent do you agree or disagree with the following statements?	*Please mark one choice in each row rating your response on a scale of 1 to 7, where 1 is 'Strongly disagree' and 7 is 'Strongly agree'*							
		Strongly disagree					Strongly agree		
		1	2	3	4	5	6	7	Don't know/ not sure
10.1	My workload is manageable								

10.2	I often feel stressed by the amount of work I have to do								
10.3	I am able to achieve a sustainable work/life balance								
10.4	I am satisfied with my job at this school								
10.5	I expect to stay in the _teaching profession_ for at least the next three years								
10.6	I expect to stay teaching _at this school_ for at least the next three years								

Appendix E: Description of factor analysis undertaken on baseline surveys

Approach to factor analysis

Factor analysis is a statistical technique that summarises information from a number of survey items into a smaller set of reliable measures. It combines survey items that are correlated and assess the same underlying latent construct by grouping together question items that have similar patterns of responses. This enables more robust and straightforward analysis than reporting single items. We used the factors derived through this analysis to report the survey findings in this report.

Factor analysis was conducted in two stages. First, it was conducted on items that best described teachers' perceptions of workload, job satisfaction and intention to stay in teaching. Using head of science and science teacher surveys, this resulted in two factors, 'workload', and 'job satisfaction and intention to stay (in teaching)' (see Table E1 and E2 for the factors and their constituent items). Second, it was conducted on bespoke items found in the science teacher surveys that covered departmental practices and leadership. This resulted in two factors: 'Science teaching practices' and 'Leadership practices'. See Table E3 and E4 for the factors and their constituent items.

The survey items used to create factors were answered on a Likert scale (e.g. a 7-point agree-disagree scale). The response on the scale was converted to a score for each item, then combined to produce a mean score and score range for each of the factors. Any respondent that answered a third or less of the items entered into the factor analysis was removed from the analysis for the purpose of constructing the factors on a consistent set of responses. The remaining missing values for the items were given a mid-point on the scale for that item.

Factors were selected that met the following criteria:

- strong internal consistency of each factor which indicates reliability (indicated by Cronbach's Alpha value of 0.7 or higher)

- loadings above 0.3 which indicate an association between items and the underlying factors. The relationship of each item to a factor is expressed by a factor loading. Factor loadings are similar to correlation coefficients – a higher value on a range from -1 to 1 indicates a stronger correlation with the factor

- Eigenvalues greater than 1 which indicate strong validity of the factors (the additional variance explained by bringing items together into a single factor)

Tables E1 to E4 present the factors along with their constituent items, factor loading and the reliability measure of the factor.

Table E1 Factor 1: Workload

Reliability of measure: Alpha = 0.787	
Mean: -1.560, Standard deviation: 4.181	
Constituent items	**Loading**
To what extent do you agree or disagree with the following statements? My workload is manageable	0.876
To what extent do you agree or disagree with the following statements? I am able to achieve a sustainable work/life balance	0.810
To what extent do you agree or disagree with the following statements? I often feel stressed by the amount of work I have to do (item scoring was reverse coded)	0.519

Table E2 Factor 2: Job satisfaction and intention to stay

Reliability of measure: Alpha = 0.717	
Mean: 3.328, Standard deviation: 4.175	
Constituent items	**Loading**
To what extent do you agree or disagree with the following statements? I am satisfied with my job at this school	0.484
To what extent do you agree or disagree with the following statements? I expect to stay teaching at this school for at least the next three years	0.787
To what extent do you agree or disagree with the following statements? I expect to stay in the teaching profession for at least the next three years	0.691

Table E3 Factor Q5ST: Science teaching practices

Reliability of measure: Alpha = 0.732	
Mean: 5.918, Standard deviation: 3.720	
Constituent items	**Loading**
To what extent do you agree or disagree with the following statements? My pupils enjoy learning science	0.713
To what extent do you agree or disagree with the following statements? My science lessons develop pupils' knowledge, understanding and skills that are transferable to other subjects and areas of learning	0.639
To what extent do you agree or disagree with the following statements? My science lessons develop pupils' knowledge and understanding of how science fits with the real-world, everyday life and careers	0.594
To what extent do you agree or disagree with the following statements? My science lessons are accessible and challenging for all pupils	0.575
To what extent do you agree or disagree with the following statements? My pupils are interested in studying sciences post-16	0.500

Table E4 Factor Q7ST: Leadership practices

Reliability of measure: Alpha = 0.930	
Mean: 4.030, Standard deviation: 10.910	
Constituent items	**Loading**
To what extent do you agree or disagree with the following statements? The leadership of my school is based on a shared vision with a common goal	0.830
To what extent do you agree or disagree with the following statements? The leaders in my school recognise workload challenges and support staff with managing workload and achieving a work/life balance	0.817
To what extent do you agree or disagree with the following statements? The leaders in my school value professional development as a priority for all staff	0.790
To what extent do you agree or disagree with the following statements? The leaders in my school take account of staff strengths and weaknesses when planning for improvement	0.784
To what extent do you agree or disagree with the following statements? The leaders in my school facilitate a culture of collaborative working among colleagues	0.782
To what extent do you agree or disagree with the following statements? I feel trusted by the leaders in my school to do my job effectively	0.735
To what extent do you agree or disagree with the following statements? The leaders in my school aim to develop a breadth of outcomes for children such as academic, skills, character, and employability	0.725

Appendix F: Randomisation syntax

```
list trustscode.

sort cases by trustscode.

*setting the data to wide format by MAT so that randomisation only takes place on one case in the MAT.

casestovars /id = trustscode.

dataset name data.

frequencies trustscode.

sort cases by HUB Mat_flag.

dataset copy schools.


aggregate outfile=*/break=hub mat_flag/nschools=n(URN.1).

list vars=hub mat_flag nschools.

set rng=mt, mtindex=18062019.

compute hubmatrand=rv.uniform(0,1).

execute.

dataset copy hub_mat.


aggregate outfile=*/break=hub/nmatsch=n(mat_flag).

list vars=hub nmatsch.

set rng=mt, mtindex=2019061802.

compute hubrand=rv.uniform(0,1).

execute.

dataset copy hubs.


match files file=schools/table=hub_mat/in=inhubmat/by hub mat_flag.

freq inhubmat.

match files file = */table = hubs/in = inhub/by hub.

FREQUENCIES inhub.
```

```
Dataset name alldata.

set rng=mt, mtindex=0318062019.

compute schoolrand=rv.uniform(0,1).

execute.


*Randomise.

sort cases by hubrand hubmatrand schoolrand.

compute twos=2*trunc(($casenum-1)/2).

execute.

compute group=$casenum-twos.

execute.

list vars=hub mat_flag group.


cross hub by group.

*Creating string variable for excel output for schools.

String Randomisation_Results (A60).

Do if group eq 1.

Compute Randomisation_Results eq "Intervention group".

End if.

Do if group eq 2.

Compute Randomisation_Results eq "Control group".

End if.

Crosstabs group by Randomisation_Results.
```

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