

Evaluation Summary	
Age range	Primary (Year 5)
Number of pupils	1,200
Number of schools	24
Design	Randomised controlled trial with class level randomisation
Primary Outcome	Numeracy

ReflectED meta-cognition: Rosendale Primary School

Intervention

The ReflectED approach uses Evernote delivered on tablets, laptops or netbooks to support students to reflect on the progress of their learning and to teach them about metacognition. Children record learning through photographs, written records and audio recording which are then tagged allowing for learning to be recalled in a variety of different ways, either as an aspect of a curriculum subject or by an emotional reaction to learning. As each child's learning folder exists within a year group, class teachers, phase leaders and members of the senior team can also look at the learning of a whole year group.

Early results at Rosendale School show that the development of metacognition has an impact on children's attainment. In the year 3 class which was first to introduce the ReflectED approach, the children on FSM made 4 Average Point Score (APS) of progress in maths and reading during the year as opposed to the 3 APS of progress made by FSM children in the other year 3 classes.

Research plan

Research questions

The core research question for this project is: What is the impact of the ReflectED approach on progress in maths, reading and attitudes?

Other questions connected to the process approach include: What are the teachers understandings of metacognition? What value do the schools see in the ReflectED approach? What are the teachers' attitudes towards the intervention? What are the learners' attitudes to the approach? What do teachers and learners perceive the benefits to be? Is the approach scalable? What are the barriers to delivery?

Design

The design is a class-level randomised controlled trial using a convenience sample of 24 schools. Two-form entry or larger schools will be recruited and classes randomized to either the treatment or business as usual. This enables the treatment to be tested against a within-school control and will reduce post-allocation demoralization and attrition.

Sampling and recruitment

The evaluation will be conducted with a total of 24 schools recruited from four areas at a number of recruitment sessions (six schools will be recruited from four hubs, in locations to be confirmed).

Each school will provide two or more classes to give a total of 48 classes in the study and data on about 1200 children (assuming 25 children per class).

Allocation to groups

Two teachers will be identified in each school with one teacher randomly allocated to the treatment group and one to the control. Teachers must be linked to a class of pupils before randomization. No changes will be allowed once teachers have been allocated to their group.

Prior measures

All of the background and contextual data is generated by the schools. This will include information about, for example FSM, SEN and BME. Schools will need to provide teacher and pupil lists, including UPN, prior to randomization. This data can be used to link to information on pupils in the NPD. KS1 can be used as the baseline covariate in the analysis of impact on attainment. This can also be accessed via the NPD.

Outcome measures

The primary outcome measure is mathematics score on the CEM InCAS test at the end of Year 5. In addition to this, scores in reading will also be collected (via InCAS). Analyses will take into account information about, for example FSM, BME and SEN. Other outcome measures are to be collected including attitudinal data and other indices of interest for evaluating the treatment effect (variables of interest will be identified during the initial stages of the project).

Delivery of post-tests will be supervised blind by a member of the evaluation team.

Analysis of outcome measures

The evaluation will investigate differences between the outcome measures for the treatment and control groups after controlling for pre-test scores and a number of other variables (e.g., FSM, BME and SEN). Generalized linear models will be used to analyse the data, taking into account the particular study design. Estimates of effect sizes for the treatment and control groups will be presented using effect plots derived from the appropriate statistical models.

Information on how well schools have implemented the intervention can be used in an on-treatment analysis.

It is important to get as complete data as possible to help minimise bias. To this end, all schools will be provided with help on running the tests and schools will be actively chased for any data that is missing.

Process evaluation

The University of Manchester will carry out a light-touch process evaluation for this project. Although most of the work of the process evaluation team will start in September 2014, the team envisages some level of involvement from the start of the project. The team will visit Rosendale a few times in the 2013-2014 school year to understand the tools (more specifically, Evernote) the school uses to engage learners in reflection and in meta-cognition activities. The process evaluation team will also be present at school briefing events but will not actively participate in recruitment. In addition, the process evaluation team will be responsible for the collection of the pre-test data and effective administration of post-tests in the participating schools. In the 2014-2015 school year, the process evaluation team will be present in some of the intervention training events. They will conduct an online survey of all the schools and visit at least 50% of schools involved in project. During these visits they

will conduct interviews with teachers and students to explore expectations and attitudes in relation to the use of tools such as Evernote in developing learners' reflective and meta-cognitive skills. The team will also conduct observations of teaching. All of this data will help to inform and interpret the results attained through the randomized control trial and the intervention.

Personnel

Kate Atkins, the head teacher of Rosendale Primary School will head up the school-based project along with Marc Rowland as project manager. Gary Motteram will lead the evaluation team with support from Graeme Hutcheson who will manage the trial design and the quantitative data analysis and Zeynep Onat-Stelma who will oversee the process evaluation supported by research assistants from Manchester.

Risks

The risks to this project are generally low although there are risks connected to the data collection, particularly with respect to the completion of the initial and final tests. There is also potential risk of contamination between control and treatment groups and this will be mitigated through regular reminders to schools to avoid this as well questioning about possible contamination during visits.

The initial recruitment of the schools, which is the responsibility of the Rosendale team, will need to determine whether the participating schools have the infrastructure and equipment necessary to run the numeracy and literacy tests. Every effort needs to be made to identify potential problems early and maximise the amount of data.

It will be important to try to reduce schools dropping out from the project once the intervention is underway, as this will cause issues for the power of the data collected. Through high quality CPD and high quality materials, we need we also need to make sure that the participating schools follow the protocols for the introduction of the metacognitive activity with the children and that they are active in encouraging the children to engage with using Evernote and the hardware to effectively record their learning reflections.

Timeline

Nov 2013 -- Initial visits to Rosendale Primary to explore stage 1 of the project and meet teachers and students

Nov 2013 - February 2014 -- Development of recruitment materials

Feb 2014 – April 2014 -- Piloting of materials in Rosendale School

Feb 2014 – May 2014 – Recruitment of schools to the project

June 2014 – Collection of the students KS1 data

September 2014 - Delivery of training and school support starts

November 2014 – June 2015 -- Classroom observations, teacher interviews and focus groups with the children

June 2015 -- Final student tests using InCAS; implementation survey of teachers