

Evaluation Summary	
Age range	Primary (Year 1)
Number of pupils	c. 2700
Number of schools	60
Design	Randomised controlled trial randomised at the pupil level
Primary Outcome	Reading

### Evaluation protocol:

## An Evaluation of Teaching Assistant-Based Small Group Support for Literacy

### Background

Many children do not leave primary school with the expected level of literacy.<sup>1</sup> This matters because it has an impact on subsequent educational performance and is linked, for example, to poor labour market outcomes (Hansen and Vignoles, 2005). As discussed by Slavin et al. (2011), while much is known about the characteristics of struggling readers, there is much less known about practical, replicable programmes capable of helping educators prevent or remediate early reading deficits. Of those programmes covered in their systematic review, the vast majority pertain to the US.

In this study, we intend to analyse the effects of two methods of small group tuition for Year 1 students in English schools. One of these methods will use an ICT programme which has some support from small RCT efficacy studies in other countries. The other method will use other types of activity (not ICT) commonly used in small group tuition of this type. Both methods will be peer reviewed in advance of implementation. There will also be a 'business as usual' control.

### RESEARCH PLAN

#### *Research questions*

The evaluation is designed to answer the following questions:

1. Do the interventions have an impact on the treatment groups relative to the control group on outcomes within one academic year?
2. How do the interventions compare to each other in terms of effectiveness?
3. Is there evidence of heterogeneity in the effects of the interventions on the following groups: free school meal status; gender; whether speaks English as a first language; above median attainment on pre-test.
4. Is there any evidence of spillover effects on the control group?
5. Do any effects persist one year later?

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<sup>1</sup> Currently 13% do not reach 'level 4' by age 11; which is the expected standard according to the National Curriculum.

## ***Design***

60 schools will be recruited to this experiment. The schools will be paired according to characteristics such as Key Stage 2 outcomes and percentage of disadvantaged students. Each school within each pair will be randomised to cohort 1 (i.e. receives the treatment in Year 1) and cohort 2 (i.e. receives the treatment in year 2).

Within the treatment group, children in Year 1 will be randomly allocated into three groups: (A) support from Teaching Assistants using the computer programme; (B) support from Teaching Assistants using other methods; (C) 'business as usual control'.

## ***Participants***

Coventry University will attempt to recruit 60 schools in Birmingham, Coventry, Warwickshire, Worcester and Solihull. In particular, an effort will be made to encourage schools with disadvantaged intakes to participate during the recruitment stage. Coventry University is running the recruitment event. See Appendix 1 for the Memorandum of Understanding that schools will need to sign in order to participate. Schools will be required to send an opt-out consent form to all parents ahead of testing and making a request for administrative data (the National Pupil Database) to the Department for Education. This will be overseen by Coventry University and has been approved by the Coventry University ethics committee.

## ***Outcome Measures***

The primary outcome measure will be overall reading, as measured by progress on the PIRA assessment.

The specific tests conducted (pre and post) will be as follows:

- General reading ability (PIRA) – Primary Outcome Measure
- Word reading (Diagnostic Test of Word Reading Performance) –Secondary Outcome
- Receptive vocabulary (the British Picture Vocabulary Scales 3) –Secondary Outcome
- Phonological and letter sounds skills (using selected subtests from the Primary Inventory of Phonological Awareness). –Secondary Outcome

The tests will take place at the beginning and end of the academic year September 2014 to July 2015.

Additional secondary outcomes will be KS1 reading and writing one year later

Coventry University plan to have the pre-tests all conducted before randomisation takes place (i.e. two weeks before the Autumn half term break). This is to ensure that all participating schools have made an appropriate initial investment in the project (minimising the probability of attrition at an early stage).

The evaluators will conduct the randomisation. This process will take place independent of the implementation team.

Assessments will be administered by a team of RAs (employed by Coventry University) who will not know to what condition the children have been allocated. They will score and enter the data and some will also be responsible for data checking and cleaning. The raw data will be available throughout the project for inspection by the evaluation team. The PIRA assessment will be scored by Hodder Education. The data will be entered by RAs who have no knowledge about the treatment status of students. All other tests will be scored by RAs with no knowledge of how schools or students have been allocated to the treatment and control groups. Coventry University will keep a detailed log of this as an audit trail

### ***Sample size calculations***

We will recruit 60 schools to the evaluation. Individual-level randomisation will take place within the 30 treatment schools. Calculations on the program developed by Spybrook et al. (2008) suggest this sample size is reasonable for detecting an effect of at least 0.2 standard deviations. This is based on estimates in which we make the following assumptions: This is based on estimates in which we make the following assumptions: Statistical significance of effect: 0.05; Power of test: 0.80; Intra-class correlation of 0.2; Predictive power of baseline characteristics: 0.7

This is a conservative estimate as it is based on cluster randomisation at the level of the school. In practice, we will also be doing individual-level randomisation within schools. This should enable us to detect smaller size effects.

### ***Analysis plan***

We will estimate regressions for each outcome variable where the outcome variable is regressed against dummy variables for whether individuals are in treatment group A or B (relative to the control group). We will control for baseline characteristics: baseline test scores and variables available for administrative data (eligibility for Free School Meals, gender, ethnicity and whether English is spoken as a first language). We will allow for clustering at the school level. We will use the STATA computer package.

We will estimate the same regressions for each subgroup: free school meal status; gender; above median attainment on pre-test.

We will address spillover effects by comparing the treatment effect in two specifications: (1) where the control group is within the same schools (i.e. Group C). (2). Where the control group is only in non-treated schools in the same year (i.e. cohort 2). If spillover effects are important, the estimated treatment effect should be larger in the second case than in the first case.

### ***Process evaluation methods***

The purpose of the process evaluation is to assess the fidelity of the intervention and to help explain impact of small group tuition as measured by the RCT. We will achieve this largely through an assessment of the practices and experiences of teaching assistants in participating schools and observation of the two interventions - ICT and non-ICT based, focusing on teaching and learning processes and particularly pupil response and engagement.

The process evaluation will consist of the following components:

- Attendance at project recruitment event
- Attendance at training sessions for teaching assistants

- Analysis of training evaluation conducted by Coventry University
- Visits to schools at two stages of the project:
  - individual/focus group interviews with teaching assistants
  - observation of sessions and pupil observations
- Analysis of teaching assistant log distributed by Coventry University
- Analysis of project materials issued to schools

A sample of 6 schools will be selected for process evaluation visits.

## **PERSONNEL**

The impact evaluation will be led by Professor Sandra McNally, Centre for Economic Performance, London School of Economics.

The process evaluation will be led by Dr. Heather Rolfe, NIESR.

The development and implementation of the intervention will be led by Dr Janet Vousden and Professor Clare Wood, Coventry University.

## **RISKS**

The main risks are failure to attract enough schools and the possibility of attrition for those that agree to enter.

Coventry University hopes to be able to recruit a sufficient number of schools because of their experience of working with the target population (schools in Birmingham, Coventry, Warwickshire, Worcester and Solihull). Furthermore, all schools will be offered the treatment in the first or second year of the project.

The risk of attrition will be minimised by ensuring that all schools have completed the baseline tests before randomisation. Hopefully, this level of investment will act as an incentive to remain in the project.

Another risk is that the TAs allocated to the different groups might learn about the techniques being used in the other group. As far as possible, TAs will be kept blind to the other condition involved in the study. They will undertake their training separately and will work with their children in different areas where it is not possible to observe what the other is doing.

All data will be kept on a secure server, accessible only to those involved in data analysis for this project. The procedures will be in line with the institutional policies in place at the Centre for Economic Performance LSE, the University of Coventry and NIESR.

## **TIMELINE**

### **1. Preparation and Recruitment**

*January-April 2014:* Coventry team to invite schools ahead of a recruitment event that will take place the week after Easter half-term. During this event, the timing of the sessions will

be discussed with schools and a standard approach agreed. Schools will need to sign a Memorandum of Understanding in order to participate (see Appendix 1). Schools will also be required to send an opt-out consent form to all parents ahead of testing. This will be overseen by Coventry University

*January-March 2014:* Coventry team to develop treatment curricula for both treatments and send to CEP for review. CEP to develop an assessment form for the these curricula to send back to Coventry.

*March-April 2014:* EEF to organise an anonymous process of peer review of the two curricula.

*June-July 2014:* CEP to apply for the National Pupil Database for relevant cohorts of students in all participating schools.

## **2. Implementation**

*September 2014:* Coventry to organise baseline tests in all participating schools; to organise for a list of pupils in Year 1 to be sent to CEP.

*October 2014:* CEP to randomise schools into cohort 1 (treatment in year 1) and cohort 2 (control). CEP to use year group lists to randomise pupils in treatment schools to groups A, B and C.

Coventry to send CEP the CVs of all teaching assistants taking part in the experiment. CEP to randomise teaching assistants to groups A and B within treatment schools.

Coventry to organise training of teaching assistants. To be attended by NIESR.

*October 2014-March 2015:* Coventry to take responsibility for implementation of treatment in groups A and B in treatment schools.

*October 2014 :* NIESR to conduct first round of process evaluation visits to 6 selected schools

*June-July 2015.* Coventry to organise second round of testing in all participating schools.

*July 2015:* NIESR to conduct second round of process evaluation visits to 6 selected schools

*September 2015 – July 2016:* Coventry to organise implementation of programme in schools participating in cohort 2.

## **3. Analysis**

July 2015 - : CEP to work on EEF evaluation report (to be extended when KS1 outcomes become available in 2016).

CEP and Coventry to work on quantitative evaluation with a view to publication in academic outlets

NIESR to analyse data from interviews and observations, from training evaluation and from Teaching Assistant logs for process evaluation section of EEF report

## References

Hansen, K. and A. Vignoles (2005) The United Kingdom Education System in an International Context, in Machin, S. and A. Vignoles (eds.) *What's the Good of Education? The Economics of Education in the United Kingdom*, Princeton University Press: Princeton.

Slavin, R.E., C. Lake, S. Davis, N.A. Madden, (2011). Effective Programs for Struggling Readers: A Best-evidence Synthesis. *Educational Research Review* 6: 1-26.

Spybrook, J., S. W. Raudenbush, X. Liu, R. Congdon, A. Martinez, (2008), 'Optimal Design for Longitudinal and Multilevel Research: Documentation for the 'Optimal Design' Software. [http://sitemaker.umich.edu/group-based/optimal\\_design\\_software](http://sitemaker.umich.edu/group-based/optimal_design_software)

## Appendix 1: Memorandum of Understanding

### Agreement to participate in the Evaluation of Teaching Assistant-Based Small Group Support for Literacy

*Please sign both copies, retaining one and returning the second copy to Professor Clare Wood at Coventry University, Priory Street, Coventry, CV1 5FB.*

School Name: \_\_\_\_\_

#### *Aims of the Evaluation*

The aim of this project is to evaluate the impact of training Teaching Assistants to provide small group support for reading in Year 1 on children's reading outcomes. The results of the research will contribute to our understanding of what works in raising the pupil's attainment and will be widely disseminated to schools in England. Ultimately we hope that the evaluation will equip school staff with the knowledge, skills and materials to better support early literacy, especially for children at risk of reading difficulties.

#### *The Project*

The project will compare the effectiveness of two different formats for resourcing TA-based reading support to 'business as usual' teaching. The project itself will run over two years, but the intervention delivery will occur between half term in Autumn 2014 and half term in Summer 2015 (for a period of 20 weeks).

#### *Structure of the Evaluation*

Sixty schools will be recruited into the project. In the first half term of the academic year 2014/15 Coventry University will arrange to come in and assess the children in Year 1 who are participating (parents will be contacted and given the opportunity to withdraw their children from the study). This will consist of a group-based reading assessment (which will take approximately 30-40 minutes to complete) and a small number of brief language and literacy assessments, which together will take about another 30 minutes to deliver one-to-one. Once all assessments have been completed, we will notify our independent evaluation partner (London School of Economics) and they will randomly allocate half of the schools to the 'treatment' part of the study, and the others will act as the 'wait list' control sites.

If your school is allocated to the treatment part of the study, this means that the children in your school will be further randomly allocated to one of three groups.

1. Computer-facilitated TA support
2. Non-computer facilitated TA support
3. Business as usual control.

Each school will be asked to nominate two TAs who can be trained to take part in the interventions. One TA will be allocated to GROUP 1, and the other will be allocated to GROUP 2. We will, as part of the project, ask the TAs who will be taking part to provide some CV-type details of their backgrounds so that we get a picture of how prior skills and experience can impact on the interventions.

The TAs will be invited to attend a day of bespoke training on their intervention, complete with teaching plans, in the week before half term break. Both training approaches are based on best practice re teaching literacy based on the available research evidence, and will be delivered by experienced researchers with extensive experience of supporting early literacy. The TAs will also be given a named person at Coventry University who will also provide them with continued advice and support during the implementation of the intervention, in case questions or difficulties arise. The children in these two groups will receive the intervention for 20 weeks. Each week they will complete four small-group (3-4 pupils) sessions with the TA during a time when all Year 1 students are undertaking literacy related work. Each session will last approximately 15 minutes. The pupils in GROUP 1 will participate in group activities on a shared computer. The pupils in GROUP 2 will complete non computer-based activities on the same content areas. The children in GROUP 3 will complete literacy activity of their teacher's choosing. During the year some sites will be visited by colleagues from NIESR.

After the half-term break in Summer term all pupils at all schools (including the waitlist control schools) will participate in a post test which will repeat the assessments completed earlier. The children's performance on the Key Stage 1 STATS for English will be used to examine longer term outcomes for the children. The team at Coventry would be grateful for the opportunity to follow up on the children who took part sometime in the Summer Term of 2016 using the reading assessments used at Pre and Post test, but is this not an essential aspect of the project and schools can opt out of this further assessment stage.

In the Second year of the project, the schools on the wait list will be invited to send TAs to attend the training so that these schools can take advantage of the training on offer. All schools taking part in the project will benefit from the TA training in either the first or second year. From the school's point of view, it should not matter whether they are allocated to receive TA training in the first or second year. We appreciate that random allocation of schools, TAs and pupils is often inconvenient and frustrating for schools who are keen to access resources as quickly as possible. However it is important to note that random allocation is essential to the evaluation as it is the best way of outlining what effect the interventions have on children's attainment. It is important that schools understand and consent to this process.

In order to understand the ways in which the implementation of the interventions can impact on the results obtained, colleagues from NIESR will select six schools to visit in order to observe sessions and interview staff.

#### *Use of Data*

Pupils' test responses and any other pupil data will be treated with the strictest confidence. The responses will be collected on paper by the Coventry Team, who will then pass the data to the test publisher who will independently mark them. These data will then be accessed by the team at London School of Economics. Named data will be matched with the National Pupil Database and shared with the team at Coventry University, the independent evaluation team at the London School of Economics and EEF. No individual school or pupil will be identified in any report arising from the research.

#### *Responsibilities*

The Coventry University team will:

- ☐ Ensure all staff carrying out assessments are trained and have received CRB clearance
- ☐ Collect all the data from the project
- ☐ Deliver training, materials and 'just-in-time' support for TAs delivering the interventions.
- ☐ Be the first point of contact for any questions about the evaluation
- ☐ Provide on-going support to the school
- ☐ Feedback to schools and parents on the outcomes of the research.

The team at London School of Economics / NIESR will:

- ☐ Conduct the random allocation.
- ☐ Analyse all the data from the project
- ☐ Provide head teachers with all attainment data after the tests have been completed
- ☐ Disseminate research findings in partnership with Coventry University

The School will:

- ☐ Consent to random allocation and commit to the outcome (whether treatment or control).
- ☐ Allow time for each testing phase and liaise with the evaluation team to find appropriate dates and times for testing to take place
- ☐ Release two Teaching Assistants so that they can attend training sessions
- ☐ Ensure the shared understanding and support of all school staff for to the project and personnel involved.
- ☐ Be a point of contact for parents / carers seeking more information on the project.

We commit to the Evaluation of Teaching Assistant-Based Small Group Support for Literacy as detailed above  
Head teacher [NAME]: \_\_\_\_\_

Other relevant schools staff [NAMES]: \_\_\_\_\_

Date: \_\_\_\_\_