

## Evaluation Protocol: Zippy's Friends

Centre for Effective Education, Queen's University Belfast

Evaluation Summary	
Age range	Year 2 (6-7 year olds)
Number of pupils	~3150
Number of schools	~70
Design	Efficacy trial; school level cluster RCT
Primary outcomes	Literacy (reading) and emotional self-regulation
Secondary outcomes	Self-regulated learning and social skills

## **BACKGROUND**

### ***Significance***

An estimated one in 10 children and young people (aged between 5 and 16 years) in the UK has a clinically diagnosed mental disorder (Green et al., 2005). Prevention and early intervention in children's emotional wellbeing through universal, school-based programmes may be an effective, as well as cost-effective option for improving a range of short and long-term outcomes (including social, emotional, academic and economic outcomes) (Allen, 2011; Knapp, 2011). Further, there is a substantial body of evidence that links early socio-emotional development to later academic performance and a number of key health, social and economic outcomes, such as stress and mental health, workplace readiness and adult wellbeing (Chien et al., 2012; Durlak et al., 2011; Guzman et al., 2014). Educators are increasingly recognising the importance of social and emotional skills for effective learning (Collaborative for Academic, Social, and Emotional Learning 2015; DoH, 2012; DfE 2015).

Within this context, schools are seen as playing a crucial part in contributing to the positive mental health of children and young people, and several reviews have concluded that universal interventions promoting social and emotional competencies can have significant positive outcomes for children's mental health, well-being and educational attainment (Browne et al., 2004; Adi et al., 2007; Tennant et al., 2007; Greenberg, 2010; Durlak et al., 2011; Clarke et al., 2015).

### ***Intervention***

*Zippy's Friends* is a universal programme that targets the development of coping skills among Key Stage 1 pupils. It is delivered by the class teacher over the course of an academic year, through 24 weekly sessions which last around 45 minutes. The 24 sessions are divided into six modules, each of which is centred around a set of illustrated stories about a group of children, their families, friends and Zippy, a pet stick insect. The modules focus on particular themes: feelings, communication, making and breaking relationships, conflict resolution, dealing with change and loss and general coping skills. Teachers are provided with a set of core materials and undergo one day training, which is delivered by Partnership for Children (PfC). Three follow-up, twilight support sessions are held after

modules 2, 4 and 6, in which teachers within local authorities are brought together to discuss experiences, address any questions and look at the forthcoming modules.

### Existing evidence base

The programme was first piloted in Denmark and Lithuania using a quasi-experimental design (Mishara & Ystgaard, 2006) in which the control group were matched to the intervention group based on gender and socioeconomic background. This study found improvements in coping ability, cooperation, empathy, assertion and self-control. Also, the problem behaviours of externalizing and hyperactivity decreased. The study, however, had major methodological limitations (i.e. no random allocation and differential measurement attrition).

The programme has since been evaluated using cluster-randomised controlled trials in Norway (Holen et al., 2012; 2013) and Ireland (Clarke et al., 2014). These trials demonstrated a positive impact of the programme on children's coping strategies (ES= -0.38; Holen et al., 2012), self-awareness (ES=0.35; Clarke et al., 2014), self-regulation (ES=0.12; Clarke et al., 2014), social skills (ES=0.12; Clarke et al., 2014), and reduced mental health difficulties in daily life (ES= -0.15; Holen et al., 2012). The study by Holden et al. (2013) also reported a positive impact on classroom climate (ES=0.61) and pupil academic skills (ES=0.42), although this finding was based on teacher report rather than direct measures of attainment, and thus is subject to bias.

The proposed trial represents an opportunity to add to this emerging evidence base via a fully powered and methodologically rigorous test of the programme in an English context, using multiple and reliable data sources of social and emotional functioning. Furthermore, it is the first study of its kind to examine the direct impact of the programme on academic attainment.

### Theory of Change

*Zippy's Friends* is underpinned by conceptual frameworks of coping (Segal, 1983; Lazarus & Folkman, 1984; Sandler et al., 2000), in which individual variables such as coping skills can reduce the impact of environmental stressors. The programme recognises that a variety of coping strategies can be helpful and that good coping skills can vary between individuals and situations. Thus, it aims to develop children's repertoire of coping skills and their ability to adapt those coping skills to various situations. Further, it integrates problem solving skills, social skills and emotional literacy as skills that may facilitate adaptive coping behaviour. Such competencies may be linked to academic achievement (Durlak et al., 2011; Qualter et al., 2012), and the logic model (see Appendix) depicts theoretically plausible processes by which *Zippy's Friends* may impact on both character and attainment outcomes.

## **Methods**

### ***Research questions***

The current evaluation will address the following research questions:

Impact evaluation:

1. What is the overall effectiveness of the programme on:

- pupil reading attainment and emotional self-regulation (primary outcomes)
- self-regulated learning and social skills (secondary outcomes).

2. Is there a differential impact of the programme for pupils eligible for Free School Meals (FSM)?

Implementation and process evaluation:

3. How is the programme perceived by schools (in terms of engagement of pupils, teachers and local coordinators), and what are the barriers and facilitators to implementation?

4. Is any variability in implementation associated with variability in outcomes?

5. Do the proposed mechanisms (as depicted by the logic model) explain any link between the programme and academic attainment?

### **Design**

The evaluation will consist of two components: an efficacy trial and a process evaluation. The aim of the efficacy trial is to assess whether *Zippy's Friends* can improve a number of specific outcomes for Year 2 pupils who are aged 6 to 7 years. The aim of the process evaluation is to better understand the factors associated with implementation fidelity and delivery (described in more detail below).

The impact evaluation will consist of an efficacy randomised controlled trial with 2-levels (pupils clustered within schools). As the programme is universal and designed to be delivered on a whole-class basis, randomisation will be at the school-level, in order to minimize the risk of contamination between trial arms.

The independent evaluators will randomly allocate schools to either an intervention arm (which will receive the programme) or a control arm (which will continue with standard practice). Schools allocated to the intervention arm will begin delivering the programme in October 2016, following teacher training. Schools allocated to the control group will not receive the programme during the evaluation period but will proceed with 'business as usual'. In addition, control schools will receive a payment of £1000 at the end of the trial, which can be used towards the purchase of *Zippy's Friends* following the trial period.

### **Randomisation**

The random allocation process will be conducted using minimisation (a method of stratified randomisation), in order to create balanced groups.. This method of allocation is a widely accepted alternative to simple or stratified randomisation (Altman & Bland, 2005). Local authority and school-level attainment (based on percentage of pupils obtaining level 4 in English and maths at Key Stage 2) will be used in minimisation.

The random allocation process will be conducted independently by the evaluation team in July 2016. Schools in both arms will be required to sign a Memorandum of Understanding (MoU), gain parental (opt-out) consent and complete baseline assessments prior to randomisation, which will ideally minimise attrition.

## **Participants**

The target cohort is Year 2 pupils (aged 6-7 years), and their teachers, from state-funded primary schools within three to four Local Authorities in England. Based on the sample size calculation (see below), 70 schools are required to power the trial. It is recommended that schools are over-recruited (e.g. an additional four to six schools) in case of attrition. All forms in Year 2 in each school will participate in the trial (approximately 37 pupils per school).

PfC will lead on the recruitment of schools through local authorities, who are approaching schools in their area to get a sense of interest and willingness to take part. For logistical purposes, local authorities need to be able to put forward approximately 18-20 schools for randomisation (therefore if four local authorities participate, there should be between 72 and 80 schools recruited).

Eligible schools: All state Infant and Primary schools in England are eligible to be put forward for randomisation if they:

- Have not delivered *Zippy's Friends* before;
- Are prepared to allow 1 hour per week in the Year 2 timetable for *Zippy's Friends*;
- Are prepared to release Year 2 teachers for training and support sessions; and
- Have completed pre-test measures and provided pupil background data to the evaluators.

Eligible pupils: All pupils in Year 2 during the programme delivery year (2016/17), who are attending schools that are taking part in the trial, are eligible to participate. Parental opt-out consent will be sought for pupil participation in data collection. Information and opt-out consent forms will be sent home via schools between April and June 2016, prior to randomisation. Schools will inform the evaluators of any opt-out parental consent forms received; these pupils will still receive the programme (if the school is allocated to the intervention group), however during data collection, these pupils will be provided with other activities to complete by their teacher.

## **Outcome Measures**

### Primary outcomes

There will be two primary outcomes: academic attainment (reading) and emotional self-regulation.

Attainment in reading will be measured at the end of the intervention period (summer term, 2017) using the Hodder Group Reading Test (Hodder Education). The paper version of the Hodder Group Reading Test will be administered on a whole-class basis, independently by trained fieldworkers (blind to group allocation) who will be overseen and monitored by the evaluation team. Completed test papers will be returned to Hodder for marking, which again will be blind to group allocation. Reading ability at pre-test (at the pupil-level) will be measured using the Hodder Oral Reading Test (Hodder Education) which will be administered by Year 1 class teachers (or teaching assistants) during the summer term of the 2015/16 school year (prior to randomisation). This individually administered test was selected over a group-administered test due to pupil young age (5-6 years) at pre-test.

Emotional self-regulation will be measured at pre-test (summer term, 2016) using teacher-report on the 'self-regulation' subscale of the Emotional Literacy Checklist (Faupel, 2003; GL Assessment). Pupil self-report at pre-test will not be collected due to the age pupil age at pre-test (5-6 years). Emotional self-regulation will be measured at post-test (summer term, 2017) using child self-report on the Emotional Literacy Checklist. This measure was chosen as it is one of the few available pupil self-report questionnaires that can be administered with children of this age group (approximately 7 years). This measure will be included within a questionnaire that will be administered on a whole-class basis by the fieldworkers.

### Secondary outcomes

There will be two secondary outcomes: self-regulated learning and social skills.

Self-regulated learning will be measured using teacher report at both pre-and post-test, as there is a lack of existing measures available for use with Key Stage 1 pupils. Items from the Learning Behaviour Scale (McDermott et al., 2001) will be examined, adapted and piloted.

Social skills will be measured at post-test using the social skills subscale of the Social Skills Improvement System rating scale (SSIS; PearsonClinical UK). This measure was chosen as it is well established in the academic literature, is standardised for use with children and young people aged 3-18 years, includes both teacher- and pupil-report options, and can be completed by pupils aged 8 years and over<sup>1</sup>. Pupil self-reported social skills will be collected at post-test. At pre-test, due to pupil age, only teacher-report will be collected.

### Covariates

Schools will be asked to provide the following pupil-level data (for those with parental consent) in order to match to data held in the National Pupil Database: Unique Pupil Number (UPN), first name, surname, and date of birth and gender. Free school meal (FSM) eligibility and gender will then be gathered from the National Pupil Database (using the everFSM variable).

### **Sample size calculations**

No study has assessed the impact of *Zippy's Friends* on a direct measure of academic attainment. A meta-analysis of the impact of social and emotional learning programmes on academic performance found an effect size of  $g=+0.27$  (Durlak et al., 2011) and effect sizes estimating the impact of *Zippy's Friends* on social and emotional outcomes have ranged between 0.12 and 0.38 (Clarke et al., 2014; Holen et al., 2012; 2013).

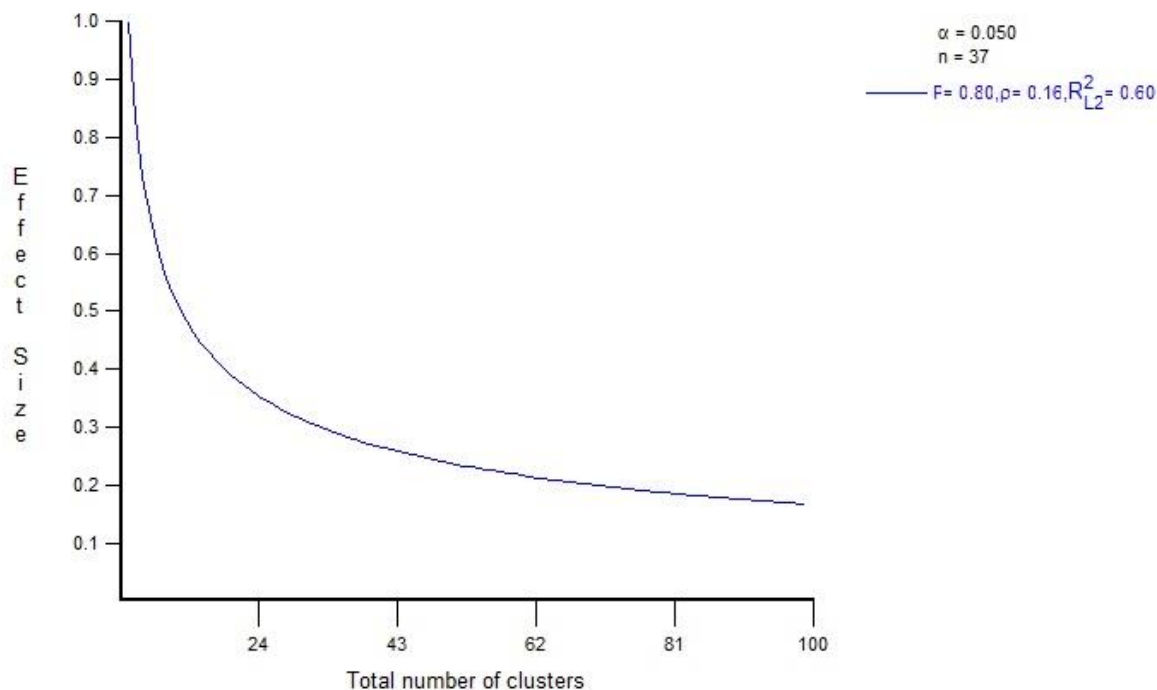
Using Optimal Design (version 3.01) and assuming an average of 37 pupils per cluster (approx. 2590 pupils in total), an estimated pre-post correlation ( $R^2$ ) of 0.50, an intracluster correlation coefficient ( $\rho$ ) of 0.16 for the primary outcome, and standard power and alpha thresholds of 0.80 and 0.05 respectively, the above sample of schools ( $n=70$ ) and pupils ( $n=2590$ ) will be sufficient to detect an effect size of 0.20 in an intention-to-treat analysis (see figure 1).

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<sup>1</sup> It should be noted that, while the SSIS has been validated for self-report from age 8 years and upwards (which is a year older than the sample in this evaluation at post-test), the measure (along with all data collection procedures) will fully piloted with pupils aged 6-7 years during the trial lead in period (January – April 2016).

Based on recent statistics reflecting the average proportion of pupils eligible for and claiming free school meals (16.5%), it is estimated that there will be an average of 6 FSM pupils per school. Using the same assumptions as above, the minimum detectable effect size for FSM pupils is 0.33.

Figure 1: Power analysis (minimum detectable effect size vs number of clusters)



### Analysis plan

Analyses will be conducted in Stata version 14 (Stata Corporation, College Station, Tx, US). The main effects of the intervention on each of the outcomes will be analysed on an intention-to-treat basis (meaning that participants will be analysed in the group to which they were randomised, irrespective of whether or not they received (or completed) the programme). The clustered nature of the data will be accounted for using multi-level modelling (with pupils (level 1) clustered within schools (level 2)). The primary analyses will estimate the impact of the programme on the two primary outcomes (reading attainment and emotional self-regulation). Each model will include the relevant outcome measure as dependent variable, and a number of independent variables, including a binary dummy variable representing school allocation to the intervention (coded '1') or control group (coded '0') and the relevant associated pre-test measure of reading ability (Hodder Oral Reading Test) or character (emotional self-regulation, as rated by teachers).

The focus for the analysis will be the estimated coefficient associated with the variable representing the difference in mean outcome scores between the intervention and control groups. Effect size (Hedges' g) will be calculated as the standardised mean difference between the control and intervention groups, using the pooled standard deviation. The pooled standard deviation will be calculated using the formula:

$$s = \frac{\sqrt{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}}{n_1 + n_2 - 2}$$

Hedges'  $g$  will then be calculated as:

$$g = \frac{\text{coefficient}}{\text{pooled standard deviation}}$$

A secondary analysis including additional covariates i.e. School level characteristics to be used in the randomisation process: local authority and school-level attainment (Key Stage 2 results), will also be conducted.

Additional secondary analysis will involve pre-specified subgroup analyses examining interaction effects. This involves extending the main effects models to include an interaction term based on pupil for free school meal eligibility (ever FSM).

Exploratory analyses will also explore any differential impact of the programme on both attainment and character outcomes depending on variations in implementation fidelity (see below).

### ***Implementation and process evaluation methods***

The research questions to be addressed through the implementation and process evaluation are:

- How is the programme perceived by schools (in terms of engagement of pupils, teachers and local coordinators), and what are the barriers and facilitators to implementation?
- Is any variability in implementation associated with variability in outcomes?
- Do the proposed mechanisms (as depicted by the logic model) explain any link between the programme and academic attainment?

The implementation and process evaluation will be undertaken alongside the impact evaluation, with the purpose of exploring four main programme implementation and fidelity issues:

- adherence to programme manual;
- levels of exposure to the programme (sometimes referred to as dosage);
- the quality of the programme delivery; and
- teacher and pupil engagement with the programme.

As a starting point for the process evaluation, the evaluator will attend a teacher training session (scheduled for October 2016) and follow-up session (which are due to take place in January, March and June 2017), in order to understand best practice in delivery of *Zippy's Friends*. During the course of the delivery year, data will be collected using a mixed methods approach, including ongoing implementation logs and an implementation survey, both completed by teachers delivering the programme, fidelity ratings completed by the local coordinator, interviews and observations in a sample of schools in the intervention group.

*Implementation logs:* In collaboration with PfC definitions of low, medium and high fidelity will be agreed. These will be informed by:

- Programme delivery logs completed by teachers throughout the course of the school year. Teachers will keep a record each session in terms of duration and whether any aspects of the lesson plans were not covered.
- Teacher attendance at both initial training and follow-up sessions.
- Contact visits and support given by local coordinator.

*Online survey:* will be administered with year 2 teachers at the beginning of the summer term of the programme delivery year. The survey will collect data on perceived ease of implementation and fidelity to the programme schedule.

*Interviews and observations:* In consultation with local coordinators in each LA, we will sample a number of schools for process evaluation visits by the evaluator. Schools will be purposively selected to include a mix of urban/rural location, size and level of deprivation (pupil FSM%). Within these schools, interviews (with teachers and the school senior management team) will focus on perceptions of the programmes impact; what has worked well or less well in terms of delivery, the perceived 'costs' (time, resource, adverse consequences) or the value added to the school (in terms of wider benefits, e.g. to school ethos, teacher-pupil relations), and links between the programme content and the general curriculum. Focus groups will be used with pupils to explore the perceived impact of the programme based on the mechanisms proposed in the logic model (see appendix), i.e. social and coping skills, classroom environment, focus on learning and communication skills. Parents will be interviewed either via telephone or face-to-face on school premises, depending on individual participant preference.

With consent, interviews and focus groups will be tape-recorded and transcribed verbatim and field notes written up from the lesson observations.

*Control group activity:* Further, as the National Curriculum framework states that all schools should make provision for Personal, Social, Health and Economic (PSHE) education, it will be important to gather information on 'business as usual' in relation to pupil socio-emotional wellbeing in the control group. At baseline (and prior to randomisation), all schools will complete a short pro forma detailing PSHE delivery and any other social and emotional learning programmes used in KS1.

## **Cost**

The cost (in terms of financial costs as well as costs in terms of time and effort) of the intervention for schools (in the absence of EEF subsidy) will be calculated based on data collected from PfC and schools. Data to be collected from PfC (via direct communication) will include:

- Financial costs, including:
  - The cost of providing training to local coordinators and all teachers in intervention schools;
  - Local coordinator buy-out costs
  - Local coordinator travel/subsistence costs for training and visits to schools;
  - Cost of programme materials per school (while schools in the trial will not be charged for programme materials, the normal charge to schools for the programme materials will be included).
- Time, including:



- Local coordinator time spent supporting programme delivery.

Data will be collected from schools via the process evaluation survey, and will include:

- Financial costs, including:
  - Cost of photocopying resources;
  - Travel/subsistence for training events.
- Time, including:
  - Amount of teacher time spent delivering the programme (including preparation time).
- Supply cover for teachers to attend training.

The total cost of delivering the programme will be calculated from the perspective of schools. The average cost per year, will be estimated over a three year period to take into account additional start-up costs incurred (i.e. teacher training and resources) in the first year but not subsequent delivery years. Costs will be estimated per pupil by dividing the costs incurred per school by the number of pupils. Both start-up and running costs will be estimated per pupil, and the cumulative cost per pupil over a three-year period used to determine cost per pupil per year over three years.

### **Ethics and registration**

The evaluation will be submitted for ethical scrutiny to the Research Ethics Committee at the School of Education, QUB. The trial will be registered with the ISRCTN registry and the protocol will be published as a peer reviewed journal article. Consent to participate will be sought from school Headteachers and class teachers who will all be asked to sign the MoU. Parental consent will be sought on an opt-out basis.

### **Personnel**

The evaluation team is drawn from senior and experienced staff within the CEE at Queen's University Belfast. The CEE has considerable experience in the design, conduct, analysis and reporting of randomised and cluster-randomised control trials in educational settings, and the proposed evaluation team has specific expertise in relation to evaluating school-based interventions for improving non-cognitive skills among pupils.

*Professor Allen Thurston*, Director of the CEE, is a former primary school teacher who now undertakes large scale randomised controlled trials in education. Prof. Thurston has held numerous research grants including recent grants from ESRC and EEF. As Director, he will have overall responsibility for the direction and delivery of the project and will provide appropriate support and advice throughout the study.

*Dr Sarah Miller* is a Lecturer in the School of Education and Deputy Director of the CEE. She lectures in quantitative methods and statistics and her research focuses on programme evaluation (using RCTs), parenting, child development, and specifically socio-emotional wellbeing. She has considerable experience of designing, conducting and publishing large-scale simple and cluster randomised controlled trials, systematic reviews, quasi-experimental evaluations and cross sectional surveys. Currently she is Principal or co-Investigator on four large-scale randomised controlled trials in education funded by NIHR,

ESRC, EEF and The Atlantic Philanthropies. She will contribute to and provide methodological and statistical advice and guidance, and will also contribute to the analysis and write up of the report.

*Dr Seaneen Sloan* is a research fellow in the CEE. She has over a decade of research experience, has undertaken a number of evaluations of school-based programmes in Northern Ireland, and is involved in six ongoing or recently completed EEF trials. She will be the Principal Investigator and will be responsible for coordinating the evaluation, including analysis of the data, completing progress reports and writing the final evaluation report.

*Aideen Gildea* is a research health visitor in the CEE. As a qualified health visitor, she worked for many years with parents and families in the community. Aideen’s work over the last decade has involved undertaking a number of school-based evaluations. She will be responsible for the day-to-day running of the evaluation and will lead on the analysis and write up of the process evaluation.

## **Risks**

A risk analysis has been undertaken to establish the potential risks to the funder and the controls and contingency measures that are in place to minimise these risks. This adds security to the funding body and peace of mind that the proposal will be delivered on specification and on time.

<b>Risk</b>	<b>Assessment</b>	<b>Countermeasures and contingency plan</b>
1. The delivery team and CEE have differences of opinion on trial design, measures or approach to analysis	<b>Likelihood:</b> <i>Medium</i> <b>Impact:</b> <i>Medium</i>	Early project initiation meetings with the delivery and evaluation teams to finalise project design and agree measures.  The evaluation team has experience of working closely with programme developers in a flexible way while maintaining the robustness of the study design and independence of evaluation.
2. Insufficient schools recruited to the study	<b>Likelihood:</b> <i>Low</i> <b>Impact:</b> <i>High</i>	By building in a lead-in period and working with local authorities in which the delivery team has established links, the desired sample size should be obtainable.
3. School attrition	<b>Likelihood:</b> <i>Medium</i> <b>Impact:</b> <i>Medium</i>	A Memorandum of Understanding will be established between schools and the evaluator prior to participation making clear the responsibilities and rights of schools. Schools will be asked to complete pre-test measures and return to the evaluation team prior to be entered into randomisation. Attrition will be monitored and reported according to CONSORT guidelines.

<b>Risk</b>	<b>Assessment</b>	<b>Countermeasures and contingency plan</b>
4. Differential attrition from control and intervention groups	<b>Likelihood:</b> <i>Low</i> <b>Impact:</b> <i>Low</i>	Some attrition is anticipated therefore we suggest oversampling; attrition should be evenly matched between control and intervention schools.  Imputation methods will be used if required.
5. Lack of study power	<b>Likelihood:</b> <i>Low</i> <b>Impact:</b> <i>Low</i>	Some smaller observed effect sizes may not be significant. This will be dealt with in the interpretation of the impact results.
6. Staffing issues: staff leaving or unavailable over extended duration of project	<b>Likelihood:</b> <i>Medium</i> <b>Impact:</b> <i>High</i>	Staff turnover in the CEE is generally low however succession planning has been built into team roles. Large CEE team can absorb problems in the short-term. Sufficient numbers of experienced staff in senior roles to cover others in the team.

### **Data Protection**

All information collated as part of the research will be treated confidentially and neither individual nor school names will be included in resulting publications or presentations. At all times, Data Protection Guidelines will be adhered to. Data will be handled in line with Queen's University Belfast guidance, which state that personal data must be destroyed on completion of the project, and research data retained for a minimum of 5 years. For the duration of the research, paper records containing personal data will be held in locked filing cabinets in a room on QUB premises, accessible only by the research team, and securely destroyed (by shredding) thereafter. All research participants will be assigned an identification (ID) number, and both paper and electronic files with research data will be link-coded so that names and other key identifiers are held in a separate file. Data held electronically will be stored securely in password protected folders, on computers accessible by the research team only.

For the purpose of the study, information provided will be linked with the National Pupil Database (held by the Department for Education), other official records, and shared with the evaluation team at the CEE, the Department for Education, Education Endowment Foundation (EEF), EEF's data contractor FFT Education and in an anonymised form to the UK Data Archive.

## **TIMELINE**

	Starting 1st Jan 2016												Ending 30 <sup>th</sup> November						
<b>Activities</b>	Jan-April 2016	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan 2017	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct
Project set up (incl. ethical approval, piloting)	█																		
Recruitment of schools	█																		
Randomisation				█															
Teachers trained						█	█	█	█	█	█	█	█	█	█				
Programme delivery							█	█	█	█	█	█	█	█	█				
<b>Impact Evaluation</b>																			
Pre-test (character measure)		█	█																
Data extraction from NPD							█	█	█	█	█	█	█	█	█				
Fieldworker recruitment, DBS checks and training											█	█	█	█					
Post-test data collection															█	█	█	█	█
Data input/management																	█	█	█
<b>Process Evaluation</b>																			
Standard practice pro-forma		█	█				█												
Observation of training							█												
Selected session observations							█	█	█	█	█	█	█	█					
Ongoing delivery logs (teacher completed)							█	█	█	█	█	█	█	█					
Interviews/focus groups							█	█	█	█	█	█	█	█					
Implementation survey (online)													█	█					
<b>Analysis and reporting</b>																			
Analysis																█	█	█	█
6-monthly report to funder				█						█						█			
Delivery of final report																			█

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**APPENDIX**

**Figure 1: Logic model (from set up meeting)**

