

Evaluation Summary	
Age range of pupils	9-10
Number of teachers	1100
Number of schools	55 schools in each group (treatment and control)
Design	Randomised Controlled Trial
Primary Outcome	KS2 attainment data in Literacy for the cohort of pupils in Year 5 at the start of the evaluation

Research Learning Communities Protocol Amendments, May 2016

Page 3: Incentive details for those schools that only provide partial evaluation data have been clarified. Schools will receive £250 for the 2015/16 Y6 pupil UPNs only and £500 for survey completion only.

Page 4: KS1 teacher assessments of levels achieved in reading and writing, and in mathematics, will be used as baseline measures for the primary and secondary outcomes respectively.

Page 4: The amended NPD data will be used, which should be available from December 2016.

Page 4: The UPN data to be used in Part 1 (effect size of the intervention on pupil attainment) and Part 2 (teacher questionnaire responses linked to pupil attainment) has been clarified. Part 1 will use the UPN data as collected for 2014/15 Year 5 cohort; Part 2 will use the UPN data as collected for the 2015/16 Year 6 cohort.

Page 4/5: Round 3 of the survey (Summer 2016) has been confirmed.

Page 5: The analysis to determine the effect size of the impact of the intervention on teacher responses will be conducted using data from Round 3 of the survey, once the intervention is complete, rather than Round 2, part way through the intervention.

Page 5: The original plan for the survey to be developed by NFER was to look at 3 outcomes of teacher awareness, understanding and use of research. When the survey instrument was developed, these three outcomes were not used. Instead there are 5 distinct outcome measures: Positive disposition to academic research in informing teaching practice; Use of academic research to inform selection of teaching approaches; Perception that academic research is not useful to teaching; Perception that own school does not encourage use of academic research; and Active engagement with online evidence platforms. There is an additional derived measure of knowledge of research findings and methods. The survey analysis will look at these six measures.

Page 10: The now reflects that we will be using the amended KS2 attainment data, which will be available around December 2016, and the report will now be due in May 2017.

BACKGROUND

The project for evaluation focuses on promoting and embedding use of research in schools, through Research Learning Communities (RLCs). The project will work with around 55 primary schools to identify and recruit two to three “Evidence Champions” from each school, at least one of whom will be the headteacher or other senior leader. Evidence Champions will come together in RLCs. Each RLC will work with evidence champions from around five schools, meeting for a one-day workshop four times a year to examine research and evidence relating to an agreed area of focus. The evidence champions will then take ideas back to their schools to develop, apply and evaluate school- or key-stage-wide improvement strategies based on this evidence.

RESEARCH PLAN

The evaluation will be divided into two main parts: the impact evaluation and the process evaluation.

Impact Evaluation

Research questions for the impact evaluation include:

1. What is the impact of RLCs on:
 - a. Pupil attainment in Key Stage 2 (KS2) literacy?
 - b. Teachers’ awareness of research?
 - c. Teachers’ understanding of research?
 - d. Teachers’ use of research?
2. How do levels of teachers’ awareness, understanding, and use of research impact on pupil attainment in KS2 literacy?

The impact evaluation will therefore use:

- 2016 attainment data for KS2 literacy (and numeracy) of a single cohort of pupils (who enter Year 5 in September 2014)
- Questionnaires to teachers in all participating schools

Design

The project is expected to last two years in the first instance. There will be a treatment group comprising schools that will receive the intervention, and a randomised control group comprising schools that will not receive the intervention over the duration of the project.

	Group 1: Treatment Group (~55 Schools)	Group 2: Control Group (~55 Schools)
Year 1	Intervention	No Intervention
Year 2	Light-touch intervention	No Intervention

Schools will sign up to the project. Some schools will be recruited in federations or alliances, and some as individual schools. Large alliances of 6 schools or more will be split into two groups using the minimisation method, based on size of school, percentage of pupils eligible for free school meals (FSM), and KS2 attainment. Of these split alliances, one group will be randomly allocated to the treatment condition, and one to the control condition. The remaining schools recruited will be in units of either single schools, or federations or alliances which will be in pairs or groups of three, four or five schools. These units will then be allocated to the treatment or control group using the minimisation method, based on size of unit (single school, two or three schools, and four or five schools), average size of school in each unit, average percentage of pupils eligible for free school meals (FSM) in each unit, and average KS2 attainment in each unit. The majority of units will comprise single schools, but this method allows for federations of schools or alliances who want to work together.

Conditions of entering into the allocation to treatment and control groups will be as follows:

- At least 75% of KS2 teachers to have completed the baseline survey
- Headteacher and Chair of Governors to have signed the Memorandum of Understanding. This will include agreement to support Evidence Champions' participation in RLCs, to provide class lists and Unique Pupil Numbers (UPNs) for pupils in the 2014/15 Year 5 cohort, and for teachers to complete Round 2 and Round 3 surveys.

There will be around 55 schools in each group (with an absolute minimum of 40 schools). Schools in the control group will receive a financial incentive of £1000 at the end of the evaluation data collection period, subject to full participation in the evaluation measures, and will have access to the intervention at the end of the two years. Partial payment will be provided to control schools that only provide part of the evaluation data: £250 for the 2015/16 Y6 pupil UPNs only and £500 for survey completion only.

Participants

Around 110 primary and junior schools will participate in the project. Two or three "Evidence Champions" will be selected in each treatment school (at least one of whom will be from senior management), and these individuals will participate in the RLCs. The role of evidence champions will be to support other teachers in the school in terms of their awareness, understanding and use of research in developing practice.

Outcome measures

It will take time for Research Learning Communities (RLCs) to become established, for research evidence to embed in schools, for teachers to change their practice as a result of the research evidence, and for the change in practice to feed through into pupil attainment. The primary outcome will be KS2 attainment data in Literacy for the cohort of pupils in Year 5 at the start of the evaluation. (This assumes that most schools in RLCs would like to focus on literacy - although some schools in RLCs may alternatively or additionally focus on numeracy. Therefore numeracy will also be analysed as a secondary outcome in the core analyses (Part 1 analyses outlined below).

Long-term pupil outcome data (KS4 attainment and other relevant data, depending on the focus of the RLCs) will be tracked by the overarching EEF evaluator through the National Pupil Database. It may also be appropriate to use data from the evaluation to investigate relationships between teacher engagement in RLCs and long-term pupil outcome measures.

Other secondary outcomes include teachers' awareness, understanding and use of research, as measured by a teacher survey (to be developed by the NFER).

Analysis Plan: Pupil Attainment Data

Provision of Unique Pupil Numbers in class lists for the 2014/15 Year 5 cohort will be a condition of school participation. This will enable NPD data to be accessed for these individual pupils, and to be linked to teacher survey data. KS1 teacher assessment reading and writing level achieved, and KS1 teacher assessment mathematics level achieved (from 2011/12) will be used as a baseline for the primary and secondary outcomes respectively, and KS2 attainment in literacy (from 2015/16) will be used as the primary outcome measure. The amended version of the NPD KS2 data is likely to be available from December 2016.

There will be two parts to the analysis of pupil attainment data:

- Part 1 uses multi-level modelling (MLM) to determine the effect size of the impact of the intervention on pupil attainment in literacy (primary outcome) and numeracy (secondary outcome) at KS2, accounting for clustering of pupils within schools and of schools within RLCs. We will include prior attainment, FSM (pupil-level) and level of school engagement (school-level) with the programme as covariates. School-level factors and/or interactions will be included in this analysis if appropriate. Separate sub-group analyses will also be conducted for FSM/non FSM groups and according to schools' choice of primary outcome (literacy or numeracy) using the final model from the main combined analyses. Part 1 will not include or be linked to the teacher survey data, but will be a separate, stand-alone analysis. This analysis will be run using the 2014/15 Year 5 UPNs.
- Part 2 involves linking individual teacher questionnaire data (from Round 2 of the survey) with pupil attainment data, and will use MLM to understand whether different outcome measures on the survey are related to differences in pupil attainment. The clustering of pupils within teachers/classes and schools and of schools within RLCs will be taken into account. The outcome variable for this will be KS2 literacy. This analysis will use data from Round 2 of the teacher survey, linked to attainment data for the 2015/16 Year 6 UPNs.

Analysis Plan: Teacher Survey

Primary schools will be the focus of the study. We will therefore be working with an assumed population of around 1100 teachers across 110 participating primary schools (this is assuming an average of 10 teachers per primary school). Teacher responses to the surveys will be made a condition of participation, and there will be financial incentives for completion of surveys in control schools. On-line surveys will be used in the first instance. Surveys will be administered in summer 2014 (Round 1, as a baseline – survey completion will be required before schools are allocated to treatment or control groups), and in summer 2015 (Round 2, at the end of the first year of the intervention). A further survey will be conducted in summer 2016 (Round 3, at the end of the "light-touch" second year of the intervention). The on-line survey in Round 2 and Round 3 will be followed by hard-copy surveys and follow-up visits, in the event of any schools having response rates from below 100% of Year 5 and Year 6 teachers, and/or below 75% of KS2 teachers overall.

As agreed with EEF, the survey used for Round 2 and Round 3 was developed by the NFER and has five distinct outcome measures: Positive disposition to academic research in informing teaching practice; Use of academic research to inform selection of teaching approaches; Perception that academic research is not useful to teaching; Perception that own school does not encourage use of academic research; and Active engagement with online evidence platforms. There is an additional derived measure of knowledge of research findings and methods. The survey analysis will look at

these six outcomes. The baseline survey will be a short survey to enable an understanding of variance between schools in research use. This was also developed by NFER. Participation in the project will be conditional on at least 75% of KS2 teachers in a school completing the baseline survey. There is no contingency for Round 1 of the survey: we will use the data from the teachers who complete the baseline survey at the point of recruitment.

Providing that the sample is large enough, the survey analysis will use multi-level modelling (MLM) to determine the effect size of the impact of the intervention on research engagement outcome measures as measured by the Round 3 NFER teacher survey (taking account of the nesting of teachers within schools within RLCs). Teacher type variable (e.g. Evidence Champion, KS2 teacher attending RLC workshops, other KS2 teacher, other teachers) will also be explored as a potential explanatory variable for use in the MLM analyses.

A separate analysis will consider whether teacher responses to the survey change from Round 2, after the first year of the intervention, to Round 3, after the second year of “light-touch” support, where schools will be more independent in leading the RLCs.

Sample size calculations

Power calculations for this design will inevitably be an approximation, with various assumptions being made about the structure of the data. A conservative calculation of the minimum detectable effect size was made using Optimal Design software, with the following assumptions:

- Schools will be allocated in equal proportions to the treatment and control condition.
- There will be a baseline covariate of KS1 reading and writing points scores, for KS2 literacy outcomes, at 0.73.
- An intra-cluster correlation of 0.2.
- Each group of 2, 3, 4 or 5 schools will be treated as one unit (this makes the calculation particularly conservative, as there will be a lot of variation within each of these units). Individual schools will also be treated as a unit.
- An average of 50 pupils in the cohort per unit (this again is conservative as some units will comprise more than one school, and will have many more than 50 students in – even though some schools will be smaller than this).

With 90 units, the design will be able to detect an effect size on pupil attainment of 0.16. With 70 units, the minimum detectable effect size rises to 0.18.

Process Evaluation

Research questions for the process evaluation include:

1. How do RLCs and the role of Evidence Champions work in practice?
 - a. What are the characteristics of schools where RLCs and the role of Evidence Champions appears to be successful?
 - b. What barriers to the success of RLCs and the Evidence Champion role are reported by teachers, headteachers, and Evidence Champions?
 - c. How attractive is the idea of Evidence Champions and RLCs to schools?
 - d. What are the necessary pre-requisites for the use of research to change teachers' practice?

- e. How do teachers and Evidence Champions expect the process of RLCs to impact on their practice and on pupil attainment?
2. How were the RLCs delivered?
 - a. How does the IoE work with Evidence Champions to develop their ideas about research?
 - b. How do Evidence Champions enact their role in schools?
3. What are the perceived outcomes of the Evidence Champions and RLCs in schools, including possible negative effects?
4. Are there any ways in which RLCs and the role of Evidence Champions can be improved?
5. How do control schools compare to RLC schools?

Process Evaluation Methods

The process evaluation will comprise:

- Case studies of eight participating schools (six treatment schools and two control schools)
- Observation of Evidence Champions at RLCs, and Evidence Champion surveys.

Case-Study Schools

Case-study schools would be selected using purposive sampling, to allow for a range of approaches to using research as determined by the first round of teacher questionnaires. The number of case studies (eight in total) would allow for variation, with at least one case-study from each RLC, and two case-studies from control schools to understand “business as usual”.

Each case study will comprise two two-day visits, one during the first year of the intervention cycle, and one during the second year. At the first visit, the two Evidence Champions from each school, and two to four teachers will be interviewed. At the second visit, the headteacher will also be interviewed as well as the Evidence Champions and teachers.

The focus of the teacher interviews will be to understand their approaches to using and conducting research, their understanding of its effect on their practice, and reasons for their use (or non-use) of research in their practice. The interviews will allow us to understand the extent to which teachers engage with the idea of the RLC. These interviews will also allow us to understand the role of Evidence Champions within their schools. The focus of the Evidence Champion interviews will be on the development of their ideas about accessing and evaluating research, using research in teaching, and their methods of disseminating to schools or departments. This will enable us to understand how RLCs develop in schools, and how the Evidence Champions feel about the interactive aspects of the RLCs, with Evidence Champions from other schools and with the IoE. The focus of the headteacher interviews will be around reasons for engaging with the RLC, school culture, and resource provision for the use of research in practice.

The case studies will contribute to understanding all process evaluation Research Questions.

RLC Meetings and Evidence Champion Questionnaires

The evaluation team will attend 10 RLC meetings across 5 RLCs, to understand Evidence Champions’ participation in the RLCs, the dynamics of each RLC, and provide a context for the case-study schools. At least one meeting in each round will be attended. There will also be a conversation with the team delivering the RLCs, to understand their expectations of how the RLCs will lead to changes in teacher practice and pupil attainment.

Surveys for Evidence Champions will be incorporated into the teacher outcomes survey. They will include open questions about the ways in which Evidence Champions access research, how they

evaluate research to consider its potential to inform practice, how they share or promote research with colleagues to inform practice, and how engagement in RLCs supports their thinking on this. This data will be collected at the end of Year 1 of the intervention, and potentially at the end of Year 2.

These activities will contribute to answering process evaluation Research Questions 2, 3 and 4.

Allocation of schools to treatment and control groups

Conditions of entering into the allocation to treatment and control groups will be as follows:

- At least 75% of Key Stage 2 teachers to have completed the baseline survey
- Headteacher and Chair of Governors to have signed the Memorandum of Understanding. This will include agreement to support Evidence Champions' participation in RLCs, to provide class lists and UPIs for pupils in the 2014/15 Year 5 cohort, and for teachers to complete Round 2 and Round 3 surveys.

Schools will be allocated to treatment and control groups using the minimisation method, to ensure balance of school-level variables such as size of school, %FSM, and attainment at KS2.

It will be important to be aware of school alliances following the allocation of schools to treatment and control groups. Where schools in the same alliance are in the treatment group, so far as possible they will be placed in the same RLC. However, some schools in an alliance may be in Group 1, and some in Group 2. This raises potential problems in terms of contamination effects: schools in an alliance may be working together in other ways, so may discuss the projects. This emphasises the importance of explaining the design of the project to participating schools, and emphasising that any discussion of the RLC remaining within the RLC itself, and not taking place with other schools.

The risk of control schools dropping out immediately after allocation to the control group also needs to be considered, especially with regard to the RCT analyses. This project is relatively low-demand in terms of data collection for control schools, and control schools will receive a financial incentive, so hopefully drop-out should be low. However, in the event of a high level of attrition there will be a requirement for additional detailed analyses to check sufficient balance of control and treatment schools is maintained, particularly given that we will now be using minimisation methods for allocation of schools to treatment and control groups.

In the suggested design, there will be around 55 schools in total in each group (with an absolute minimum of 40 schools), and 10 RLCs running over two years in the treatment group. All treatment group schools will receive the intervention in Year 1, and light-touch support in Year 2 where RLCs will be led by the schools themselves rather than by the IoE. Calculation of sample size and power for the teacher survey is problematic: we cannot predict the variation between teachers and schools when using the teacher survey, as this is an instrument which has yet to be developed. We have costed eight case study schools, where Evidence Champions, headteachers, and two teachers will be interviewed at two time points during the intervention. This will allow for variation across case studies, and for two case study schools in the control group.

For teacher surveys, we have suggested using on-line surveys. As a contingency, this will be followed by hard copies to schools with low response rates. As part of this contingency, we have also costed in researcher visits to schools with low response rates, to encourage completion. Because we have suggested using primary schools only, there is a risk that the sample of teachers will be too small to allow for multi-level modelling (there are fewer teachers in primary schools). This is why it is important to put resources into ensuring high completion rates – a researcher can “become known”

to all staff at a primary school and this will encourage good response rates. There will be extra, open questions on the Round 2 and Round 3 survey for Evidence Champions to complete about their role.

On the survey, teachers will be asked their name, and to identify the class they teach from a drop-down list for each school. This will enable us to match teachers survey responses to pupil outcomes. There is potential here for individual teachers to not fill in their name, or provide a false name. However, we feel that asking schools to provide teachers with unique ID codes for the survey would entail more risk: it is possible that all survey responses from a school might not be identifiable if schools did not carry this out correctly.

We have costed in attendance at 10 RLC meetings over the duration of the intervention. We feel it is important for the evaluation to understand how the RLC sessions function. This will also provide an opportunity to further develop and maintain relationships with project schools to facilitate good response rates to the surveys.

We would like to emphasise the importance of the evaluation team engaging fully with project schools to ensure their participation in the evaluation. A single researcher acting as a point of contact for participating schools would support the commitment of participating schools to the project. In previous projects this approach has ensured a very low attrition. Appointing a full-time researcher would make the post more appealing to high-quality candidates. However, the pattern of work in this project unfortunately does not support a full-time researcher for the duration of the project.

PERSONNEL

Dr Jo Rose (PI), Dr Tim Jay (Co-I), Professor Sally Thomas (Co-I), and Research Associate (to be recruited), with ***Professor Kelvyn Jones (Advisor)***.

Jo Rose will oversee the project as a whole, and lead on the process evaluation (including design and analysis) and the evaluation reporting. Sally Thomas will lead on the impact evaluation (including design and analysis). Each member of the evaluation team will be involved with some aspect of design, data collection, analysis and reporting for both the impact and the process evaluations. The Research Associate will manage the evaluation and data collection on a day-to-day basis, and be responsible for liaising with schools and conducting data analysis. Professor Kelvyn Jones has experience in randomised control trials with teachers, and is acting in an advisory capacity.

RISKS

Risk	Measures to be taken
<i>Not enough schools recruited</i>	<ul style="list-style-type: none">• IoE to use networks of schools, and snowball approach to recruitment• IoE to approach LAs to support recruitment
<i>Schools drop out of control condition</i>	<ul style="list-style-type: none">• At recruitment and randomisation, explain importance of control school• Clarify incentives for control schools (financial incentive, and access to RLCs after evaluation)

Low response rates to survey

- MoU clarifies requirement for survey completion, and frequency
- Schools to be contacted individually with survey link, and followed up by phone
- Contingency for low response rates involves posting hard copies of surveys and follow up with school visits

Selected schools unwilling to be case studies

- Emphasise importance of process evaluation
- Seek alternative schools to recruit (need six treatment and two control schools)

Teachers unavailable for interview at time of case study visit

- Conduct interviews by phone at a later date

Delay in NPD data availability

- If this occurs, a no-cost extension will be requested

Research staff illness

- Share clear protocols and timelines between all evaluation staff
- Project data to be kept in shared drive on university server
- Regular team meetings to discuss progress

Equipment failure

- Data is backed up every evening on university server – all project data to be stored there
- Spare voice recorders to be taken on school visits

Research staff safety while in field

- Shared diary of case study and RLC visits.
- Text or email communication between staff on arrival and departure from schools

DATA PROTECTION STATEMENT

All research work is carried out under the University of Bristol Information Security Policy. The objective of the University's Information Security Policy is to ensure that all information and information systems are adequately protected against the adverse effects of failures in confidentiality, integrity, availability and compliance with legal requirements which would otherwise occur.

The University has adopted the following eight principles to underpin its Information Security Policy:

1. Information will be protected in line with all relevant University policies and legislation, notably those relating to data protection, human rights and freedom of information.
2. Each information asset will have a nominated owner who will be assigned responsibility for defining the appropriate uses of the asset and ensuring that appropriate security measures are in place to protect the asset.
3. Information will be made available solely to those who have a legitimate need for access.

4. All information will be classified according to an appropriate level of security.
5. The integrity of information will be maintained.
6. It is the responsibility of all individuals who have been granted access to information to handle it appropriately in accordance with its classification.
7. Information will be protected against unauthorised access.
8. Compliance with the Information Security Policy will be enforced.

Further details can be found at <http://www.bris.ac.uk/infosec/policies/> .

TIMELINE

Task	Personnel	Date
Baseline survey data collection	JR, RA	June 2014 – Sept 2014
Minimisation	RA	Sept 2014
Baseline survey descriptive analysis	RA	Oct 2014
Year 1 RLC visits	JR, ST, TJ, RA	Nov 2014, Feb 2015, Apr 2015, June 2015
Year 1 Case study visits	JR, ST, TJ, RA	Feb 2015 – May 2015
Process evaluation data analysis (ongoing)	JR, ST, TJ, RA	June 2015 – August 2016
Round 2 survey data collection	RA	June 2015 – July 2015
Round 2 survey data analysis	RA, ST	Aug 2015 - Dec 2015
Year 2 RLC visits	JR, ST, TJ, RA	Nov 2015, Feb 2016, Apr 2016, June 2016
Year 2 case study visits	JR, ST, TJ, RA	Feb 2016 – May 2016
Round 3 survey data collection	RA	June 2016 – July 2016
Round 3 survey data analysis	RA, ST	Aug 2016 - Oct 2016
Access NPD attainment data	RA	Sept 2016 - Oct 2016
Attainment data analysis	RA, ST	Dec 2016 – Mar 2017
Report writing	JR, ST, TJ, RA	Nov 2016 – May 2017

Evaluation Duration

The evaluation is expected to last 36 months, from 1 June 2014 to 31 May 2017. These dates are subject to 2016 KS2 data being available from the NPD in December 2016. For Parts 1 and 2 of analysis listed below, data would need to be available from the NPD by 31 December 2016 at the latest, to allow time for analysis and report writing. If DFE data is not available from the NPD by the expected date, we will request a no-cost extension.