Team Alphie

Queen's University Belfast
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Education Endowment Foundation

Evaluation Summary	
Age range	Primary (Year 6)
Number of pupils	240 pupils
Number of schools	20 schools
Design	Randomised controlled trial, with pupil level randomisation
Primary Outcome	Reading

1. Proposed project team

The project team will be drawn from senior and experienced staff within the Centre for Effective Education (CEE) within the School of Education at Queen's University Belfast. The CEE have considerable experience in the conduct and analysis of randomised control trials and cluster randomised control trials in educational and community settings. They will draw on their expertise in relation to trials of literacy interventions having conducted 6 randomised control trials in the area of literacy over the past 5 years. The Centre has developed particular expertise in working closely with programme developers in the design, analysis and reporting of trials, while providing a thorough and robust independent evaluation of programme impacts. The team has also experience in accounting for the nested nature of the data when schools are randomised at the school level through the use of multi-level modelling.

Project Team:

Professor Paul Connolly – Project Director, is Professor of Education and Head of the School of Education at Queen's University Belfast. He is founding Director of the Centre for Effective Education, a research centre specialising in evaluating the effectiveness of educational programmes and interventions. Through the Centre, he has led a number of large-scale randomised trials in Northern Ireland, the Republic of Ireland and England. Professor Connolly also has a strong interest in systematic reviews and meta-analysis and is Co-Chair of the Education Coordinating Group of the international Campbell Collaboration. He is also founding Editor of the international journal Effective Education (Routledge Journals).

Dr Andy Biggart: Principal Investigator: and is Deputy Director of the CEE. He is an experienced research project manager on large scale mixed methods studies. He has recently been Principal Investigator for a number of large scale randomized trial evaluations in Ireland and the U.K., including a three year study of the Doodle Den balanced literacy after-school program. He is also a UK partner on a major comparative European Union funded study into educational disadvantage in Europe. He has over 20 year's research experience primarily in the conduct of evaluation and policy relevant educational research on children and young people.

Dr Sarah Miller: Co-investigator is a Deputy Director of the CEE and a psychologist with a strong quantitative and statistical background. Her experience of supervising and conducting research projects spans randomised controlled trials, systematic reviews and large scale surveys. She is Principal Investigator of an RCT of the Lifestart Parenting Programme as well as an RCT evaluation of the Business in the Community Pupil Mentoring Scheme. Dr Miller is experienced in the measurement of developmental outcomes in young children including cognitive development, and literacy outcomes.

Dr Liam O'Hare is Senior Research Fellow within the Centre for Effective Education, and he has been Principal Investigator on a range of RCT evaluations and has particular expertise in psychometric measurement and testing.

Advisors:
Professor Carol McGuinness: is Professor of Psychology at Queen's University Belfast, and is an expert in early years curriculum and literacy. She is author of the influential report, *From Thinking Skills to Thinking Classrooms,* which was commissioned by the UK Department of Education (1999) and recent research funded through ESRC TLRP programme evaluated the impact of a methodology to enhance children thinking skills in primary school classrooms.

Examples of relevant projects conducted by the team:

Literacy Randomised Trials:
- A three year randomised control trial evaluation of the Doodle Den Balanced Literacy After-school Programme with 5 and 6 year old children in Dublin (Biggart, Connolly, O'Hare & Kerr).

- A Cluster Randomised Controlled Trial Evaluation of Booktime England: A Book Gifting Intervention for Reception-Aged Children (Biggart, O'Hare & Connolly)

- A Cluster Randomised Controlled Trial Evaluation of Booktime Northern Ireland: A Book Gifting Intervention for Reception-Aged Children. (Connolly & O'Hare).

- Business in The community Time to Read Progamme (Miller and Connolly)

- A Randomised Controlled Trial Evaluation of Bookstart+: A Book Gifting Intervention for Two-Year-Old Children. (Connolly & O'Hare).

Other cluster randomised trials:

- A cluster randomised controlled trial evaluation and cost-effectiveness analysis of the Roots of Empathy schools-based programme for improving social and emotional wellbeing outcomes among 8-9 year olds in Northern Ireland (Miller & Connolly).

- Cluster Randomised Controlled Trial Evaluation of the Effects of Sesame Tree on 5-6 Year Old Children's Attitudes and Awareness (Connolly)

- Cluster Randomised Controlled Trial Evaluation of the Effects of the Sesame Tree Outreach Pack on 5-6 Year Old Children's Attitudes and Awareness (Connolly).

- Cluster Randomised Controlled Trial Evaluation of the Effects of the 'Eager and Able to Learn' Programme on 2-3 Year Old Children's Early Dispositions Towards Education. (Connolly & Miller).

- Cluster Randomised Controlled Trial Evaluation of the Effects of the Media Initiative for Children on 3-4 Year Old Children's Attitudes Towards Diversity and the Republic of Ireland. (Connolly & Miller).

Roles and responsibilities:
Professor Connolly will have overall responsibility for the direction and delivery of the project. He will also provide appropriate support and advice on the analysis.

Dr Andy Biggart is the Principal Investigator and will have responsibility for overseeing all aspects of the design, randomisation and the analysis and write up of the data. He will be supported by Dr Sarah Miller who has extensive experience in the conduct of CRCT's and multi-level modelling in relation to CRCT's. Dr Liam O'Hare will provide support in relation to psychometric measurement and the conduct of the process evaluation surveys through Questback.

Team Alphie

Team Alphie is a computer literacy-tutoring programme, which pupils use in pairs, monitored by a tutor. It combines cooperative learning, computer assisted instruction, embedded multi-media, and tutoring. Team Alphie has been designed to combine the strengths of cooperative learning, computer-assisted instruction, and tutoring. Students work in groups of six and involves peer learning methods, whereby the paired students take turns to work together on the computer and alternate as either reader or coach. There is some existing evidence of the effectiveness of the approach underlining Team Alphie, but this represents the first pilot in UK schools. In the U.S. a clustered randomised trial in 33 high poverty schools has found it effective among a younger age group than planned for the current evaluation. Improvements in reading scores were significantly higher among first grade pupils compared to the control group who received one-to-one tutoring and intervention schools were able to tutor more children compared to control schools (Chambers et al, 2011).

2. Impact evaluation summary

2.2.1 Pre trial support and design

Sampling of Schools: School samples will be geographically dispersed throughout England, although will be clustered in particular areas, particularly in the North and Midlands.

Random allocation of schools to intervention groups.
20 schools are to be recruited for the evaluation and consent sought prior to randomisation. Following an initial screening test to identify struggling readers, 12 year 6 pupils will be individually randomly assigned to participate in Team Alphie or form part of the control who will receive normal teaching (total n=240). Randomisation will be conducted independently by CEE immediately following the completion of pre-testing. Pupils in each school will be paired on the basis of teacher assessment of Key Stage reading level and one pupil allocated to Team Alphie and the other will act as a control.

Measures used in the impact assessment. The main outcome measure will be the New Group Reading Test with Mid-May key stage tests used as pre-test scores. IEE will provide CEE with an outline of full details of the final testing materials, format of collection and the details of the way in which any additional demographic data on the children will be obtained for prior agreement.

2.2.2 Measures

Pre-test measure: Mid-May KS2 results

Post-test measure: New Group Reading Test

2.2.3 Test administration

Test administration has already been funded to be conducted by IEE who will share anonymised data with CEE through depositing data in a drop-box. The pre-test measure (KS2 scores) will be collected directly by IEE from the 20 primary schools for all 240 participants. The New Group Reading Test will be administered electronically with the teacher present.

2.2.4 Data Analysis

The first part will be an analysis of main effects of the programme. As pupils for Team Alphie will be allocated at the individual level there will be no need to take account of clustering effects and data analysis will be conducted through multiple linear regression. KS2 scores will act as pre-test scores for all statistical models. The post-test scores in these models will be literacy ability (from the New Group Reading Test).

The second part will be an exploratory analysis. The quantitative data can be used in an exploratory analysis to examine the differential response to the intervention (i.e. does it only work for some groups – boys/girls, children of differing abilities at pre-test, quality of implementation).

2.2.5 Sample Size

As an individually randomised trial power calculations suggest a sample of 290 would be required to detect a minimum effect size of 0.2, assuming a pre- post-test correlation of 0.80.

The following parameters were used in the power calculation:

- Significance level (α) = 0.05
- Power (P) = 80%
- Pre post-test R^2 = 0.64

3. Process Evalution

IEE are already funded to conduct a process evaluation which will include pupils and tutors completing surveys evaluating the intervention. In addition, CEE have been asked to do an independent light touch independent process evaluation. A sample of schools will be contacted for an in-depth telephone interview focusing upon teachers' perceptions of the programme. This will gather in-depth information on the extent to which the scheme was implemented as envisaged, what issues were encountered, and for whom, and how these were addressed, what aspects seem to be working well and any difficulties with implementation.

4. Timeline (See below)

Timeline Team Alphie

Activity	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Recruitment (IEE)	▓	▓	▓									
Randomisation (CEE)					▓							
Adaptations to Programme (SfA)	▓	▓	▓									
Training/Support/Observations (SfA)												
Pre-test Key stage 2 results collected (IEE)					▓							
Implementation (SfA)					▓	▓	▓					
Process Evaluation (IEE)					▓	▓	▓					
Process Evaluation Telephone Interviews/ Transcription and Analysis (CEE)					▓	▓	▓					
Post-test (IEE)								▓				
Score Tests and clean data (IEE)									▓			
Analyse scores (CEE)										▓	▓	▓
Final Report (IEE/CEE)										▓	▓	▓