

Evaluation Summary	
Age range	Secondary (Year 10 and Year 11)
Number of pupils	160
Number of schools	4
Design	Pilot, randomised controlled trial with randomisation at the school and pupil level
Primary Outcome	GCSE

BACKGROUND

Significance

Whilst there is a reasonable body of academic literature that examines the role and impact of mentoring and one-to-one coaching in a wide variety of environments and contexts, there is very little quantitative evidence that mentoring programmes are successful in raising educational attainment and aspirations of young people. 'Think Forward' is a programme that provides one-to-one coaching for young people. This project seeks to pilot two potential approaches to trialling the intervention in schools with a view to evaluating the impact of Think Forward and building the evidence base on one-to-one coaching with a full trial in two years.

The evaluation will pilot two RCT designs in four London secondary schools. Alongside the RCT pilots, a process evaluation will collect detail from the perspectives of the coaches, the young people involved and teachers.

Whilst the evaluation aims to identify quantitative evidence of the 'ThinkForward' intervention having a (positive) impact on educational attainment and other outcomes, the main objective of the pilot is to examine the feasibility of undertaking a larger scale evaluation of 'ThinkForward' using randomisation at the individual (pupil) level. More broadly, it is hoped that the findings from this pilot will inform research designs of larger scale RCT based evaluation involving mentoring and coaching programmes with secondary school pupils.

The cost of a larger scale RCT randomised at the pupil level would be much lower than one randomised at a school level. However, it is not clear whether a pupil-level randomisation would provide reliable results because there is a potential risk of contamination (or 'spillover') between intervention and control group pupils within the same school. The process evaluation will explore the practicalities of pupil level randomisation (e.g. how pupils and parents respond to finding out about being placed within the control group) through interviews and collect detail on pupil peer friendship groups in order to examine quantitative evidence of spillover.

Intervention

The 'Think Forward' intervention is a programme that provides one to one coaching for young people who are identified as being at high risk of dropping out of education and employment (i.e. being NEET). Coaches work with young people from the start of Y10 and provide targeted support with whatever is needed over a number of years (up to the age of 19). The range of support might include help with numeracy, literacy, life skills and providing work experience.

RESEARCH PLAN

This is a pilot RCT evaluation and aims to:

- a) assess the feasibility of pupil level randomisation in evaluating a pupil coaching / mentoring programme
- b) inform the design of a larger scale RCT evaluation of 'Think Forward'

Research questions

1. How feasible is pupil level randomisation in evaluating 'Think Forward'?
2. What is the impact of the Think Forward mentoring programme on a set of measurable outcomes including attainment?
3. How does the Think Forward mentoring scheme operate to produce these outcomes?

Design

The pilot will involve pupils in Y10 and Y11 in four London schools. Prior to randomisation, baseline data will be collected from administrative records and directly from pupils via a survey.

Two of the schools in the pilot will be randomly selected to become 'intervention' schools, whilst the two remaining will become the control group for the school level randomised design.

Within both intervention schools, 40 pupils (in both Y10 and Y11) will be identified as being eligible for the coaching program by Think Forward. Then half of these 40 pupils will be randomly selected to take part in the 'Think Forward' programme, the half remaining will become the control group for the pupil level randomised design.

Alongside the RCT pilots, a process evaluation will take place which will involve interviews with Think Forward coaches, participating pupils and school staff.

Participants

Year 10 and 11 pupils in four London secondary schools.

Outcome Measures

Primary outcome measure: Change in attainment - Key Stage 3 to 4 (GCSE) attainment

Secondary outcome measure(s): Change in future educational & employment expectations.
Change in attendance
Change in selected 'mind-set' constructs¹

Primary and secondary outcome measures will be gathered through administrative records and a longitudinal pupil survey. The pupil survey will also collect detail on peer friendships that will be used to examine evidence of 'spill-over' between the intervention and control groups. Interviews with pupils, coaches and teachers will be used to qualitatively explore evidence of spill over.

Sample size calculations

It should be stressed that these are pilot RCTs and unlikely to provide sufficiently robust statistical evidence to claim that the 'Think Forward' programme has a causal impact on attainment.² The main objective is to evaluate the use of two RCT designs - one which randomises at the pupil level and one which randomises at the school level.

For the pilot, there will be two intervention schools with around 80 pupils taking part in the 'Think Forward' programme and 80 pupils in the control group. The remaining two schools will provide a further 160 control group pupils. In all, there will be 320 young people involved in the RCT pilots across the four London schools - as shown in the figure below.

¹ The questionnaire for the pupil survey will include 70 Likert scale items which will be reduced to create 14 mind-set 'constructs' (e.g. self-belief, teamwork etc.). These constructs are a collection of pre-validated scales developed by ThinkForward. ThinkForward have selected 'Aspiration' and 'determination' as the two mind-sets to include amongst the secondary outcome measures.

² The initial EEF research brief provided an estimated effect size (Cohen's D) of 0.1 on attainment from Steve Higgins - suggesting an expectation that taking part in an intensive coaching / mentoring programme such as Think Forward would result in an average improvement in attainment of around +0.1 standard deviations.

Pilot RCT evaluation of Think Forward - 320 pupils across 4 London secondary schools

School Level	Intervention School 1	Intervention School 2	Control School 1	Control School 2
Pupil Level	40 eligible pupils taking part in TF 40 eligible pupils control group	40 eligible pupils taking part in TF 40 eligible pupils control group	80 eligible pupils control group	80 eligible pupils control group

In addition to the 320 pupils eligible for Think Forward, the evaluation will collect (administrative and survey) data on all pupils in Y10 and 11 from the four London secondary schools. This will be used to explore evidence of 'spill over' from the programme and evaluation into the wider pupil cohort.

A pupil level randomised design is preferable to a school level randomised design for two reasons. First, the school context is comprehensively controlled for within the pupil level design. This is because outcome measures for intervention and control group pupils would be compared amongst pupils within the same school. In a school level randomised design, differences in trends between treatment and control school could bias the results and is therefore less comprehensive. Second, pupil level randomisation is statistically more efficient and therefore less costly than school level randomisation.

This cost saving can be illustrated through the use of the Optimal Design Plus³ software to estimate the sample size required to detect the predicted attainment effect size ($D=0.1$). For a pupil level randomised design around 2,400 pupils across 40 schools would be needed to detect the predicted effect size with a statistical power of 0.8. For a school level randomised design, over 8,000 pupils across 270 schools would be required. In short, a school level randomised design would be over three times the cost of a pupil level randomised design.

However, the intervention under evaluation is an intensive coaching / mentoring initiative and the reality of using a pupil level RCT design for this is not clear. The pilot will collect quantitative and qualitative data to provide detail on the RCT from the perspectives of pupils, teachers and coaches. At the pupil level, the focus would be on 'spillover' from the intervention to the control group. For example, a control group pupil who had a friend/sibling in the intervention group might feel moved to engage more with school / future planning than they would have done if they had no friends/siblings in the intervention group (a positive spillover). Alternatively, a control group pupil may feel resentful and demoralised if they have a friend/sibling in the intervention group (negative spillover). At the teacher and coach levels, the focus will be on assessing how well the integrity of the RCT design was maintained. For example, ensuring the trial is not subverted (where a control group pupil received some coaching / mentoring); compensatory teaching practices for control group pupils and evidence of reticence / resistance to the trial amongst school staff.

So, whilst a pupil level randomised design is in principle preferred, it is not clear whether it would provide reliable evidence on the impact of Think Forward, hence the need to conduct this pilot study prior to committing public funds towards a larger scale RCT based evaluation.

Analysis plan

The main method used to analyse the quantitative data will be a difference in difference approach (DD). This is based on the comparison of the change in the outcome (e.g. attainment) in the treatment and in the control groups. Specifically, DD computes the difference in the outcome measured before and after an intervention has occurred. The effect of the intervention is then estimated by taking the difference of this difference between the treatment and the control group. One beneficial consequence of this approach is that the DD estimator removes all time-invariant characteristics, including any unobservable differences between the intervention and control groups that might be correlated with the outcome.

³ Optimal Design Plus Empirical Evidence version 3.01 - available for free through the University of Michigan at http://sitemaker.umich.edu/group-based/optimal_design_software

Process evaluation methods

Given that analyses from the RCT pilots are unlikely to have sufficient statistical power to reliably assess the impact of the 'Think Forward' initiative, the process evaluation (along with gaining experience in pupil-level randomisation) is an essential strand of the mixed methods evaluation research design.

Within the process evaluation we propose to collect qualitative data from teaching staff (at both intervention and control schools) and coaches. Quantitative and qualitative data will be collected from participating pupils.

The process evaluation will focus on coach/teacher/pupil perspectives on the intervention itself and their experience of participating in the RCT. For example, how coaches / teachers felt the intervention had gone; reaction to random allocation; whether/how the control and intervention group pupils interacted; whether control group pupils received any form of educational compensation (e.g. new / additional lessons); drop outs; evidence of control group pupils receiving some of the intervention etc.

Control and intervention group pupils in the two intervention schools will be interviewed at the end of Year 11. This will be towards the end of both years of the ThinkForward intervention. The focus of these interviews will be to explore how pupils perceived the intervention; how they felt about being placed into the control / intervention group; whether they felt that this experience had any impact on their behaviour, plans and/or engagement with school etc.

In addition to the qualitative interview data, a pupil survey will be conducted and matched to administrative data to provide pupil level quantitative data. This quantitative data set will be used in the main analysis and also within the process evaluation to help examine evidence of 'spillover'. The coach/teacher/pupil interviews and two quantitative approaches will be used to examine the existence / nature of any 'spillover' from the intervention to the control group.

Quantitatively, spillover will be estimated by comparing the estimated impact of 'ThinkForward' using the control group pupils within the control schools with the estimated impact of 'Think Forward' using the control group pupils in the intervention schools. Assuming that intervention and control schools have a common trend, the difference between the two coefficients will be an estimate of the size of the spillover effect.

By collecting detail on Y10/11 friendships/siblings, spillover effects will be examined more explicitly. For example, the outcomes for control group pupils who identify pupils taking part in 'ThinkForward' as family or friends will be compared with control group pupils who do not identify any family or friends taking part in the intervention.

These analyses will be summarised within interim reports and synthesised with the RCT pilot analyses within the final report.

PERSONNEL

The evaluation pilot is being undertaken by the Centre for Education and Inclusion Research at Sheffield Hallam University (SHU) and the Institute for Social and Economic Research, University of Essex

Role	Responsibility		
Project Directorship	Co-Director responsible for overall direction and RCT pilot evaluation	Sean Demack	SHU
	Co-Director responsible for process evaluation	Dr Colin McCaig	SHU
Project Management	Project Manager: day to day organisation/ meeting objectives and deadlines	Sean Demack	SHU
Project Advisor	RCT design and analyses expert advisor	Mike Brewer	ESSEX

Teams	
RCT	Sean Demack and Anna Stevens (SHU), Professor Mike Brewer and Laura

	Fumagalli (Essex).
Process evaluation	Colin McCaig and Anna Stevens (SHU)

DATA PROTECTION AND ETHICS

The evaluation has been approved by the ethics committees at Sheffield Hallam University and Essex University. Data storage, sharing and reporting processes will conform to all legal requirements and protect participant confidentiality.

TIMELINE

	Summer 2013	Autumn 2013	Winter 2013/14	Spring 2014	Summer 2014	Autumn 2014	Winter 2014/15	Spring 2015	Summer 2015	Autumn 2015	Winter 2015/16
sign, protocols and consent forms											
register RCT											
contact of schools / informed consent (school, pupils)											
pupil questionnaire											
allocation to intervention and control group											
data collection											
secondary outcome data collection											
analysis											
test and pupil datasets											
evaluation											
with Think Forward Coaches											
with teachers											
with pupils											
Reporting Impact & Process											
Port 1 (setting up)											
Port 2 (Y11 cohort)											
Port											